SEOUL NATIONAL UNIVERSITY
College of Engineering
Technology Management, Economics and Policy Program

Technology Management, Economics and Policy Papers

Economic Development in MONGOLIA

Erkhemchimeg BYAMBASUREN
and Almas HESHMATI

TEMEP Discussion Paper No. 2010:53

서 울 대 학 교
공 과 대 학, 기술경영경제정책 대학원과정
151-742 서울시 관악구 신림동 산 56-1

Technology Management, Economics and Policy Program
College of Engineering, Seoul National University
San 56-1, Shillim-Dong, Kwanak-Gu, Seoul 151-742 ,KOREA
Phone: ++82-2-880-9140, Fax: ++82-2-880-8389

Technology Management, Economics and Policy Program (TEMEP) is a graduate program at the Seoul National University. It includes both M.Sc. and Ph.D. programs which are integrated into the graduate program at the College of Engineering.

TEMEP Discussion Papers is intended to serve as an outlet for publishing research about theoretical, methodological and applied aspects of industrial economics, especially those related to the institute's areas of specialization, namely management of technology, information and telecommunication, health and energy industries, as well as development economics infrastructure. In particular submission of studies analyzing current technology and industry related issues and discussion of their implications and possible alternative policies are welcome. The objective is to gain insights into important policy issues and acquiring a balanced viewpoint of policymaking, technology management and economics which enable us to identify the problems in the industries accurately and to come up with optimal and effective guidelines. Another important aim with the series is to facilitate communication with external research institutes, individual researchers and policy makers.

Research disseminated by TEMEP may include views on information and telecommunication, technology management, energy, health and development economics policy, but the institute itself takes no institutional policy positions. When appropriate the policy views of the institute are disseminated in separate policy briefs. Thus, any opinions expressed in TEMEP Discussion Papers are those of the author(s) and not necessarily the institutes.

Editor: Almas Heshmati
Professor of Economics

Technology Management, Economics and Policy Program
College of Engineering
#37-306, Seoul National University
San 56-1, Shilim-dong, Kwanak-gu
Seoul 151-742 Korea

Phone: 0082-(0)2-880-5845
Fax: 0082-(0)2-886-8220
E-mail: heshmati@snu.ac.kr

ECONOMIC DEVELOPMENT IN MONGOLIA

Erkhemchimeg BYAMBASUREN and Almas HESHMATI[1]

Technology Management, Economics and Policy Program,
College of Engineering, Seoul National University

E-mail addresses: erkhemchimeg@snu.ac.kr
and heshmati@snu.ac.kr

February 12, 2010

ABSTRACT

Mongolian economy has evolved rapidly in recent decades. It has a number of particular features which makes it interesting to study from a development perspective. One is the landlocked condition which limits its development potential. Another is its high dependence on a few products and natural resources like minerals, energy and agriculture. A third is the large scale of its natural resources with its low population density. This report aims to present a detailed analysis of the abovementioned aspects of the Mongolian economy and its development. It sheds light on conditions for sustainable economic development in the country. The objective is to mobilize available resources to enhance Mongolia's self-sufficiency and reduce its vulnerability and dependency on its two economically, politically and militarily powerful neighbors. This is conducted in a descriptive and simple but illustrative way. The report provides general information about the Mongolian economy and society compared with its neighbors serving as reference for investors, planners and decision-makers. The report is divided into five main parts. The first part contains a general introduction to the economy of Mongolia. The second part is on the development and the role of the key economic sectors including agriculture, industry and services. The third part elaborates on the development and role of the mining and energy sectors in the development of the economy. The fourth part is an analysis of the international economic relations and the dependence on foreign countries. The last part is on the future directions of development. This report is expected to provide a complete picture of the national economy, its evolution, current state and future possible directions and potential. The empirical and illustrative part is mainly based on data at the aggregate national level, covering the last two decades but mainly the period from 2004 to 2009.

Keywords: Mongolia; economic development; macroeconomics; general outlook; country study; trade; agriculture, natural resources, environment, and extractive industries; development planning and policy; transition economics;

JEL Classification Numbers: B22; E60; N50; O11; O20; O50; P20; Q10; Q40;

[1] Corresponding author

TABLE OF CONTENTS

ABBREVIATIONS

1. INTRODUCTION

2. COUNTRY BACKGROUND

3. THE CURRENT ECONOMIC DEVELOPMENT
3.1 The Current economic conditions
3.2 Medium term targets for economic development
3.3 The action plan for Mongolian Government

4. THE DATA
4.1 Main data
4.2 Employment
4.3 Education
4.4 GDP
4.5 The Information and communications technology

5. THE ROLE OF AGRICULGURE, INDUSTRY AND SERVICES
5.1 Agriculture sector
5.2 Industry sector
5.3 Service sector

6. THE ROLE OF MINING AND ENERGY SECTORS
6.1 Mining sector
6.2 Energy sector

7. DEVELOPMENT AND ROLE OF FOREIGN DIRECT INVESTMENT

8. DEPENDENCY ON FOREIGN COUNTRIES AND TRADE
8.1 Economic partners and dependence
8.2 External trade

9. GOVERNMNET POLICY FOR DEVELOPING THE ECONOMY

10. THE OPTIMAL OR FUTURE DIRECTION OF DEVELOPMENT

11. SUMMARY AND CONCLUSIONS

REFERENCES

LIST OF TABLES

Table 4.1 Economic Main indicators
Table 4.2 The major sectors for influencing to Economic growth
Table 4.3 Total employment and unemployment
Table 4.4 Employees by industry, percentage share to total
Table 4.5 Number of pupils and students in educational institutions
Table 4.6 Number of graduates in educational institutions
Table 4.7 Number of in Educational institutions
Table 4.8 Expenditure of educational sector
Table 4.9 Some indicators of general educational schools
Table 4.10 Industrial composition of gross domestic product, by division
Table 4.11 GDP by division
Table 4.12 Gross national income
Table 5.1 Gross agricultural output
Table 5.2 Output of main agricultural products
Table 5.3 Agricultural area
Table 5.4 Gross industrial output
Table 5.5 Gross industrial output by divisions and subdivisions
Table 5.6 Industrial production per capita
Table 6.1 Mineral and energy sector for Economic
Table 6.2 Mineral deposit by 2008-12-31
Table 6.3 Main industrial mining commodities
Table 6.4 Energy economic indicator
Table 8.1 Total export and composition by destination in 2008

LIST OF MAPS

Map 1 Mongolia
Map 2 Optical fibers Network of Mongolia

LIST OF FIGURES

Figure 4.1 Economic growth
Figure 4.2 Development of annual inflation rate over time
Figure 4.3 Total labor force, employment and unemployment
Figure 4.4 Employees by industry, percentage share to total 2008
Figure 4.5 Total unemployment rate
Figure 4.6 Number of pupils and students in Educational institutions
Figure 4.7 Number of graduates in educational institutions
Figure 4.8 Percentage of education expenditure of total Government budget
Figure 4.9 Trend in GDP per capita Growth in USD
Figure 4.10 GDP growth
Figure 4.11 Percentage shares of major divisions to GDP
Figure 4.12 Percentage of ICT sector in GDP
Figure 4.13 Number of telecommunication services
Figure 4.14 Subscription of mobile phone
Figure 4.15 Subscription of fixed telephone
Figure 4.16 Internet connections in 2008
Figure 4.17 Internet users
Figure 4.18 Length of fiber optic network
Figure 5.1 Number of livestock
Figure 5.2 Total crops
Figure 5.3 Composition of gross industrial output in 2008 percentage shares
Figure 6.1 Development of mineral and energy sector share of the economy
Figure 6.2 Mineral resources by 2008-12-31
Figure 6.3 Energy economic indicator
Figure 6.4 Energy as share of total industrial output
Figure 7.1 The largest FDI countries
Figure 8.1 Total export compositions by destination
Figure 8.2 Total exports and its composition in 2008

ABBREVIATIONS

ADSL	Asymmetric digital subscriber line
CDMA	Code Division Multiple Access
DP	Mongolian Democratic Party
DWDM	Dense Wavelength-Division Multiplexing
FDI	Foreign Direct Investment
FIFTA	Foreign Trade and Foreign Trade Agency
Gbps	Gigabytes per second
GDP	Gross Domestic Product
GNI	Gross National Income
GSM	Global System for Mobile Communications
ICT	Information and Communication Technology
ICTPA	International Chinese Transportation Professional Association
KV	Kilowatts
MDG	Millennium Development Goals
MPRP	Mongolian People's Revolutionary Party
NGO	Non-governmental organization
TV	Television
UK	United Kingdom
USA	United States of America
USD	United State Dollar
USSR	Union of Soviet Socialist Republics
WTO	World Trade Organization
XDSL	Digital Subscriber Line

1. INTRODUCTION

The Mongolian economy has evolved rapidly in recent decades. It has a number of particular features which make it interesting to study from a development perspective. One is the landlocked situation of Mongolia which effectively limits its development potential. Another is its high dependence on a few products and natural resources like minerals, energy and agriculture. A third feature is its natural resource endowments and their large scale with low population density. This report aims to present a detailed and in depth analysis of these aspects of the economy and economic development in Mongolia. The objective is to shed light on the conditions for sustainable economic development in the country so that one is able to mobilize all available resources and enhance its self-sufficiency and reduce the high degree of dependency on its two economically, politically and militarily powerful neighbors, as well as reducing the country's vulnerability. The analysis is conducted in a descriptive and simple, yet illustrative way. The report provides useful general information about Mongolian economy and society compared with its neighbors, regionally and globally which can serve as a good reference for decision-makers for planning, policy formulations and implementation purposes.

Thus, given the rapid development of the economy in Mongolia and the rapid globalization process and the country's willingness and active participation in the globalization process, it is necessary to study the implications carefully, with an in-depth analysis of the economy with a focus on economic, cultural, technological, political and social aspects of life and businesses. The exercise will be useful in the identification and analysis of the problem and background to the country and its economy, quantification and evaluation of existing productive resources. It will be possible to identify what is missing but also urgently needed, and to shed light on how to remedy those problems by producing this report to assist investors, decision-makers and planners. The data used to illustrate the current and past conditions are based on secondary data sources collected from public agencies in Mongolia and international statistics provided by United Nations statistical agencies. The time period covers the two decades until 2008 which is the most recent data available to us. The quality of data is evaluated as being good and providing a good picture of the actual economic situation and feasible planning measures and their implementation, monitoring and evaluation.

This report covers the Mongolian economy and is divided into five main integrated parts. The first part contains a general introduction to the economy of Mongolia. The second part is on the development and the role of the key economic sectors including agriculture, industry and services in general, as well as the knowledge-based elements of the New Economy. The third part elaborates the development and role of the mining and energy sectors in particular in the development of the economy. Here these sectors are seen as engines of economic growth and development through the generation of revenue and spillovers effects to the other sectors of the economy. The fourth part is an analysis of the international economic relations and Mongolia's dependence on the foreign countries. Here particular emphasis will be on Mongolia's two powerful neighbors, Russia and China. The last part is on the future direction of development. Here future development and its direction are discussed by accounting for experience

gained and the availability and allocation of both productive material and immaterial and private and public resources.

The abovementioned five parts are expected to provide a complete and comprehensive picture of the Mongolian national economy, its evolution, current state and future possible direction and potential. The empirical and illustrative part is mainly based on data at the aggregate national level covering the last two decades but foremost the period from 2004 to 2008.

2. COUNTRY BACKGROUND

Mongolia is a land-locked, North-East Asian country bordering Russia and China. The capital city is Ulanbator. Mongolia has a sharp continental climate with four distinctive seasons. It has a parliamentary and multiparty political system. The country is divided into 21 provinces (Aimags) and 342 Soums and Districts (urban and rural divisions), and 1681 Baghs and Horoos (urban and rural communes). The total territory of the country is approximately 1.5 million square kilometers located about 1580 meters above sea level. See Map 1 and associated facts and characteristics about the country below.

Map 1. Mongolia



The majority of the population (86%) are Khalkha's and the next largest minority (6%) are Kazaks and others minorities make up the remaining 8% of the total population. The main religion is Buddhism (96%), while there are Muslim, Christian and Shamarism minorities, all of which consist of 4% of the population. The main and national language is Mongolian. The economy is traditionally based on breeding

livestock and agriculture and mining sectors. The main minerals extracted are copper, gold, coal and some others. These are the main components of the Mongolian exports.

Mongolia's country characteristics:
Locations: a land-locked country in Central Asia;
Territory: 1.566 million square kilometers Population: 2,716,932;
Density: 1 square km per 1.6 persons;
People: Mongols (Khalkha) 86%, Kazaks 6%, Others 8%;
Religion: Buddhism 96%, Muslim, Christian and Shamanism 4%;
Languages: Mongolian;
Average altitude: 1,580 m above sea-level;
Land boundaries: 8,158 km;
Economy: Traditionally based on breeding livestock and agriculture, mining (copper, gold, coal and others);
Capital: Ulanbator
Currency: Togrog ($1= ₮1,168 Togrog in 2008, MNT)

As mentioned previously, Mongolia has a parliamentary republic political system. The parliament is elected by the people through elections and in turn it elects the government. The president is elected directly by the voters. Mongolia's constitution guarantees full freedom of expression, exercise of religion, and others aspects of life in a free society. The country has a number of political parties. The largest ones by tradition are the Mongolian People's Revolutionary Party (MPRP) and the Democratic Party (DP).

The Mongolian president has a largely symbolic role, but the president has the authority to block parliament's decisions, which can then overrule the President's veto by a 2/3 majority. Mongolia's constitution provides three requirements for taking office as president**:** that the individual must be a native-born Mongolian, be at least 45 years of age, and must have resided in Mongolia for five years prior to taking office. The president is also required to formally revoke his or her party membership. The current president is Tsakhiagiin Elbegdorj, a former two-times Prime Minister and member of the Democratic Party, who was elected as President on May 24th, and inaugurated on June 18th, 2009.

Mongolia uses a unicameral parliamentary system in which the president has a symbolic role and the government chosen by the legislature exercises executive powers. The legislative arm, the State Great Khural, has one chamber with 76 seats and it is chaired by the speaker of the house. It elects its members every four years by general elections. The State Great Khural is powerful in the Mongolian government with the president being largely symbolic and the prime minister being confirmed by parliament.

The Prime Minister of Mongolia is elected by the State Great Khural. The current Prime Minister is Sukhbaatar Batbold, who is the 26th Prime Minister of Mongolia (since October 29th, 2009). The Deputy Prime Minister is Norov Altankhuyag. There

are ministers of each department (finance, defense, labor, agriculture, etc.) and those offices constitute the Prime Minister's cabinet. The cabinet is nominated by the Prime Minister in consultation with the president and confirmed by the State Great Khural.

Economic activity in Mongolia has traditionally been based on herding and agriculture. The country has extensive mineral deposits. Copper, coal, gold, molybdenum, fluorspar, uranium, tin, and tungsten account for a large part of industrial production and foreign direct investment. Soviet assistance, which contributed at its height one-third of the national GDP, disappeared almost overnight in 1990 and 1991 at the time of the dismantling of the USSR. The following decade saw Mongolia endure both deep recession because of political passivity and also natural disasters, as well as economic growth because of embracing reform, liberalized free-market economics and extensive privatization of the formerly centrally and state-run economy.

Mongolia, which joined the World Trade Organization (WTO) in 1997, seeks to expand its participation and integration into the Asian regional economic and trade regimes. It aims to maintain an open economy with strong engagement in international trade and relations to take advantage of technology, skill and management transfer to develop and catch up with developed nations in the region. It wishes to be part of the open, globalized and strongly developing regional economy in East and Central Asia

3. THE CURRENT ECONOMIC DEVELOPMENT POLICY

During the pre-1990 period, export of Mongolian products was very limited. When the Soviet external support was cut in 1990, the extensive social service network that had been established across the nation was simply not sustainable at the time with Mongolia’s limited national resources. Likewise, many of the domestic industries were either not viable or ill-equipped to enter the competitive global economic market. This combination of the deterioration in social services and the loss of employment opportunities from the closing former state industries led to Mongolia’s main present problems, namely poverty and human insecurity. However, since 1995 the adoption of progressive and corrective measures under the supervision of the state and with the financial, technical and administrative support of external donors has resulted in a reversal of the deterioration of living standards in the country.

The agricultural and private sectors, particularly the informal sector, have gained much from access to the labor released from the downsized state-owned industrial and general public sectors. Much has been accomplished in the period of the dual transition of the country to democracy and a market economy. But there is still a lot that needs to be done in both the short and medium term to reach the goal of having a stable and well-functioning economy with a high degree of self sufficiency. Apart from important issues of economic planning and management, there are many complex and inter-related problems that need to be addressed in the domains of unemployment, poverty, health, education, other services provision, environmental degradation, social protection, internal and external cooperation and building up needy development infrastructure. This report contributes to our knowledge by addressing the issues below.

3.1 The current economic conditions

The economic growth of the country has been stable in recent years. Compared to 1990 as a base, the economy in 2008 has increased by 157%. The annual growth in gross domestic product (GDP) was 7.1% in 2005, 8.6% in 2006, 10.2% in 2007, and 8.9% in 2008, respectively. The GDP per capita (obtained as GDP divided by population) reached $1971.8 in 2008. The growth in mining, processing industry, agriculture, construction and industry are among the main sectors which have had a positive impact on the social and economic development of the country. In recent years Mongolia has enjoyed a significant surplus in foreign trade. The foreign reserves of the country amount to one billion USD. The existing high level of currency reserves is thanks to the high prices of key export commodities on the global markets. Management of the reserve will be crucial for the stability of the country's financial market and its trustworthiness as well as the import of needed technology and components.

The Government of Mongolia claims that it is persistently undertaking policy measures to ensure the social safety of citizens, to promote human development through increased investment in the social sector, to address poverty in particular through improved energy supply and infrastructure development in the country's large rural area. However, the increase of wages of civil servants, the wide-scale provision of social assistance programs, the extensive investments with limited cost-benefit analysis into infrastructure and social sectors not only have deteriorated prices and tariffs, and reduced the effectiveness of the private sector combined with the direct and indirect effect of the global economic and financial crisis that increased living costs, but also began to influence the overall macroeconomic situation. In this context the head of the state finds that the country faces the unavoidable need to identify the long-term development priorities where public resources should be used with the highest returns on investment and with the strongest impacts.

The government and public organizations are working under the national development strategy which is based on experiences and lessons learned from the last 15 years of the new history of Mongolia. The development strategy is the policy document which was developed at the juncture of three periods of time, adequately identifying the current challenges and objectives for the next fifteen years to ensure the prosperous living conditions for the Mongolians. Thus the development strategy covers both short and mid-term perspectives on the country's development.

The transformation process in Mongolia commenced in the 1980-1990s and its essence was to move towards democracy and a market economy. The transition process has indeed been complex with both positive and negative consequences for the economy and society. The wave of the transformation process which rolled over two centuries at the global level had different distinctive features in various countries and with different degrees of success. Mongolia has also faced similar shocks, tendencies and outcomes as other countries in transition to an increasingly globalized economy.

In achieving its development goals, Mongolia must comprehend the future and take advantage of its heritage and available resource-based developmental opportunities. 1990–2000 was a period of economic decline, stabilization, and revival for the country.

The goal for this period was therefore to overcome the decline, to stabilize, and to lay down the basis of future development. At the end of the period 1997–2000, conditions for independent economic development were to have been created. In other words, there would be a dominant trend in the economy that would have great impact. It was presumed that GDP growth would be around 3.0% at this stage. It is expected that in 2001–2010 leading economic sectors would undertake steps to introduce advanced technologies, speeding up economic growth, and GDP would reach 10.0% annual growth and from 2010–2020 the annual GDP growth will be more than 12.0%, leading to GDP per capita level reaching $2500 by 2010.

The state expects that Mongolia will become a semi-self-sufficient country. The economic structural dynamics should be maintained accordingly. The formulation of the right strategy and tactics and their follow-up are important conditions for the possibility of attaining a self-reliant economy. The financial, organizational, management and other development resources are a limitation on the state development strategy and outcomes. Integration and active participation in the regional economic development process will ease the resource limitations and ease the implementation of the progressive development strategy. The participation in the development of regional economies involves both the East Asian and Central Asian Economic regions.

Compared with the more advanced countries in similar transition, Mongolia has had modest results. However, compared with those countries that did not succeed in "dismantling" the old system and in "rebuilding" the new system it has successfully overcome the hardships of the transition process and period. The period of decline has turned into a period of growth and a development path. However, a continuation of the development path requires strong leadership with vision, planning, strategy and successful implementation, evaluation of outcomes, as well as effective public and private organizations.

Nowadays, Mongolia is passing the transition period and the government is trying to create a totally new knowledge-based economy that will enable economic growth based on the application of advanced mining technology, information and communication technology, bio and nanotechnologies, the promotion of environmentally-friendly manufacturing, transits, logistics, financial mediation services; to nurture the state and government system that serves the people, protects human rights and freedom and is free from corruption and red tape; strengthens the sovereignty of Mongolia and respects national pride. Enabling the private sector-led economic growth, human development, including family development, education, health, science and technology, sustainable environmental development are among the highest state priority areas to ensure the comfortable and prosperous lives of the people. Achievement of the goals and desires stated above is not free from different kinds and sources of difficulties and obstacles.

The underlying development root of the country is the focus of the development strategy policy document on the promotion of the economic growth and development strategy that is based on export-oriented manufacturing and services, and private sector leadership of the development. The key objective of the economic policy is to develop a knowledge-based economy, to create economic capacity and resources to achieve by 2021 GDP per capita of $5,000. That is indeed quite a vision and a challenge for the

state and people of Mongolia.

Mongolia is trying hard to continuously enhance effectiveness in production and investment that enables rapid economic growth. In the first phase of the development process, the focus will be on the development of the mining industry to contribute to revenues in the "Mongolian Development Fund" and to enable distribution to the people of the country labeled as "Gift of the homeland" to make long lasting dreams come true and open opportunities to enhance people's livelihood. The longer term strategy is to develop the capacity for secondary processing of commodities and thus to develop private sector-led, advanced technology-based and export-oriented manufacturing and services. These will gradually reduce the county's dependence on the mining sector.

A private sector that is based on market economy principles and fair competition is considered as the driving force in implementing the country's comprehensive national development strategy, to create jobs and to get the people out of severe poverty. It is indeed the state's obligation to promote private sector development, to minimize barriers encountered by this sector and to ensure the enabling of an external environment for the private sector that produces 80% of GDP and comprises around 88% of the total workforce. The development of the real sectors shall be focused on the achievement of Millennium Development Goals (MDGs) by 2015, intensification of economic development and the creation of a knowledge-based economy and consistently increase the ratio of the services and industry sectors in GDP to 90% by 2015 and 95% by 2021. The objective by these changes is that the country will have an economic structure similar to middle income countries.

According to pluralistic opinion and modern scientific methods, the Mongolian economic development strategy should reflect for the country optimal and realistic alternative choices, the best one of which should be chosen and added to a timetable. It is necessary to elaborate and implement a midterm program for economic and social development and to implement a correct strategy and tactics, foreign investment as a main source of finance, technology, skills and management transfer must be encouraged. A policy of attracting such foreign investors to support economic growth should be implemented. Free transfer of returns and proceeds from foreign investments should be guaranteed, and there must be a sound banking system to ease the flow of FDI.

Mongolia is experiencing its highest inflation rate in over a decade as consumer prices in 2008 rose by 22.1%, largely because of increased fuel and food costs. Mongolia's economy continues to be heavily influenced by its neighbors. For example, Mongolia purchases 95% of its petroleum products and a substantial amount of electric power from Russia, leaving it vulnerable to price increases. Trade with China represents more than half of Mongolia's total external trade, and China receives about 74% of Mongolia's total exports. Remittances from Mongolians working abroad both legally and illegally are sizable, and money laundering and a growing informal sector is also a growing concern for the state and the society as a whole. These problems are among challenges facing the state and the national economy in coming years.

3.2 Medium term targets for economic development

The main objective of the Government at present, while Mongolia faces challenges dictated by the recent global financial crisis's impact on its economy and finances, is to strive to take opportunities for intensive economic growth based on Mongolia's mineral resources and human capital and social development. This is seen in an urgent and complete manner, and the state recognizes the urgent need to build needed capacity for Mongolia and its human development, to substantially improve the living standard of the population, to ensure transparency, openness, speedy and fair treatment of issues, accountability and ethics in public administration, improve the visibility of state and governments organizations at all stages and safeguard national and state security.

The Government of Mongolia claims to be determined to pursue a medium term economic expansion policy by boosting economic growth, solidifying economic sustainabilty, keeping inflation under a sustainable rate, facilitating public and private investments, and by promoting commercial producer units and private consumption. The medium term target for the government of Mongolia is to improve the living standards of the population and reduce poverty and unemployment with an econmic policy which promotes growth, improves the credit rating, enhances the external loan disbursement and financing social programs with its development-oriented policies. The medium term targets and its policy components include five different areas of activities. These areas of activities and their sub-areas are as follows:

1. To keep the macro economic sustainability
    - Together with the bank of Mongolia to keep the inflation rate under a 5 percent target level,
    - To keep the current account of balance of payments sustainable and with a surplus in order to increase foreign reserves to maintain the banking and financial market stable, and
    - A policy to keep annual economic growth over 8-10 percent in the medium term.

2. To keep budget sustainability
    - To follow a policy to limit the growth of disparity of budget revenue and expenditure in GDP by improving efficiency,
    - To pursure a policy of increase wage, pension and allowances in line with economic growth and the inflation rate without increasing indebtedness,
    - To build a road network through concessional loans, to build and create an energy source, the production of substitute products for imported gasoline products, to reduce pollution, and
    - To set up a fair distribution of income from the mining sector for both Mongolia and its investor's interests.

3. To intensify the development of the real sector and to increase its effect on the economy
    - To use the revenues derived from the mining sector as a tool for generation of further economic growth,

- To organise activities such as building roads and connecting them to Millenium and Asian road networks,
- To support the private sector through incentive programs and all cylinders of the economy,
- To support agriculture and th egrowing of crops, to provide fresh water and sanitation for remote areas,
- To extensively increase national investment,
- To provide every household with an energy source, and
- To improve an air and ground road infrastructure by increasing its investment.

4. To follow a budget expenditure policy aimed at fully supporting the vulnerable side of the society, poverty reduction, and human development. These are achieved through
- Increasing the amount of income distribution that goes through the national budget and increase its effectiveness,
- Increasing the amount of foreign grants through close cooperation with external partners,
- Improving the food standards and its nutrients, immunization, to prevent HIV and tuberculosis, to improve the accessability of school and cultural organisations from some portion of foreign grants, and
- Supporting a program that reduces malnutrition, increases children's school enrollment, and reduces infant mortality.

5. To improve the quality of social services, their acessability and effectiveness
- To improve the quality of public administration and the management of state organisations, final outcome, quality of services, and to continue to follow a policy to finance them according to the improvements and their accessability,
- To create levels for administrative and local units, and to make it possible for them to be more independent locally,
- Non-government organisation and the public shall play a greater role in supervising and auditing the framework of state organisations' activities quality of service and accessability. To improve the transparency of state organisations, and to expand the implementation of some of the state organisation's activities through non-government organisations, and
- To implement targets to provide better services and advice for citizens, and increase the transparency of customs and tax administration offices.

3.3 The action plan for the Mongolian Government

The new Government of Mongolia, formed as a result of the parliamentary elections, has defined its Action Plan for 2008-2012. The main objective of the Government at present while Mongolia faces challenges dictated by the global financial crisis which have an impact on its economy and finance is to strive to take opportunities for the achievement of intensive economic growth based on Mongolia's mineral resources and social development in an urgent and complete manner. The government aims: to build the needed capacity for Mongolia and human development, substantially to improve living standards, to ensure transparency, openness, speedy and fair treatment, accountability and ethics in public administration, to improve visibility of state and

government organizations at all stages and to safeguard the national interests and maintain state security.

The Action Plan of the Government has a number of key objectives described as the following:

- Speed up the development of the mining sector, renew its legal environment, turn strategic and large mining deposits into economic circulation and grant parts of the revenue generated by the mining sector to citizens;

- Develop and implement Mongolia's industrial program, plan and develop the mining-based industry, small and medium enterprises based on exploitation of local raw materials endowments;

- Fully cover domestic needs in agricultural products, in particular, meat, milk, flour, potato and vegetables to enhance self-sufficiency and to reduce the country's high degree of vulnerability;

- Create a condition where every citizen can be healthy, educated, employed and able to have income and pay special attention to the training of professional workers; and

- Ensure transparency, openness, speedy and fair treatment in service delivery and accountability in public administration and strengthen mutual trust between the state and citizens.

The government is of the belief that rapid economic growth will be achieved in the following ways: by securing the present level of economic development; consistent support for the industrialization policy; through intensive development of the mining and processing industry, agriculture, small and medium-sized production based on local raw materials; and by enhancing transportation, communications, public utility services; increasing the types and volume of crop and livestock production.

The government's action plan to achieve the stated goals by 2012 involves action for developing general economic and financial policy, as well as specific action plans for the agriculture, service and industry sectors. The detailed action plan related to each of these areas of activities is presented below.

First, there is an objective to improve the quality of life of citizens by conducting a decent policy for population and society. There is a belief that a citizen's life quality will be substantially improved by creating a favorable social environment for human development and population expansion on the basis of conducting a policy of family support, an increase in the middle-income population and the creation of conditions for everyone to be healthy, educated, employed and able to generate income. In order to implement this objective the following policy actions need to be taken: health care policy, educational cultural and scientific policy, labor market and employment policy, social welfare policy and demographic policy.

Second, there is a goal of achieving economic growth and sustainable development by implementing an industrialization policy. In achieving this goal, rapid economic growth is a precondition which shall be achieved in the following ways: securing the present level of economic development; consistent support for the industrialization policy; intensive development of the mining and processing industry, agriculture, small and medium-sized production based on local raw materials; enhancing transportation, communication, public utility services; increasing the types and volume of crop and livestock production. It has included macroeconomic and financial policy, industrialization policy, agriculture and food safety policy and infrastructure and urban development policy.

Third, there are also objectives to Promote Environmental Sustainability in Mongolia. This is achieved through conducting a complex and multipurpose policy on the tourism industry based on preserving natural resources needed to keep an ecological balance, using natural resources rationally and conserving nature and creating a stable environment for development.

Fourth, there is also an objective to Strengthen Rules of Law and to Make Governance Transparent and Open. The measures aimed at improving the structure of the administrative and territorial units of Mongolia will be developed and implemented; the partnership of civil society and public administration, the stability, transparency, capacity and accountability of civil service will be strengthened; the legal reform will be deepened. It has included legal policy, policy on the fight against crime, border protection policy, creation and strengthening of the united national registry system and civil society public administration policy.

Fifth, there are also other objectives related to National Security and Foreign Policy. The Government shall deepen political, economic and humanitarian relations with states of regional and global influence, actively pursue independent, multi-pillar and open foreign policy and provide conditions for a better strengthening of the security of the nation and people and defense matters. According to the objective, we have foreign policy, defense policy and policy on national capacity building in disaster prevention and damage liquidation.

Implementation of the Action Plan

It is possible to implement the plan given that certain conditions and prospects of cooperation at different levels are satisfied. These include but are not limited to: promotion of partnership and cooperation between the Government and civil society through fostering the initiatives on “Social responsibilities” by the civil society, in particular by the private sector; encouragement of the cooperation with and support of foreign partners in the implementation of the policies and programs; observation of the principles of transparency, accountability and responsibility in allocating and spending funds and resources; focus of the state governance in respect of national interest and resources on priority areas and solution of the issue in a staged manner.

The main means of implementation is the formation of the appropriate market necessary for the country’s economy, develop it in a proper way and create its

permanent working mechanism, which will include: the financial market; monetary and stock market; labor market; raw materials market; technology and information market; knowledge and innovation market.

There are different ways of promoting the implementation of the Action Program, the preparation of an adequate and sufficient work force by the support of education with particular attention to vocational training and proper deployment of the workforce. Among others there are the rational use of the country's capital and financial resources, development and use of joint funding system of the state and private sectors; rational use of minerals and natural resources to meet the development needs and choice of the way that would not cause harm to the human life environment; choice of the most appropriate, progressive and effective ways and technology to achieve any goals and introduce new technology and innovation in all economic, business and social branches in a constant manner; effective and efficient use of the national human resources, intellectual capacity, capital, finances and natural wealth and development of leadership and administrative skills and capability at every stage of state authorities. [Resolution on Approval of the Action Plan of the Government for 2008-2012]

4. THE DATA

This part is mainly based on secondary national data and consists of some of the key Economic data which are considered as main national economic indicators. It includes among others macroeconomic indicators such as trade balance, import, export, economic growth, export prices, inflation rate, population, employment, education, GDP and information and communication technology, and many other indicators covering the last two decades but primarily the period from 2004 to 2008.

4.1 Main data

Table 4.1 shows that population is slowly increasing. The same is in the case of the labor force and the number of employees. Fortunately the rate of unemployment has been decreasing since 2007. Gross industry output is also increasing over time. The main part of growth comes from manufacturing which, after mining, is a main component of the overall industry production. GDP and investment increased dramatically in 2007 and 2008 as a result of increased international raw material prices. Openness is increasing. Imports in all years exceed exports, suggesting a growing negative foreign trade balance. The same is with the government budget balance in which the expenditures exceed the revenues in 2008 as a result of increased public investment in development infrastructure. The public sector revenue, expenditure and tax burden and share of GDP are fluctuating over time but remain in the interval 30-40%. The inflation rate has been increasing following all reform and employment programs to improve the welfare of the population. The exchange rate for the local currency, Togrog, has been relatively stable in relation to the $US.

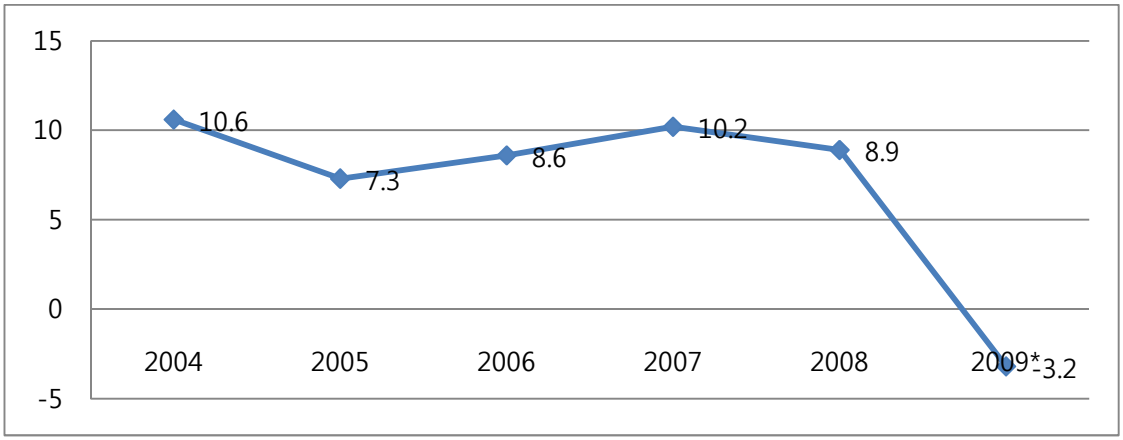
Table 4.1 Economic Main indicators, $1 = ₮1168 by 2008

Indicators	2004	2005	2006	2007	2008
Resident population, at the end of the year, in 1000s persons	2 533.1	2 562.4	2 594.8	2 635.2	2 683.5
Economically active population, in 1000s persons	986.1	1 001.2	1 042.8	1 054.0	1071.5
of which: Employees	963.5	968.3	1 009.9	1 024.1	1041.7
Number of registered unemployed, in 1000s persons	35.6	32.9	32.9	29.9	29.8
Gross industrial output, at 2005 constant prices, in billion togrog: of which:	1 537.8	1 475.5	1 612.0	1 773.6	1 823.4
-Mining and quarrying	927.8	978.3	1 033.2	1 034.2	1 036.2
-Manufacturing	431.1	310.3	387.2	540.8	575.0
- Electricity, thermal energy and water supply	179.2	186.9	191.6	198.5	212.1
GDP, at current prices, billion togrog	2 152.1	2 779.6	3 715.0	4 599.5	6 130.3
Investment, at current price, billion togrog	588.3	716.3	881.4	1 252.8	1 893.0
Foreign trade, million USD					
- Exports	869.7	1 063.9	1 542.0	1 947.5	2 534.5
- Imports	1 021.1	1 177.3	1 435.0	2 061.8	3 244.5
Foreign trade balance, mln.USD	- 151.4	- 113.4	107.0	- 114.3	- 710.0
General Government budget, at current prices, billion togrog					
- Revenue	713.1	837.9	1 360.4	1 880.5	2 156.4
- Expenditure	752.5	764.6	1 237.0	1 747.3	2 462.0
Budget overall balance, in billion togrog	-39.4	73.3	123.4	133.2	- 305.7
Share of Revenue to GDP	33.1	30.1	36.6	40.9	35.2
Share of Expenditure to GDP	35.0	27.5	33.3	38.0	40.2
Budget overall balance to GDP	-1.8	2.6	3.3	2.9	-5.0
Tax burden	27.1	24.9	30.4	32.7	30.8
Annual change of consumer price index, %	9.5	9.5	6.2	17.8	22.1
Annual average exchange rate, $1 = 1togrog (MNT)	1 205.3	1 205.3	1 179.6	1 170.4	1 169.3

Source: National Statistical Office

Table 4.1 shows the main indicators of the Mongolian economy. Compared with 2004, in 2008 the country's economy was growing. The high growth rate is directly dependent on the price of export of copper and gold. The copper price was $8000 per ton and the price of gold was $930 per ounce in 2008.

Figure 4.1 Economic growth



Source: Ministry of Finance

The economic growth of the country has been stable in recent years (see Figure 4.1). Compared to 1990, the economic growth in 2008 increased by 157%. GDP growth was 7.3% in 2005, 8.6% in 2006 and 10.2% in 2007, 8.9% in 2008, respectively. GDP per capita reached $1972 in 2008. The growth rate turned to a negative rate, -3.2%, in the aftermath of the recent American sourced global financial crisis. The growth in mining, processing industry, agriculture, construction and industry sectors have a positive impact on the social and economic development of the country.

The total economic growth and its sectoral sources in 2007 and 2008 are reported in Table 4.2 For economic growth, the most influential sector is agriculture, service and mineral resources. The main contributing sector, though, remains agriculture and telecommunications. However, the importance of agriculture is reducing over time while those of wholesale and trade are continuously increasing.

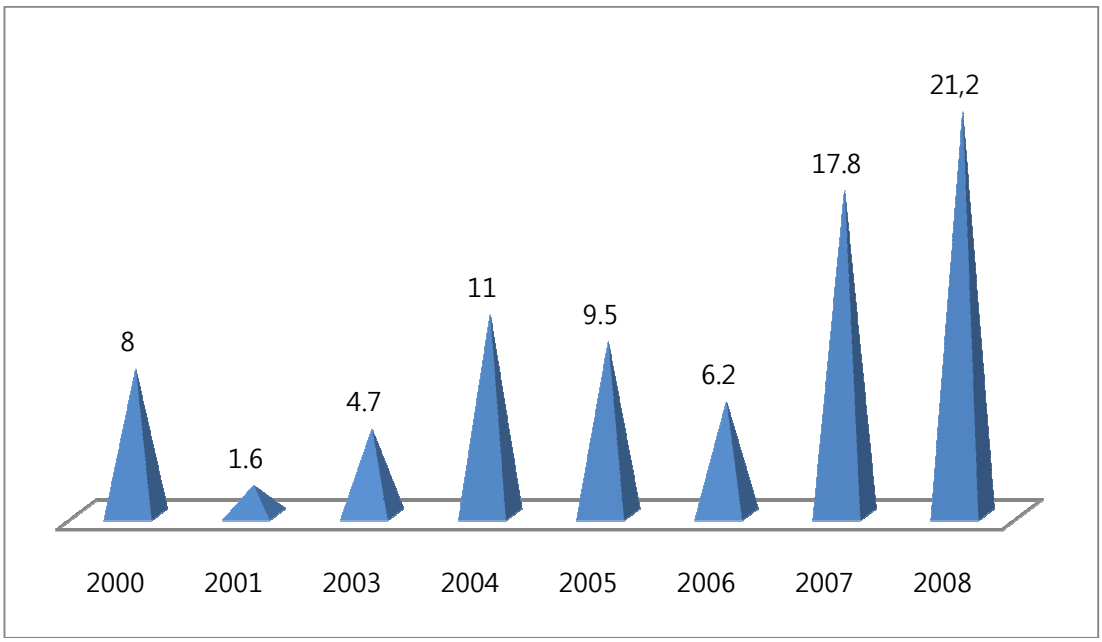
Table 4.2 The major sectors influencing rate of economic growth

	2007		2008	
1	Total growth rate, %	10.2%	Total growth rate, %	8.9%
2	Agriculture	3.41%	Agriculture	1.14%
3	Telecommunication	2.32%	Telecommunication	2.04%
4	Wholesale and trade	0.58%	Wholesale and trade	1.64%
5	Financial intermediation	0.97%	Financial intermediation	0.57%
6	Mineral resource	0.05%	Mineral resource	0.50%

Source: Ministry of Finance, World Bank, IMF, ADB and World Trade Atlas.

Development of the inflation rate measured as consumer price index is reported in Figure 4.2. In middle of the 2008, the annual inflation rate reached the highest rate of 34.2 %. The causes of the increased inflation rate are increased wages and salaries and some major commodity markets depend on the few business groups, reducing market competition. For example, there are oil importer companies and agriculture commodity suppliers which dominate the Mongolian main markets. Another causal factor to the high and changing inflation rate, both increases/decreases, is the government's financial policy and the accuracy rate fluctuations in the reported price changes.

Figure 4.2 Development of annual inflation rate over time, in %.



Source: National Statistical Office

4.2 Employment

This section presents labor market indicators like labor force, unemployment level, unemployment rate and number of employees in different sectors of the economy. The period covered is from 2004 to 2008. As the presenting indicators in Table 4.3 show the unemployment rate decreased in 2007. The government announced this year as "Building for construction and job creation for each sector". This campaign led to a reduced unemployment rate in 2007. It should be noted that the workforce also is increasing and the newly created employment opportunities may only absorb the slowly increasing labor force. Thus new employment must be seen in relation to changes in the labor force as well and not only focusing on the unemployment rate.

Table 4.3 Total employment and unemployment levels

		2004	2005	2006	2007	2008
1	Total employment	950500	968300	1009900	1024100	1041700
2	Total unemployment	35554	32938	32938	29945	29813
3	Economic activity population	986054	1 001238	1 042838	1 054045	1071513

Source: Ministry of Social welfare and labor

Development of the total labor force, total employment and unemployment levels are shown in Figure 4.3. The period covered is again 2004-2008. Employment increased in 2006 but it reduced in 2007. The level of unemployment has declined in 2007 and it remained constant in 2008.

Figure 4.3 Total labor force, employment and unemployment (1000 persons)



Source: Ministry of Social welfare and labor

The main indicator in Figure 4.3 shows labor market development and economic activity of the Mongolian population. At the national level, the share of the employed population in the economically active sector of the population was 96.39% in 2004, 97.21% in 2008 and it increased by 0.82%. Also the registered unemployment decreased by 5741 from 2004 to 2008. That is why Employment regulation office has been set up to provide employment services such as intermediating with job places and job market retraining activities.

The economic activities by different sectors are reported in Table 4.4. For the economic activity of sectors, the amount of the economically active share of population has increased in all sectors, except agriculture, hunting and forestry, manufacturing, real estate, renting and business activites and social personal services. In future, the number of people employed in mineral resource's will increase as well. The number of people employed in the agriculture sector are decreasing, yet remain a high percentage of the total number of people employed. Wholesale and others are also main sources of employment in addition to the industry sector.

Table 4.4 Employees, by industry, percentage share to total employment.

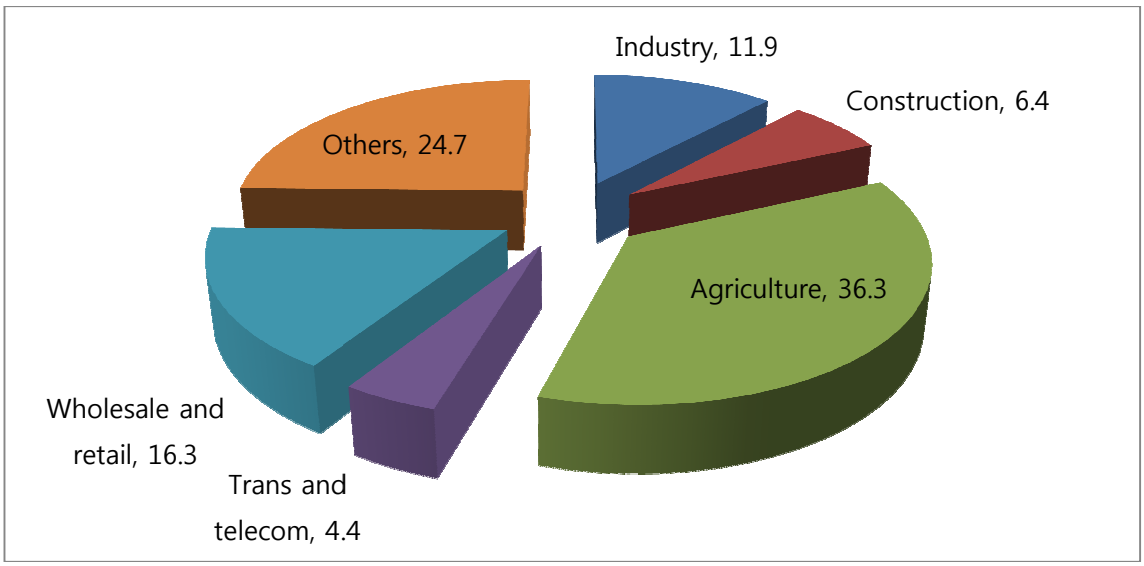
		2004	2005	2006	2007	2008
1	Industry	10.7	11.8	11.9	12.3	11.9
2	Construction	4.5	5.0	5.6	6.0	6.4
3	Agriculture	40.2	39	38.8	38.5	36.3
4	Transport and telecommunication	4.4	4.4	4.1	4.4	4.4
5	Wholesale and retail	14.4	14.6	15.9	16.2	16.3
6	Others	25.8	24.3	23.7	22.6	`24.7
	Total	100	100	100	100	100

Source: National Statistical Office

Distribution of employment by the main sectors of the economy is reported in Figure 4.4. The tendency suggests that shrinking agricultural employment will be absorbed

into the expanding service and industry sectors.

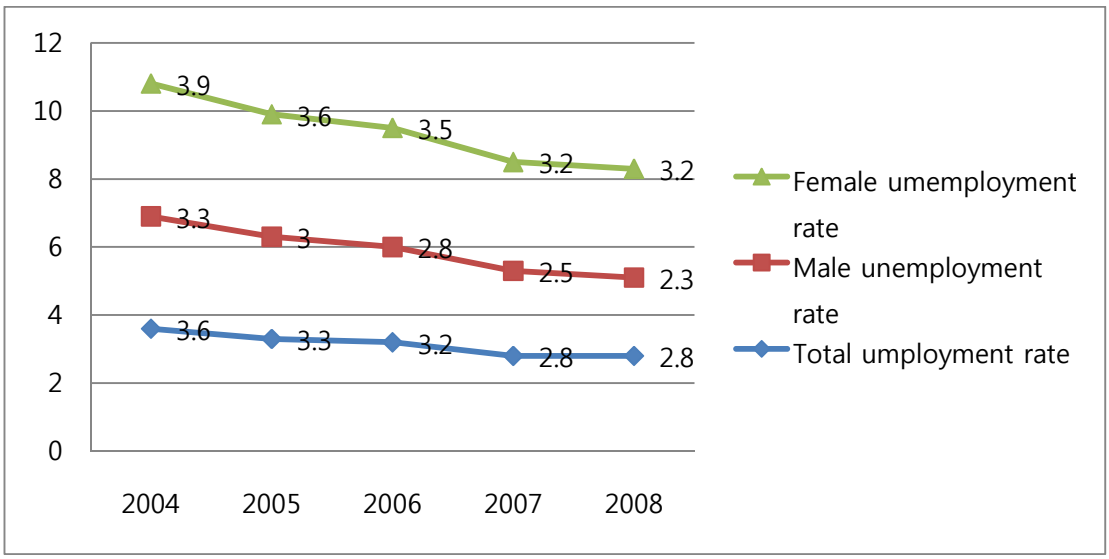
Figure 4.4 Employees, by industry, percentage share of total, in 2008.



Source: National Statistical Office

Total unemployment is divided by gender in Figure 4.5 The figure shows that unemployment among females is higher than those of males. However, the difference is small, indicating more equality in employment opportunities among different sexes in Mongolia. A distinction between private and public would possibly shed more light on gender employment inequality. Most females are working in services provided by the public. In general the unemployment rates are declining over time.

Figure 4.5 Total unemployment rates by gender.



Source: Ministry of Social welfare and labor

The registered unemployment rate was 3.6% in 2004 and 2.8% in 2008. It decreased by 0.8% in the last year. The registered unemployment rate that has been decreasing lately,

and is associated with the increased number of people who found jobs in the supporting provincial and capital city's Labor and Social Welfare departments. The male unemployment rate is somewhat greater than the female unemployment rate.

4.3 Education

This section presents indicators of education and its level and quality, like number of pupils and students in educational institutions, number of graduates from educational institutions, number of teachers in educational institutions and expenditure of the educational sector covering the period from 2004 to 2008. These are reported in Table 4.5. The total number of schools is divided into primary, secondary and high school levels, and added are also evening classes. In another classification higher education is divided into private and public schools, each of which is further divided into technical and vocational schools, higher educational institutions and universities. A smaller share of the students is also studying abroad.

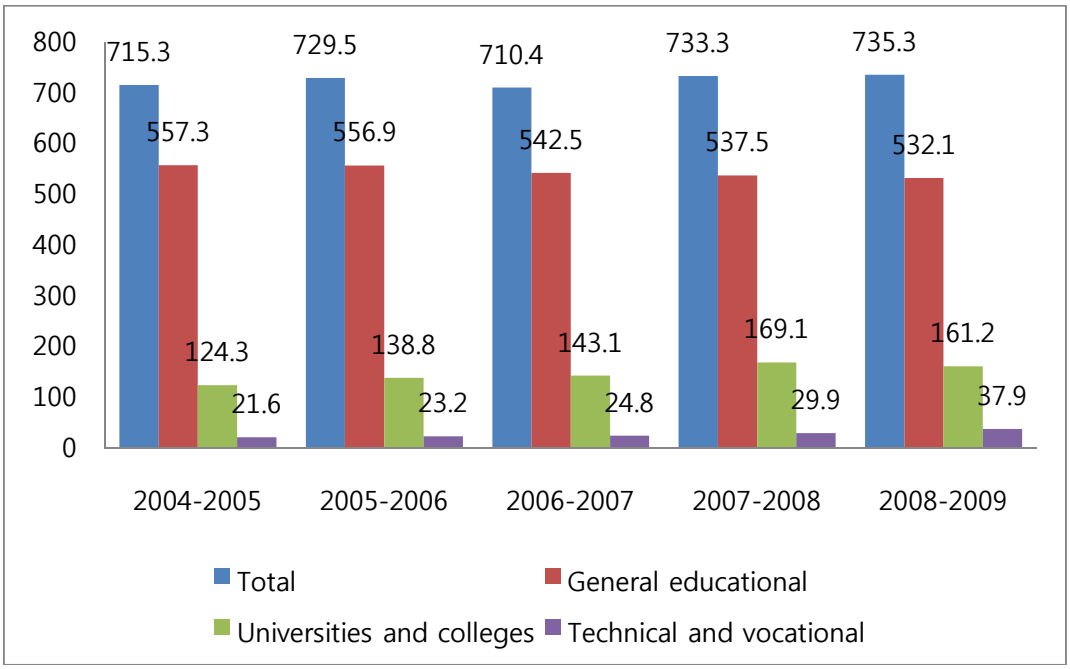
Table 4.5 Number of pupils and students in educational institutions

Educational institutions classification	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Total	715.3	729.5	710.4	733.2	735.3
Number of pupils studying in general educational schools-total:	557.3	556.9	542.5	537.5	532.1
✓ Primary	247.7	249.6	239.3	239.7	252.6
✓ Secondary	230.9	223.8	216.9	212.2	202.9
✓ High	78.7	83.5	86.3	85.6	76.6
In schools with evening classes	12.1	10.7	4.9	3.9	3.5
University, higher educational institutions, colleges, technical and vocational schools-Total	145.9	162.0	167.9	191.8	199.7
Public:	105.5	114.1	117.4	124.7	138.6
✓ Technical and vocational schools	21.4	22.3	23.9	25.7	32.0
✓ Higher educational institutions, college	28.0	31.6	27.2	29.0	31.2
✓ Universities	56.1	60.2	66.3	70.0	75.4
Private:	39.5	46.7	49.4	66.0	60.0
✓ Technical and vocational schools	0.2	0.915	0.9	4.2	5.9
✓ Higher educational institutions, college	34.2	38.79	40.4	39.8	
✓ Universities	5.1	6.994	8.1	11.0	10.3
Branch school of foreign universities	0.4	0.48	0.4	0.4	0.4
Students studying abroad	0.5	0.7*	0.7*	0.7*	0.7*

Source: National Statistical Office

The number of pupils and students in educational institutions was totally increased by more than 20,000 from 2004 to 2008. As it is shown in Figure 4.6, the number of pupils and students in all typical educational institutions is increasing with the exception of general educational. The number of students studying in universities, higher educational institutions, colleges, technical and vocational schools is increasing each year and it reached 735.5 thousand in 2008/2009.

Figure 4.6 Number of pupils and students in Educational institutions (1000s person)



Source: Ministry of Education Science and Culture, and National Statistical Office

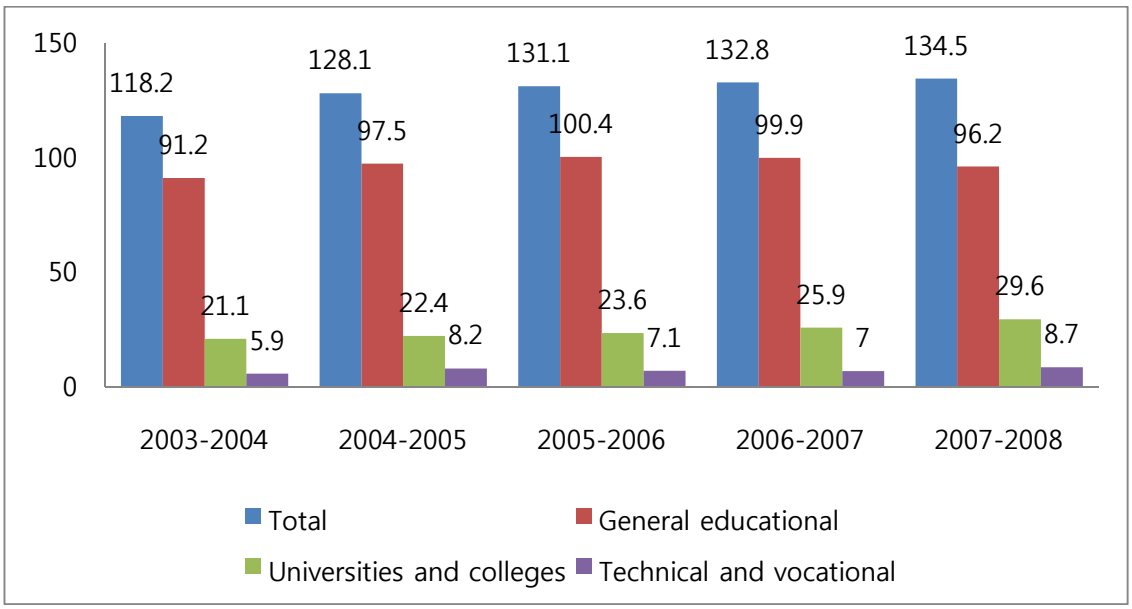
Table 4.6 Number of graduates in educational institutions (1000s person)

Educational institutions classification	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
Total	118.2	128.1	131.1	132.8	134.5
General educational schools	91.2	97.5	100.4	99.9	96.2
Technical and vocational school	5.9	8.2	7.1	7.0	8.7
Universities, higher educational institutions, colleges	21.1	22.4	23.6	25.9	29.6

Source: Ministry of Education Science and Culture, and Social welfare and labor

The total number of students graduating from all educational institutions has a tendency to increase (see Table 4.6). In 2004, the number of graduating students was 118,200 but in 2008 it was 134.5 thousand. It increased by 16.3 thousand. Universities and college's graduating students are in total 29.6 thousand, from which 25.2% graduated in the area of commercial and business administration field, 12.2% of graduates were associated with education study and teacher training, 7.5% graduates finished in law and finally 6.1% graduated in the engineering.

Figure 4.7 Number of graduates in educational institutions (1000s person)



Source: National Statistical Office

Table 4.7 shows that the number of teachers enrolled in various educational institutions educational programs. The number has risen by 6 thousand from 2004/2005 to 2008/2009 and in 2008/2009. The largest increase has been in the general educational schools. The teacher ratio was 20.8% in general educational schools, 22.7% in various technical and vocational schools and 23.0% in universities, higher education institutions and colleges. Here a high pupil/pupil ratio indicated a large class size and low quality of education. The size class may differ by level of education and types of program offered.

Table 4.7 Number of teachers in educational in Educational institutions (1000 person)

Educational institutions classification	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Total	32.4	33.5	34.7	36.1	38.4
Kindergartens	3.4	3.3	3.7	3.9	4.2
General educational schools	21.5	22.6	22.9	23.9	25.5
Technical and vocational school	1.2	1.1	1.3	1.4	1.7
Universities, higher educational institutions, colleges	6.3	6.5	6.8	6.9	7.0

Source: National Statistical Office

In Table 4.8 the expenditure on the educational sector as a fraction of the government's total budget is reported for the study period. The table shows the importance of education in the allocation of public resources in Mongolia. The share is quite high. However, the share declined from 18.5% in 2004 to 14.9% in 2008. In real terms the level is increasing and also in per capita terms.

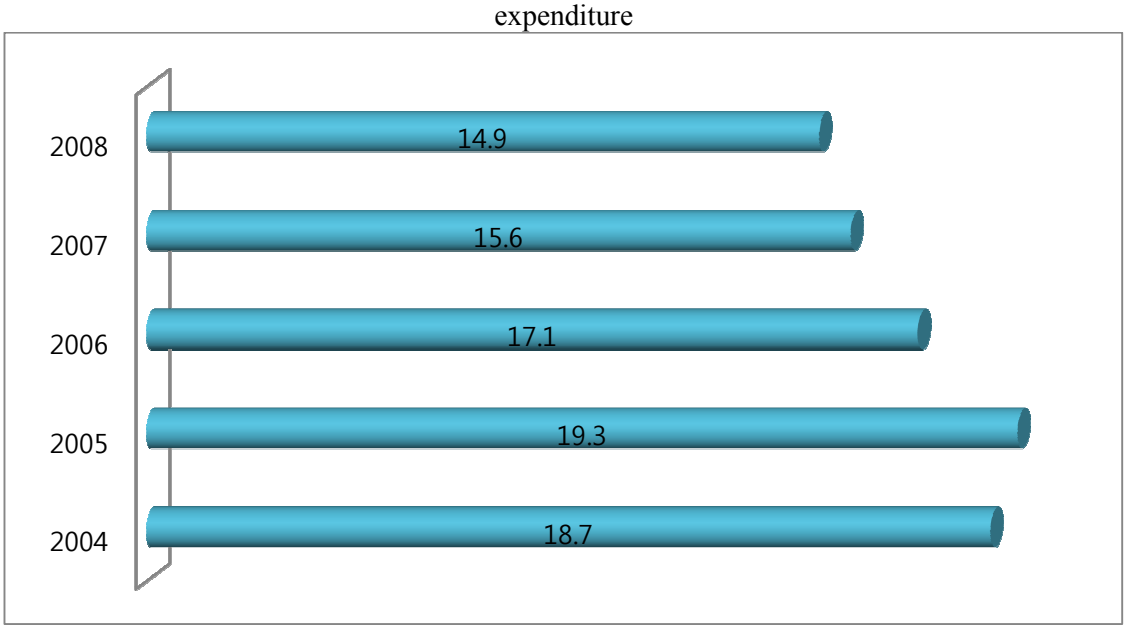
Table 4.8 Expenditure of educational sector (million togrog), $1 = ₮1168 by 2008.

	2004	2005	2006	2007	2008
Total General Government budget expenditure	752 486.4	764 597.1	1 222 966.8	17 473 10.5	24 620 46.6
Educational expenditure	141 019.5	147 792.2	208 714.5	2 731 76.0	367 096.2
Percentage of education expenditure to total General Government budget expenditure	18.7	19.3	17.1	15.6	14.9
Per capita expenditure	56.0	58.0	80.9	104.5	138.8

Source: National Statistical Office

The total educational expenditures share of the public budget decreased by 3.8% during the study period (see Figure 4.8). It has influenced the public policy of the Mongolian government for retrenchment. The world economic crisis has influenced the Mongolian economy and its resources level and allocation too much. The country is still keeping hold of its retrenchment policy.

Figure 4.8 Percentage of education expenditure of total General Government budget expenditure



Source: National Statistical Office

Table 4.9 reports some indicators of general schooling education. It includes the gross enrollment ratio for general, primary and secondary levels and the dropout ratios. The enrollment ratios are declining somewhat, as is the dropout ratio in the last two years. Another indicator is the number of teachers divided into those from primary, secondary and high school levels. Other determinants discussed are the number of new entrants and graduates from general education schooling. The statistics shows that Mongolia's literacy rate among the population of above 15 years is 97.6%. This number is very high compared with many developing countries with a similar level of development.

Table 4.9 Some indicators of general schooling education.

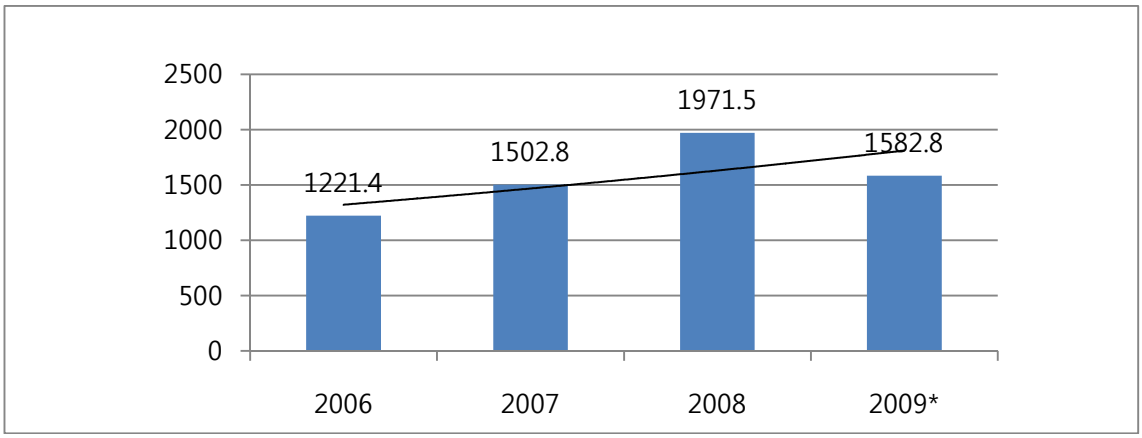
Indicators	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Gross enrollment ratio general %	103.3	95.4	93.7	95.1	94.4
Gross enrollment ratio primary %	114.7	96.4	93.5	94.8	93.6
Gross enrollment ratio secondary %	93.4	94.2	93.8	95.4	95.5
Total Drop-out ratio	10.8	9.0*	12.3*	8.8*	5.4
	2.0	1.6	2.2	1.6	1.0
Number of teachers, 1000 persons	21.5	22.7	22.9	23.9	25.5
✓ Primary	7.3	7.6	7.6	7.7	8.3
✓ Basic	10.2	10.8	10.3	10.9	11.3
✓ High	4.0	4.3	5.0	5.3	5.9
Number of new entrants 1st grade (1000 children)	76.8	55.7	56.1	60.0	63.2
Graduates of general education school , 1000 persons	97.5	100.4	99.9	96.2	-

Source: National Statistical Office

4.4 GDP

The level and growth rate of GDP in Mongolia is highly related to the price of copper and gold and their production levels and exports. The different sectors' share of GDP is: agriculture 10.4%, manufacturing 6.1%, wholesale and trade 14.6%, mining 29.2%, and transportation and communication 18.2%. It is rather difficult to assess the Mongolian economy without accounting for the heavy influence of the neighbors. The development of GDP per capita is shown in Figure 4.10. It is worth mentioning that the level for 2009 is a forecast.

Figure.4.9 Trend in GDP per capita growth rate in USD

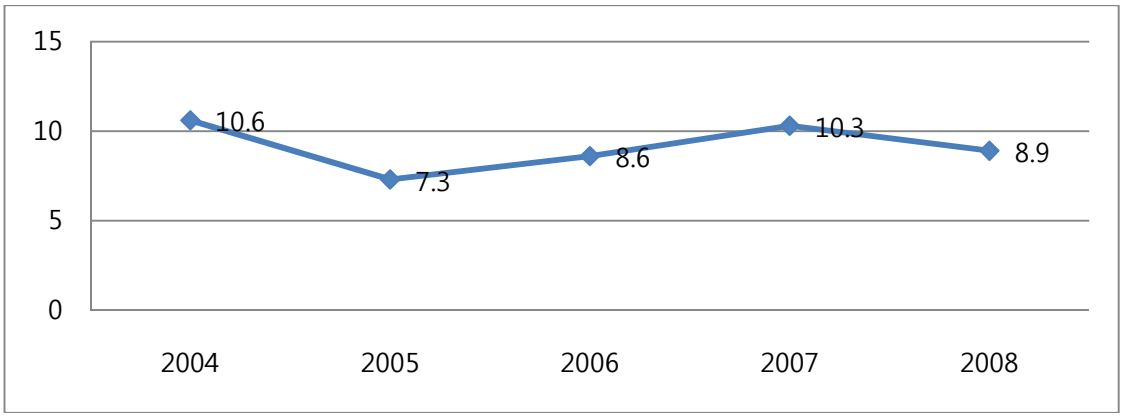


Source: Ministry of Finance

Figure 4.10 shows that in 2004 GDP was $1221.4 and in 2008 GDP it was $1971.5. The increasing trend in GDP until 2008 seems to be declining due to the negative effects of the recent economic crisis and reduced demand for copper and gold and other products exported from Mongolia. The insecurity in the financial market initially led to

an increased demand for gold and its price, but the trend reversed in recent months following the improved stock markets trade and alternative investment opportunities. The development of aggregate GDP growth is depicted in Figure 4.11. The growth rate varies in the interval 7.3% and 10.6%. However, in 2009 it is predicted that the GDP growth will be much lower but remain positive.

Figure 4.10 Development of GDP growth rate



The industrial composition of GDP is reported in Table 4.10. As mentioned previously the main contributors are agriculture and related sub-sectors (18.8%), mining and quarrying (28.2%), wholesale and related sub-sectors (14.6%), and transport, storage and communication (10.4%). The shares in parenthesis are associated with 2008. All these sector shares with the exception of mining and quarrying are declining over time.

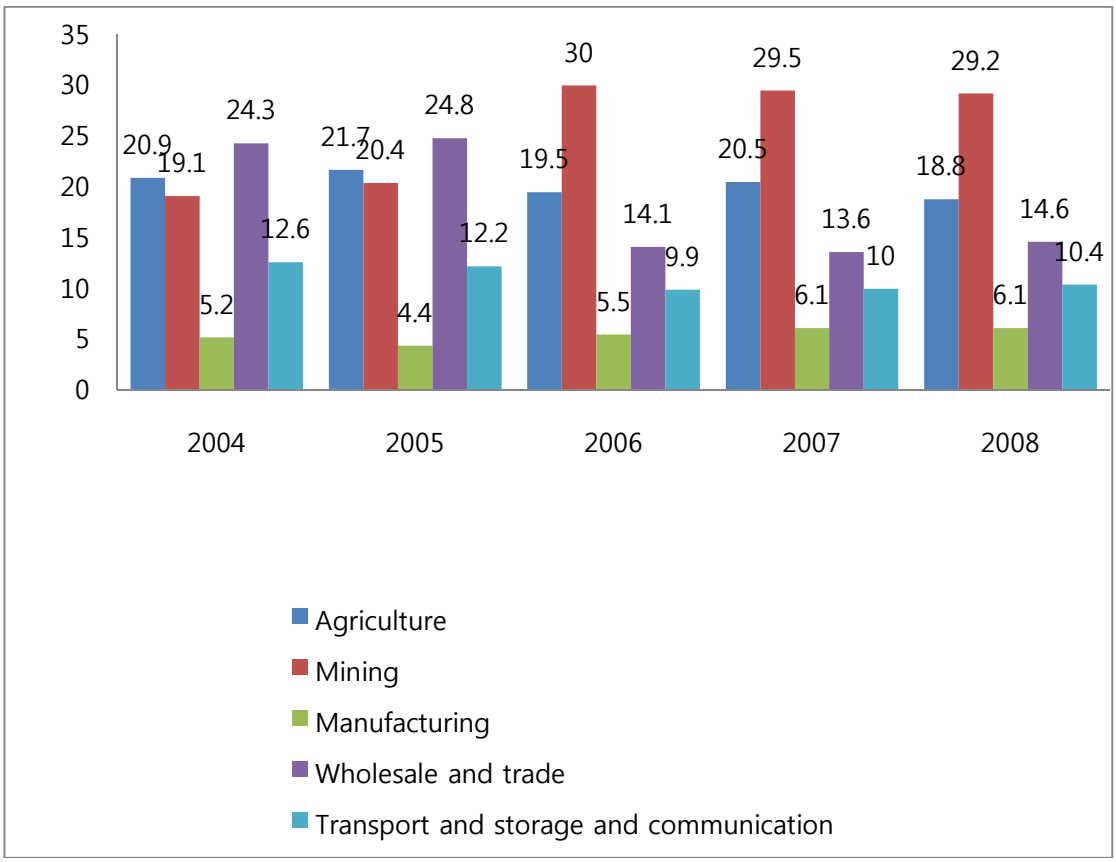
Table 4.10 Industrial composition of gross domestic product, by division, % of total

Divisions	2004	2005	2006	2007	2008
GDP	100.0	100.0	100.0	100.0	100.0
Agriculture, hunting and forestry, fishing	22.2	21.9	19.5	20.5	18.8
Mining & quarrying	17.2	22.1	30.0	29.5	28.2
Manufacturing	6.0	5.8	5.5	6.1	6.1
Electricity, gas & water supply	3.3	3.2	2.8	2.5	2.2
Construction	2.7	2.5	2.1	2.2	2.0
Wholesale & retail trade; repair of motor vehicle, motorcycle & personal & household goods	16.9	14.9	14.1	13.6	14.6
Hotels & restaurants	0.8	0.8	0.8	0.7	0.7
Transport, storage & communication	12.3	12.3	9.9	10.0	10.4
Financial intermediation	3.8	3.6	2.9	3.3	3.1
Real estate, renting & other business activities	9.1	7.9	6.8	5.9	5.1
Public administration & defense; compulsory social security	2.7	2.4	3.2	3.1	4.3
Education	.1	3.1	3.3	3.7	4.9
Health & social work	1.6	1.4	1.5	1.6	1.8
Other community, social & personal service activities	1.3	1.1	1.0	1.0	1.1
Financial intermediation services indirectly measured (FISIM)	-3.0	-2.9	-3.3	-3.7	-3.4

Source: National Statistical Office

The agriculture, mining, transport and communication, wholesale retail, services and real estate renting and other business activities play an important role in GDP and employment in the Mongolian economy. Figure 4.11 depicts the different main economic sectors' share of GDP over the period 2004-2008. The mining sector's share especially has increased gradually. It was 19.1% in 2004 and 29.2% in 2008, and it increased by 17.1%. Mining is the high priority sector in the Mongolian economy.

Figure 4.11 Percentage shares of major sectors to GDP



Source: National Statistical Office

The level of GDP and its development over time for agriculture, industry and services and net taxes on products is reported in Table 4.11 in US dollars. All components show an increasing trend over time. Industry and service sectors are growing faster than the agricultural sector.

Table 4.11 GDP by sector in million togrog, $1 = ₮1168 by 2008.

		2004	2005	2006	2007	2008
	GDP	2 591592.8	2 779578.3	3 017425.8	3 325892.5	3 620532.5
	Agriculture	549 437.4	608 335.2	654 148.4	757 493.6	795 527.2
	Industry, construction	807 236.9	849 028.1	907 357.7	971 017.8	978 998.7
	Services	926 731.1	1010 477.1	1072 559.8	1187 851.9	1376 863.8
	Net taxes on products	308 187.4	311 737.9	383 359.9	409 529.3	469 142.8

Source: National Statistical Office

The total gross national income (GNI) is reported in Table 4.12. The national income per capita in the Mongolian currency and in US dollars is also reported for the period 2004 to 2008. The GNI per capita developed rapidly from $739 in 2004 to $1639 in 2008. The increase is due to increased extraction of minerals and energy as well as the increased price of natural resources, in particular the energy and mineral price increases in 2007 and early 2008. Later in 2008 the price of energy and mineral decreased because of the global financial crises and lowered demand from consumers and industry.

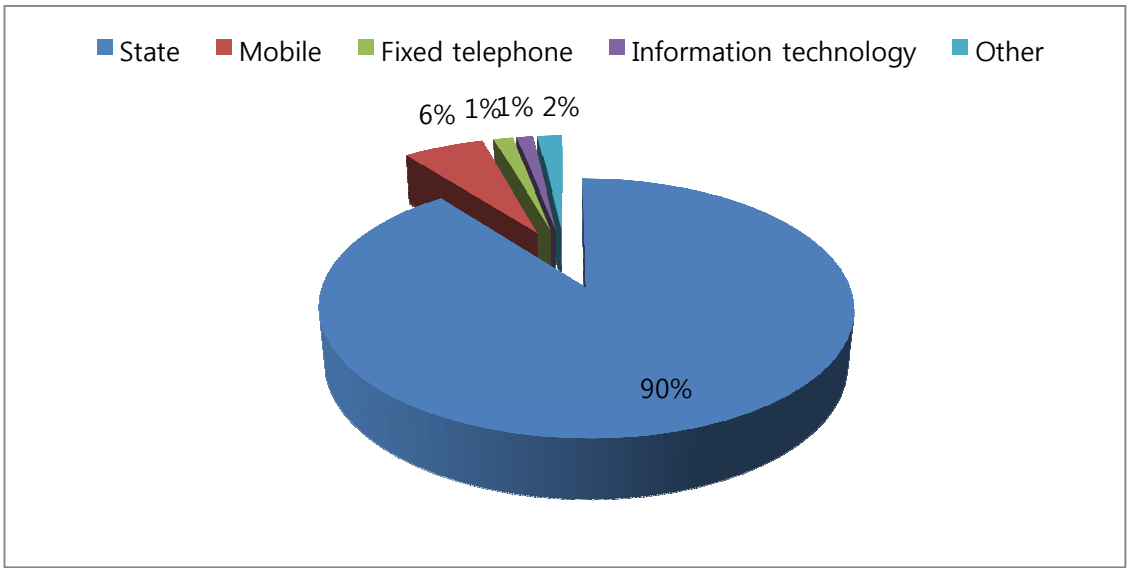
Table 4.12 Gross national income, $1 = ₮1168 by 2008.

	2004	2005	2006	2007	2008
✓ At current prices					
GNI, million togrog	2 312 332.5	2 878 393.0	3 755 521.6	4 583 632.0	6 096 098 8
GNI/capita,1000 togrog	918.1	1 129.8	1 456.4	1 752.8	2 292.4
✓ GDP, GNI per capita, by World Bank Atlas method					
GNI per capita, USD	739.0	829.0	1 009.0	1 290.0	1 639.0

4.5 Information and Communications Technology

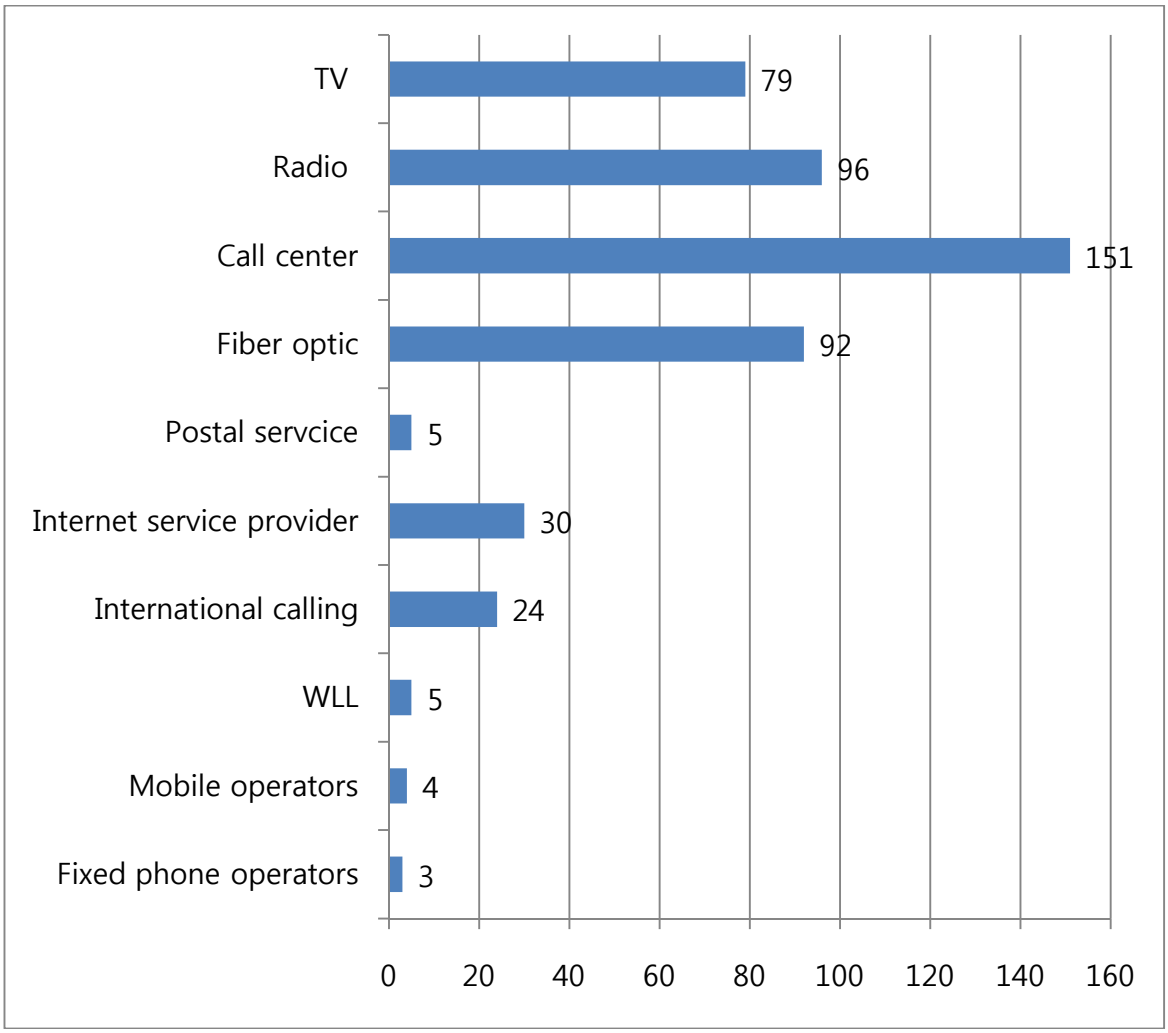
This section presents a number of indicators related to the ICT sector. It includes indicators like percentage share of ICT sector in GDP, total produced services of telecommunications, subscriptions of mobile phones, fixed phones and internet, inter-connection type and the length of fiber optic covering the period from 2004 to 2008. Figure 4.12 shows the different means of telecommunications, including state, mobile phone, fixed phone, information technology and others. The share operated and owned by the state is about 90% for the study period.

Figure 4.12 Percentage shares of ICT telecommunication sector means in GDP



Another important factor, which shows the development of ICT in Mongolia, is the contribution of the ICT development in GDP. As it was provided by the National Statistical office, the ICT sector has grown from 10.0% to 43.1% for 4 years compared to the GDP growth from 9.5% to 23.7%. Telecommunication revenues correspond to 3,435.45 million USD. As the share of GDP this revenue counts for 10.4%. In Figure 4.13 we report the telecommunications services including TV and radio, postal services and phones. The distribution is unequal and call center, radio, postal services and TV have the highest numbers.

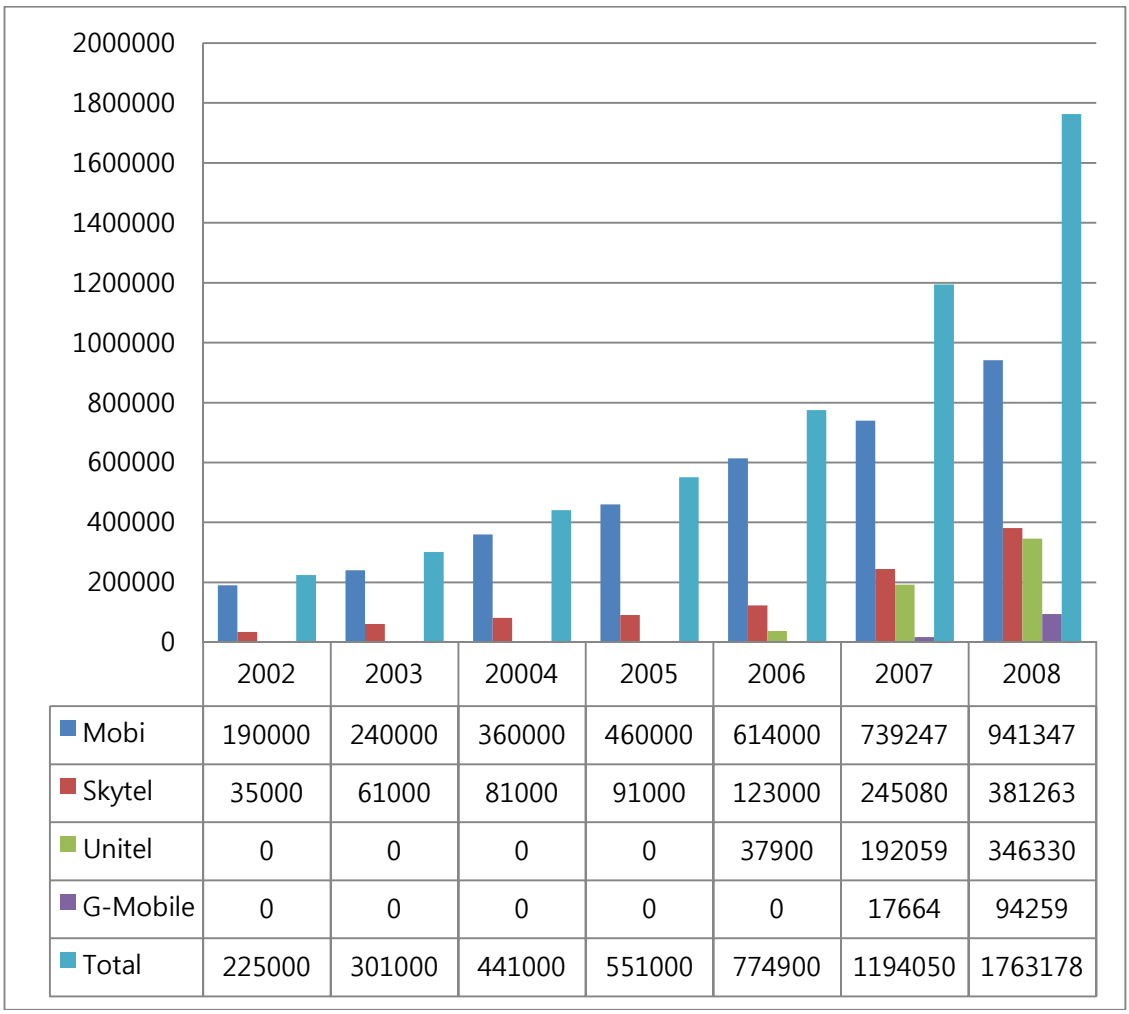
Figure 4.13 Number of telecommunication services



Source: Information, Post, Communications and Technology Authority

In Figure 4.14 the number of subscriptions of mobile phones for four main companies and the aggregate numbers are reported. The four main companies are Mobil, Skytel, Unitel and G-Mobile. Information on the number of subscribers for each company and the total number for the period from 2002 until 2008 is reported here. This figure shows all registered telecommunication companies.

Figure 4.14 Subscription of mobile phones

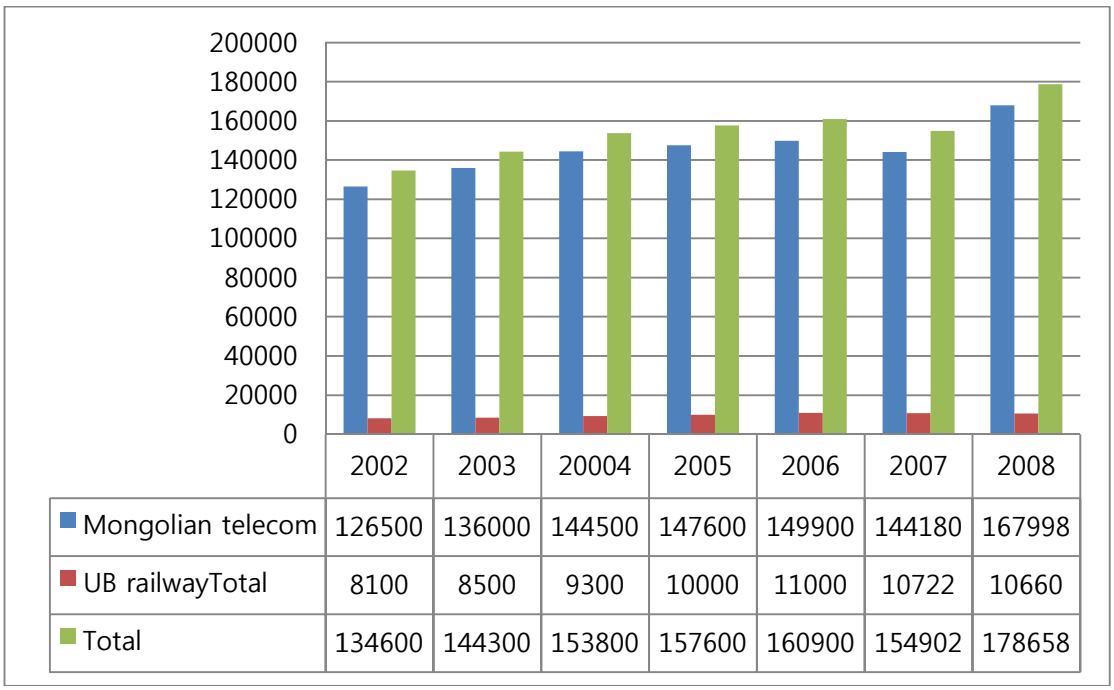


	2002	2003	20004	2005	2006	2007	2008
Mobi	190000	240000	360000	460000	614000	739247	941347
Skytel	35000	61000	81000	91000	123000	245080	381263
Unitel	0	0	0	0	37900	192059	346330
G-Mobile	0	0	0	0	0	17664	94259
Total	225000	301000	441000	551000	774900	1194050	1763178

Almost 60% of the total market is that of Mobil. The total number of subscribers and users of mobile phone services is increasing in Mongolia. About 64.8% of the total population is users of mobile phones. In 2004 the total number of subscribers was only 225,000, but in 2008 it reached over 1,763,178, i.e. it increased by 1,538,178. There are 4 mobile operators in Mongolia. Two of these service providers provide services by GSM and CDMA.

Figure 4.15 shows the number of subscribers of fixed telephones. There are two fixed telephone services companies in Mongolia: Mongolia Telecom and Mongolian Railway Authority. The Mongolia Telecom Company is a joint venture of Mongolia and Korea Telecom. In addition, Mongolia also has wireless fixed telephone services. The service is provided by the Mongolian Telecom Company. The Mobicom mobile company is a foreign owned company of Japanese origin, while the Skytel mobile company is owned by South Korean investors. The number of subscribers for each company for the study period from 2002 to 2008 is reported in Figure 4.15. The largest market share is seen to be attributed to the Mongolian Telecom which accounts for the largest market share all the time.

Figure 4.15 Subscription of fixed telephones

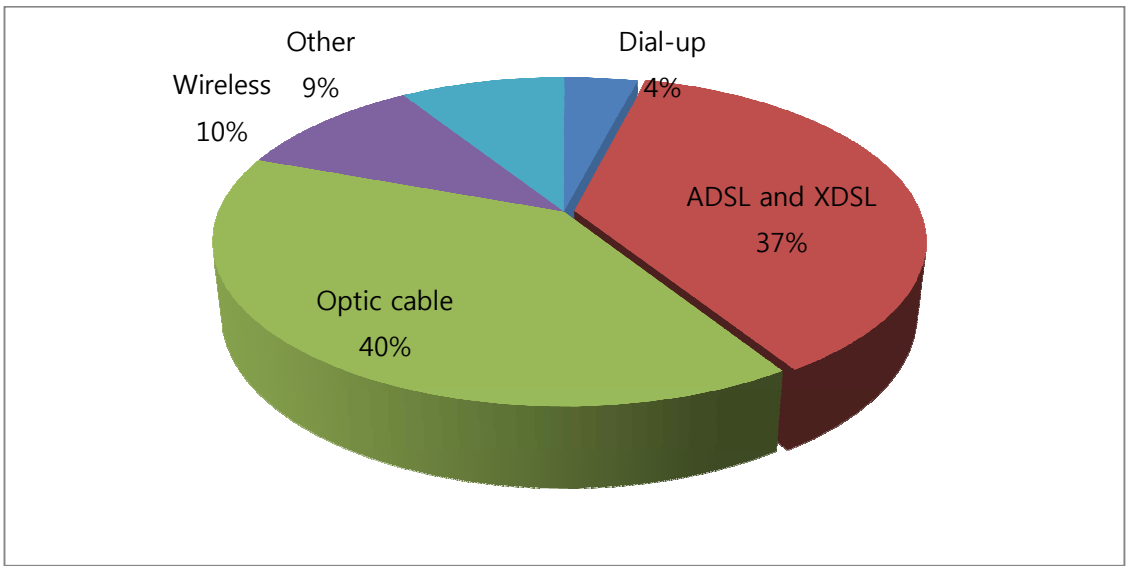


	2002	2003	20004	2005	2006	2007	2008
Mongolian telecom	126500	136000	144500	147600	149900	144180	167998
UB railwayTotal	8100	8500	9300	10000	11000	10722	10660
Total	134600	144300	153800	157600	160900	154902	178658

Source: Information, Post, Communications and Technology Authority

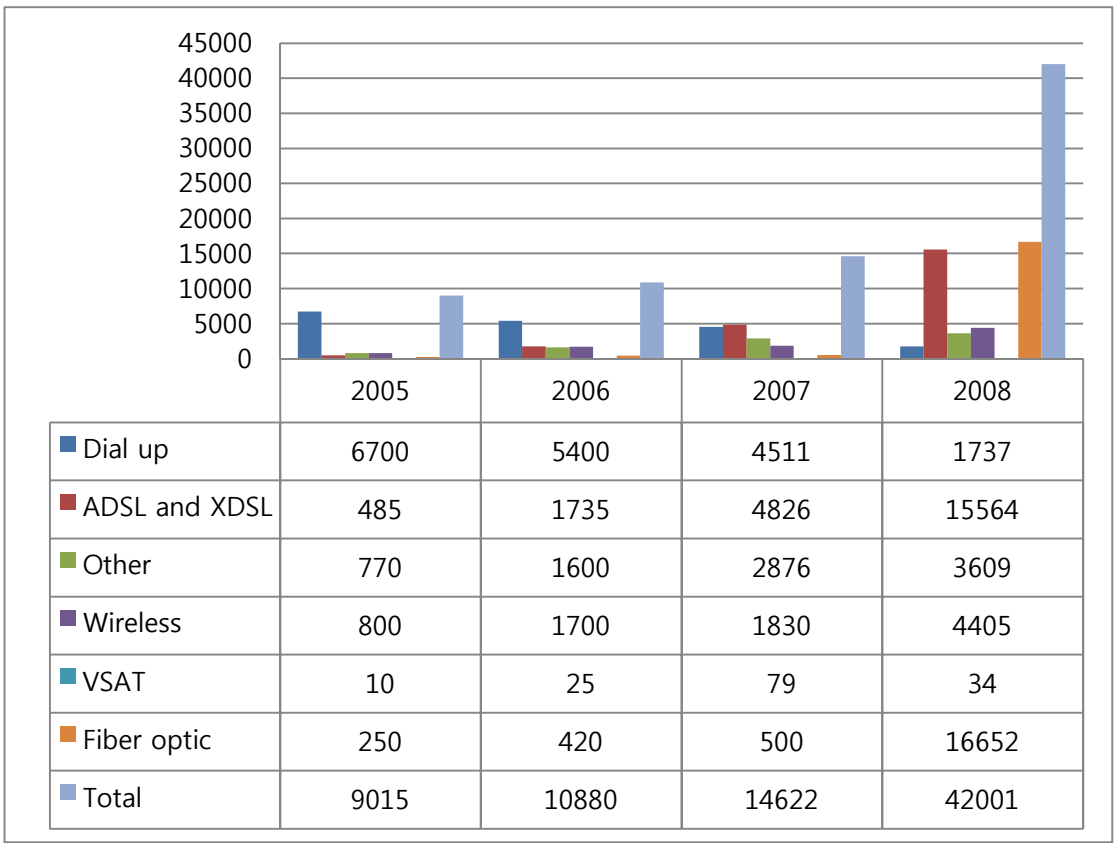
Figure 4.16 shows the state of internet connections in Mongolia in 2008. The market is divided into different available internet connection alternatives at the market. The list of alternatives includes Optic Cable, ADSL and XDSL, Wireless, Dial-up and other alternatives, ordered by their recent market shares. Here the focus is on internet connection alternatives, and the number of internet users will be discussed later in a more detailed form.

Figure 4.16 Internet connections in 2008



The Internet speed that the business enterprises are commonly using is 384 kbps in average and 10 mbps at maximum. In recent years most of the new investments have been conducted in the area of fiber optic connection. The technology is spreading much faster than other alternatives and it is found to be better adapted to the future data transfer capacity expansion needs of corporations, state, as well as household demand.

Figure 4.17 Number of internet users



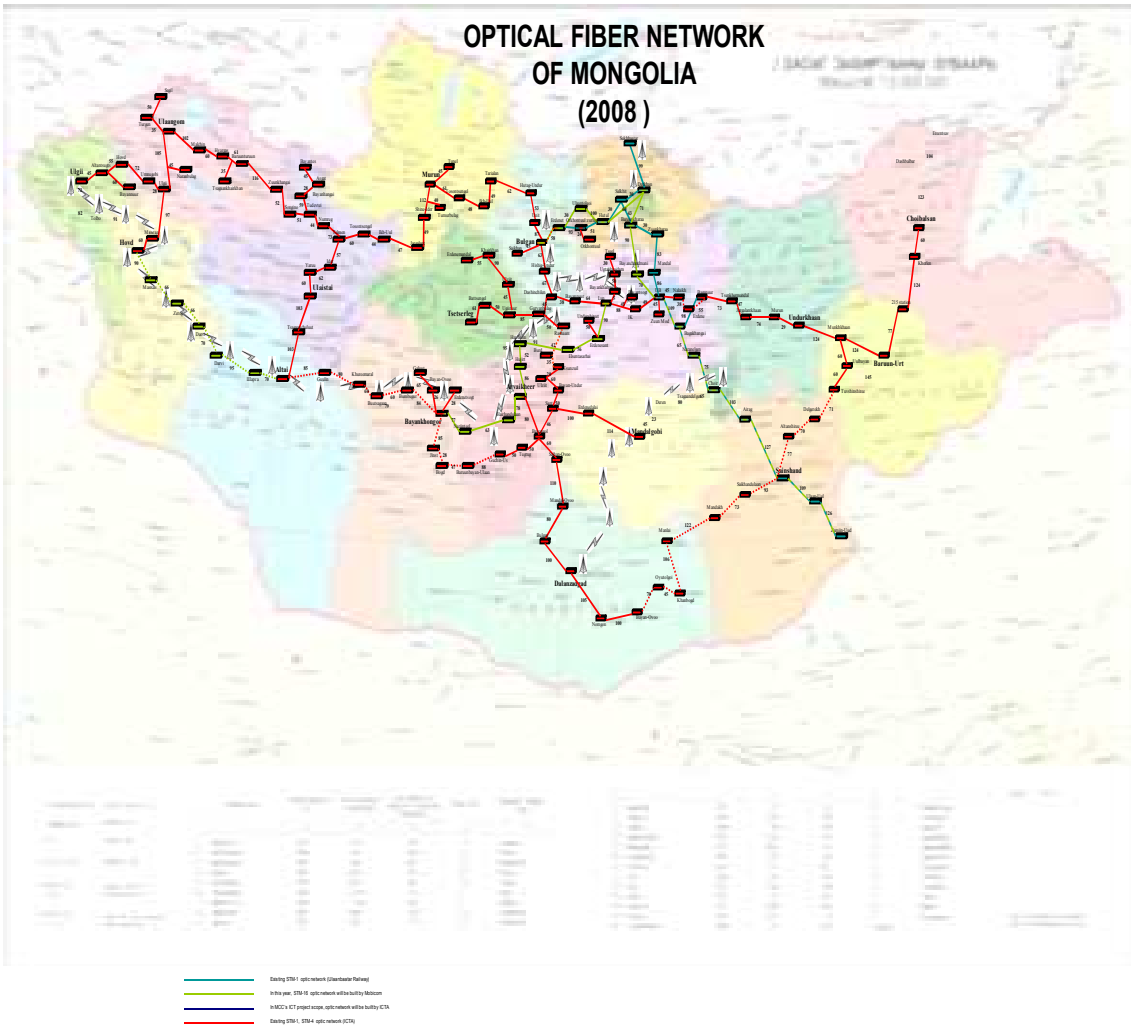
	2005	2006	2007	2008
Dial up	6700	5400	4511	1737
ADSL and XDSL	485	1735	4826	15564
Other	770	1600	2876	3609
Wireless	800	1700	1830	4405
VSAT	10	25	79	34
Fiber optic	250	420	500	16652
Total	9015	10880	14622	42001

Source: Information, Post, Communications and Technology Authority

The first Internet service provider in Mongolia commenced its activities in 1996. In similarity with the global conditions, over the past 10 years, the Internet service provision has undergone extensive changes and developments. This includes an increase in the number of Internet service providers, increase in the bandwidth for Mongolia, diversity of the services offered by the Internet service provider companies from one side and expansion of users of the Internet and demand for services from the other side. As is reported in Figure 5.11, the number of registered users of internet increased rapidly from 2001 to 2008. In comparison with previous years, it has increased by over 27,379 users. It should be note that, in reality the number of users is much higher than 42,001 in 2008 (Figure 4.17).

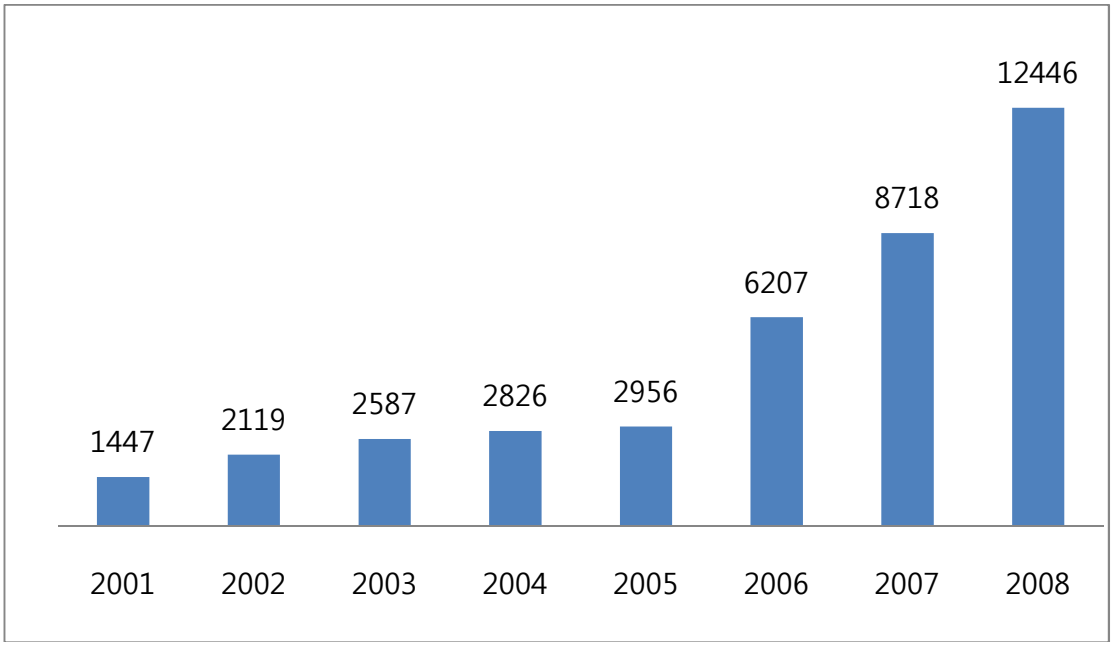
The coverage by Optical Fiber Network of Mongolia in 2008 is reported in Map 2 below where it shows the comprehensive coverage and connection of most cities. The map and associate Figure 4.18 shows also the number of users and its development over time from 2001 to 2008.

Map 2.Optical fiber optic network of Mongolia



In 2008 Mongolia had finished the connection of all centers of provinces and sub provinces concerning internet access. Now for all those who want to access to the internet, it is possible to obtain the service at all those locations. The building up of this length of fiber optic is a state property. It means the private companies can lease it to deliver their communication services. In general basic investment in infrastructure for development and provision of service must be financed by public means. No private corporations are willing to invest in such services. This includes previously provided public services such as railroads, transmission of energy, public transportation and highways. Many of such services provision are privatized.

Figure 4.18 Length of fiber optic networks in km.



Source: Information, Post, Communications and Technology Authority

In 2008 a high capacity DWDM network between northern and southern borders was deployed to ensure the redundancy of the international internet gateway 2.5 Gbps. In 2009-2011, with Chinese credit based on soft loans, ICTPA started to connect 148 soums. It settled the area in the fiber optical cable network to organize the IP based potential network with 10 Gbps in 21 provinces.

5. THE ROLE OF AGRICULTURE, INDUSTRY AND SERVICES

Mongolia's overall industry trade policy objectives, as stated in the Government policy to support economic growth through an active trade policy, promote the industrial, agricultural and service sectors, with the objective of increasing their exports. Industry has been concentrated in several urban centers. There is a desire to decentralize the industry to other areas to have a better distribution of job and income opportunities for the population by a better structured industrial and service sector development in different regions.

Mongolia has some cities and provinces which specialize in developing agriculture, industry and services. For example, Baga Nuur is a coal-mining and energy production center, Bor Ondor is fluorite production center, Choybalsan is a coal mine, meat-packing plant and wool-scouring mill, Darkhan is an iron and sheepskin and leather production center. Sharin Gol specializes in coal mine and produced construction materials and light industrial products. Erdenet is the home of the copper and molybdenum processing combine, also manufactured carpets and processed timber. Hotol is the location of major limestone deposits and a cement production center. Ulanbator which is the oldest industrial center specializes in coal and energy production, food processing, livestock-product processing, and textiles. Selenge and

Tuv are crop farming, vegetable, farming and foodstuff production centers. Finally, Bayankhongor is cashmere and South Gobi (Oyu-tolgoi) is a center of mining such as copper and gold production.

Thus, based on the specialized structure of the economy, one can say that the role of agriculture, industry and services is very important for the development of the Mongolian economy in general and in particular for certain regions more than others. In similarity with all other countries and technology development, agriculture is shrinking, while the service sector is expanding. The industry sector's share of an economy depends on its level of maturity. Its importance in the form of source of employment is reduced as the economy develops and productivity is high, leaving space for rationalization and service development. The trade-off between agriculture, industry and services is more or less similar to the industrialized countries but the speed and proportions differ.

5.1 Agriculture sector

Pasturing livestock husbandry is the main foundation of Mongolia's agriculture and economy. Generally, Mongolian agriculture is divided into two main sub-sectors which are livestock and crops. The sector predominately consists of livestock production and the processing industry.

In recent years the agricultural sector's share of GDP has been continuously decreasing. This is the main reason that the mineral resource sector is becoming the biggest priority sector and it provides a larger share of Mongolia's GDP and economic growth. However the agriculture sector still plays a major role in the economy, employment and export revenues. It provides employment and a source of living to about 45% of the total labor force. It contributes to 30% of the total exports, 31% of the overall value of the industrial production and it produces about 20% of the country's GDP.

The livestock sector contributes to about 81% of production in agriculture and the crops constitute about 19% of the revenues. Mongolia uses 75% of the arable land as grassland and only 1% for crop production. The main products in the livestock sector are meat, milk, wool, cashmere, leather, skin and hide. Every year a large amount of these products are produced and processed. The present agricultural exports mostly consist of raw materials of different animal origins. The main agricultural crops are wheat, barley, potatoes, oats and vegetables which in addition to exports are the main supplies for the domestic consumption as well.

Before 1990 land cultivation sector policy was to fully meet domestic demand for crops, potatoes, vegetables and livestock fodder as well as for export. However, in 1990-1996 and consistent with the principle of the "closer the property the better its operation" land cultivation entities were transformed into joint stock companies with state ownership. Following the changed policy, land cultivation production dropped significantly due to reduced direct and indirect support from the government and lack of management skills and the capacity to operate the business in a market economy.

In recent years the government of Mongolia has determined to make crop farming a prioritized direction of its agricultural policy. The main policies among the development of the agricultural sector are focusing on the effective use of soil resources, climate and economic resources to improve the agricultural production and to promote introduction of the new and advanced production technologies that are positive concerning both domestic supply of food at a higher self-sufficiency level and export objectives.

Since 2007 the Mongolian government has implemented "To get hold of bush-3" program with the aim of giving refreshment to falling crop farming. The result was 668,456.3 million togrog in 2004, 1,608,375.0 million togrog in 2008. The difference corresponds to an increase of 939,918.7 million togrog. The difference is significant concerning the gap between before and after program implementation. Despite the shrinking share of agriculture in the total economy, the size of employment, share of GDP, industrial production, etc. in agriculture was increasing over time. The increase is a result of price changes and a higher general productivity in the economy across all sectors. Development of gross agricultural output and its divisions by livestock and crops sub-sector over the period of 2004 to 2008 is reported below in Table 5.1.

Table 5.1 Gross agricultural output (million togrog), $1 = ₮1168 by 2008

Sector	2004	2005	2006	2007	2008*
Total	668 456.3	851 704.1	981 810.6	1297 524.8	1608 375.0
livestock	564 510.6	738 477.4	834 477.4	1124 804.3	1352 959.1
crops	103 945.7	113 226.7	147 333.2	172 720.5	255 415.9

Source: National Statistical Office

Total gross agricultural output's share of livestock is quite high, about 84.12% and the remaining share of 15.88% is attributed to the crop sector. The different quantity of outputs of main agricultural products is reported in Table 5.2 for the study period 2004-2008.

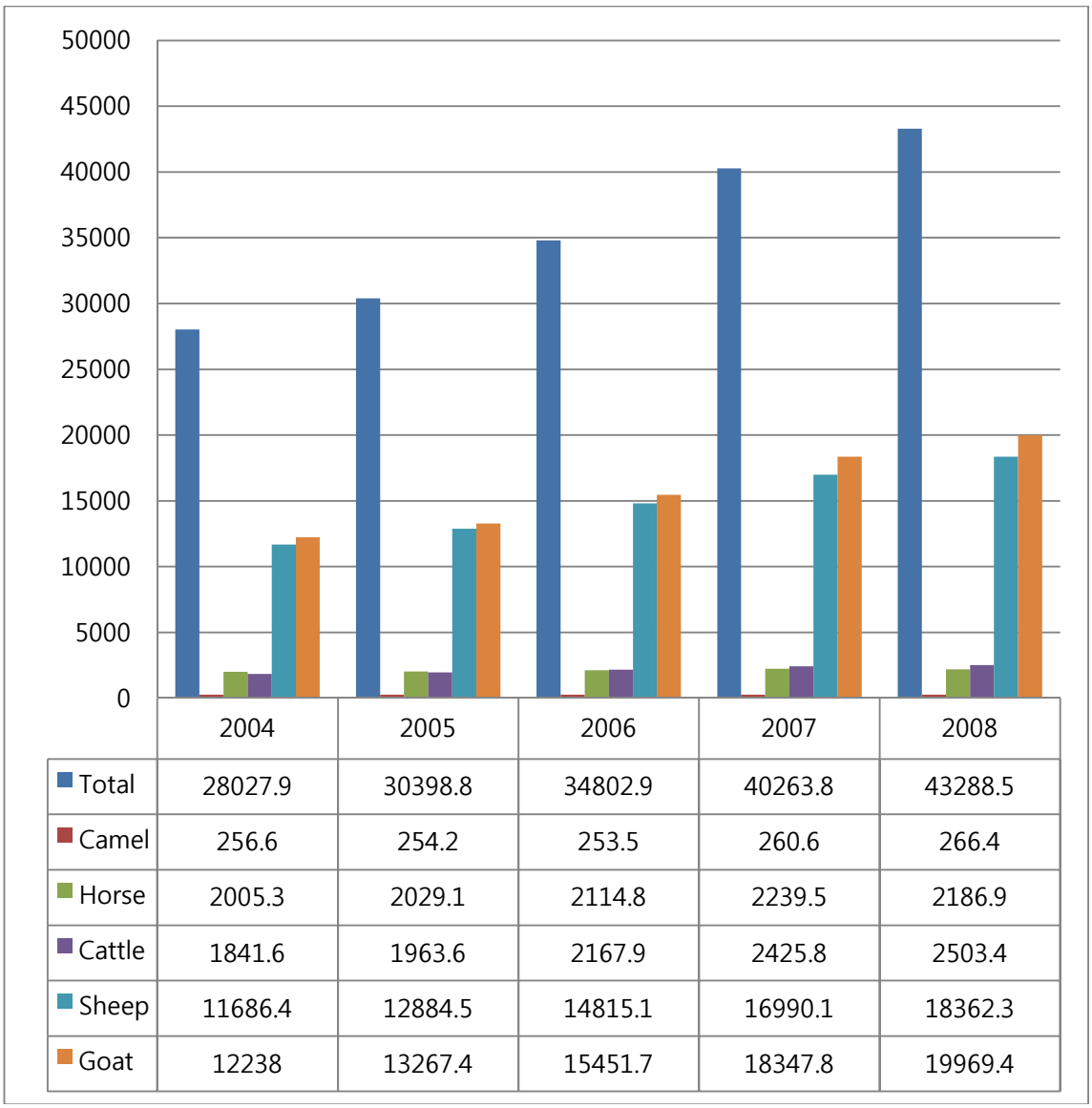
Table 5.2 Output of main agricultural products (1000, if nothing indicated)

Commodities	2004	2005	2006	2007	2008
Meat slaughter weight	195.2	183.9	170.7	191.2	223.1
Hide and skin, 1000 pcs	6 655.2	6 927.1	6 374.0	7 218.4	9 883.6
Sheep wool	13.4	14.2	15.8	18.2	20.8
Cashmere	3.2	3.7	4.0	4.9	5.8
Milk	406.3	425.9	450.1	465.6	457.4
Eggs, million psc.	16.0	21.3	19.0	46.2	47.9
Cereals	138.4	75.5	138.6	114.8	212.9
Wheat	135.6	73.5	127.8	109.6	209.8
Potato	80.2	82.8	109.1	114.5	134.8
Vegetables	49.2	64.1	70.4	76.4	78.9

In Table 5.2, one can see the main Mongolian agricultural products and their development over the period 2004-2008. All of them increased above 40% compared

with the 2004 production level. As mentioned previously, the main products are hide and skin, milk, meat, cereals, wheat and potatoes. All of which are more or less used both for domestic consumption and are also partly exported to the international market. The number of livestock and its distribution by different and most common livestock types over the study period is depicted in the combined Figure/Table 5.1 below.

Figure 5.1 Number of livestock (1000 heads)



	2004	2005	2006	2007	2008
Total	28027.9	30398.8	34802.9	40263.8	43288.5
Camel	256.6	254.2	253.5	260.6	266.4
Horse	2005.3	2029.1	2114.8	2239.5	2186.9
Cattle	1841.6	1963.6	2167.9	2425.8	2503.4
Sheep	11686.4	12884.5	14815.1	16990.1	18362.3
Goat	12238	13267.4	15451.7	18347.8	19969.4

Figure 5.1 shows the number of Mongolian main livestock, which was in total 28,027.9 thousands units in 2004, 43,288.5 thousands units in 2008. The stock of livestock has increased over the 5 year period, 2004-2008, by 64.74%. The country is very rich in pasture land and there is capacity for further increase in the stock of animals. The main livestock are goats, sheep, cattle, horses and camels. Goats and sheep are among the livestock that have grown fastest in recent years.

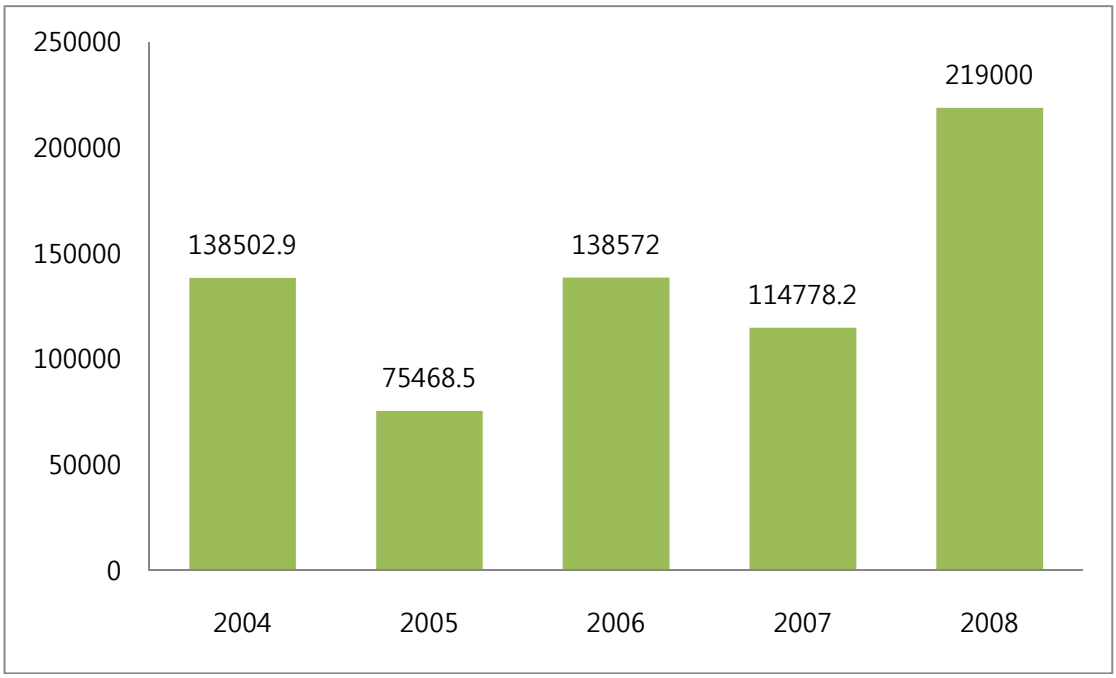
Table 5.3 Agricultural area (1000 hectares)

Type	2004	2005	2006	2007	2008
Agricultural land	115 455.8	115 232.6	116 037.7	115 992.8	115 824.7
Agricultural areas-total	113 681.5	113 449.4	114 248.2	114 207.3	114 144.1
Of which:					
meadows & pastures	112 975.8	112 752.4	113 550.4	113 502.8	113 308.4
arable land natural	705.7	697.0	697.8	704.5	835.7
Sown area-total	200.5	189.5	162.0	202.7	192.5
Of which:					
Cereals	172.9	159.1	126.2	121.8	154.0
Potato	9.1	9.8	10.7	11.5	12.3
Vegetables	4.9	5.9	5.9	6.1	6.4
fodder crops	5.1	5.2	3.9	4.9	5.5

Information about the agricultural area is provided in Table 5.3. The size of the utilized area is almost constant over time despite few limitations on its expansion. The main part consists of meadows and pasture and a smaller part is allocated to arable land for crop production. The arable part is sown areas used mostly for cereal production and a smaller share for potatoes, vegetables and fodder crop production. There is a large variation in cereal land use due to the development of the international market and limited input resources.

In Figure 5.2 we report the total crop production in Mongolia for the period 2004 to 2008. The production statistics is measured in tons and do not reflect the different agricultural product values. The largest quantities were produced in 2008, followed by 2006 and 2004. The production level was lowest in 2005.

Figure 5.2 Total crops (tons)



Following the implementation of the "To get hold of bush-3" development program, the agriculture sector's output reached 219,000 tons in 2008. It increased by more than 104,221.8 tons compared with 2004. In terms of values, the share of agriculture of the total GDP was discussed in earlier sections of this report.

5.2 Industry sector

Mongolia is very poor in the industry area and the development of this sector is very slow and there are difficulties for the business environment and investment in industry to develop due to the country's land-locked geography, small population of 2.7 million, half of which is nomadic, low purchasing power, inadequate physical infrastructure, rugged terrain, and increasing competition from neighboring China and Russia. The labor, the administration and skill levels are low compared to the two neighboring countries.

In the twentieth century the modern history of Mongolian industry is completely related with the Soviet Union. The Soviet Union provided few but important resources to invest in industrialization. In 1930 the first step to developing industry began operating in the capital city of Ulaanbaatar. Those investments laid the ground for the transfer and spread of Soviet technology in the coming decades. After the collapse of the Soviet system in late 1980s, the technology imports began to become more diversified but yet highly dependent on the two neighboring countries' technologies and economic interests in Mongolia.

A key characteristic of the industry sector is the wide range of industries, most of which are strongly related to the livestock resources of the country. These include meat processing, dairy, leather tanning, leather footwear and products, fur garments, cashmere processing and garment manufacturing. Among other industries are camel hair processing and garment production, wool carpets and blankets, felt shoes and other felt products, though the production levels of most of these were only a fraction of their pre-transition levels, with the exception of the cashmere industry. Nevertheless, livestock-based materials form the basis for almost all the textile industry, and a significant proportion of the food and garment industries. The potential for expanding livestock-based industries remains very high, taking into consideration of the abundant livestock resources currently available, and the underdeveloped state of livestock-based industries.

Before 1990 industrialization took a major step compared with the current time. The large-scale investments by the Soviet Union and other East European countries took place with Mongolia's entry into the Council for Mutual Economic Assistance in 1962. After 1970 the scope of industry expanded beyond the processing of agricultural products. Exploitation of minerals developed on a large scale, and also the energy and the construction industries, which supported such development. After the transition period, the industry sector was completely bankrupt till 1996. At the time many factories were closed. This period marked a decline in Mongolia's industrial development.

Mongolia adopted an industrial strategy that was based on the exploitation of natural resources and agriculture. Today Mongolia has ready access to the rapidly expanding economies of China, South Korea and Southeast Asia, as well as the large Russian market. All of these countries are very competitive on the global market and are able to develop their own technologies in many areas. Mongolia benefits from trade and cooperation with these countries, but as a destination for foreign investment or imports from Mongolia, puts lots of competitive pressure on the Mongolian producers.

In 2008 the industry sector employed 11.9% of the total labor force. It produced 31.40% of the gross industrial output, and contributed 6.1% to the country's total GDP. The relationship between employment and GDP share is not optimal and is an indication of weak competitiveness and low productivity of the industry sector. Production takes place mainly in the area of low value added agriculture and livestock products, which results in a relatively low share of GDP.

The Mongolian industry sector can improve once again, provided the government takes decisive steps to resolve the long-standing transition problems, to improve its business climate and with the provision of government services, to prioritize livestock-based industries, and with the ability to identify new niche markets for its products which have a higher processing and value-added content than the commodities mainly exported currently. Innovation in product processing, design and consumer markets must be strong elements in the government policy towards the industry in the new millennium.

The gross industrial production of Mongolia and its development during the period from 2004 to 2008 is depicted in Table 5.4. The industry is divided into a number of sub-sectors and the production value of each sub-sector is reported. The total production value increased from 1,275,881 million togrog in 2004 to 3,524,215 million togrog in 2008, so threefold in just 5 years. The table shows that a number of industries are much higher in the total such as: mining and quarrying, mining of metal ores, manufacturing and generation of electricity from various sources such as thermal and steam generation sources.

Table 5.4 Gross industrial output (million togrog), $1 = ₮1168 by 2008

Divisions	2004	2005	2006	2007	2008*
Total	1 275 881.1	1 475 504.1	2 327 180.9	3 060 550.4	3 524 215.2
Mining and quarrying	765 397.7	978 271.2	1 627 593.5	1 938 905.8	2 103 454.7
Mining of coal and lignite, extraction of peat	63 503.0	73 429.7	104 627.5	147 518.3	175 563.6
Extraction of crude petroleum and natural gas	4 323.4	10 983.3	19 349.6	31 659.5	114 640.9
Mining of metal ores	673 670.7	865 955.6	1 459 916.8	1 710 678.7	1 763 709.8
Other mining and quarrying	23 900.7	27 902.6	43 699.6	49 049.2	49 540.4
Manufacturing	351 855.0	310 284.9	499 685.7	877 649.6	1 105 826.0
Manufacture of food products and beverages	119 213.4	104 175.0	156 812.6	237 565.2	385 324.1
Manufacture of tobacco products	5 511.8	12 310.3	13 442.8	23 492.6	25 982.9

Manufacture of textiles	80 730.5	66 049.4	110 950.1	209 656.1	217 424.2
Manufacture of wearing apparel dressing and dyeing of fur	46 348.5	31 254.1	37 243.5	36 656.2	19 728.6
Tanning, dressing of leather, manufacture of luggage handbags saddler harness, footwear	4 096.9	608.0	8 055.8	11 501.6	2 283.2
Manufacture of wood and wooden products	7 145.6	7 938.8	10 974.6	12 693.4	31 574.8
Manufacture of paper and paper products	2 445.5	2 930.4	4 677.7	3 127.6	7 355.8
Publishing, printing and reproduction of recorded media	12 400.4	8 279.6	17 419.2	23 428.8	38 354.3
Manufacture of coke, refined petroleum products and nuclear fuel	368.3	2.7	540.0	434.9	1 982.1
Manufacture of chemicals and chemical products	6 692.5	4 704.8	12 524.2	14 190.8	33 100.3
Manufacture of rubber and plastics products	1 097.3	173.1	3 230.5	11 013.3	8 586.2
Production of other					
non-metallic mineral products	16 314.9	14 576.9	29 664.2	45 829.4	97 180.7
Manufacture of basic metals	36 914.8	50 373.0	76 667.1	226 685.3	209 432.8
Manufacture of fabricated metal product, except machinery & equipment	1 630.1	2 016.0	4 051.9	5 071.9	6 931.6
Manufacture of machinery & equipment	981.3	99.2	1 408.6	439.1	1 316.0
Manufacture of office accounting and computing machinery	-	-	1 993.7	1 652.0	4 038.0
Manufacture of electrical machinery and apparatus	7.8	521.7	1 654.1	2 828.3	4 484.0
Manufacture of radio, television and communication equipment	535.2	-	175.8	95.7	-
Manufacture of medical precision and optical instruments, watches and clocks	5 698.6	1 428.0	1 989.6	1 724.3	1 505.7
Manufacture of other transport equipment	1 739.8	1 675.0	1 903.7	2 205.4	2 420.7
Manufacture of furniture, manufacturing n.e.c	1 835.3	1 169.0	3 595.2	6 931.2	6 820.0
Recycling	146.6	-	710.8	426.4	-
Electricity, thermal energy and water supply	158 628.4	186 947.9	199 901.7	243 995.0	314 934.5
Electricity, thermal energy, steam	141 141.2	167 619.5	175 656.7	215 025.4	269 192.4
Collection, purification and distribution of water	17 487.2	19 328.4	24 245.0	28 969.6	45 742.1

Source: National Statistical Office

Table 5.5 shows the detail of the national gross industrial outputs divided by divisions and sub-divisions measured in quantities during the period of study 2004-2008. The electricity production level remains somewhat constant and not is increasing to match the development in other areas. However, in the area of mining and quarrying, production of coal and fusil energy sources increased dramatically. Gold production is fluctuating largely between 17.4 tons and 24.12 tons. The same fluctuation is observed in the production of cooper. Manufacturing production technology development led to a reduced production of knitted goods. The handicraft industry, which is vital for rural areas and culture, is a declining industry mainly because of the landlocked situation of Mongolia and difficulties of access and penetrate into the international market.

The composition of gross industrial output per capita in the last year of study, 2008, by its main components is reported below in Figure 5.3. The largest share of gross output is attributed to the mining and quarrying sectors, 57.7%. The share of manufacturing and different public utilities, like electricity and water supplies are 31.4% and 8.9%, respectively.

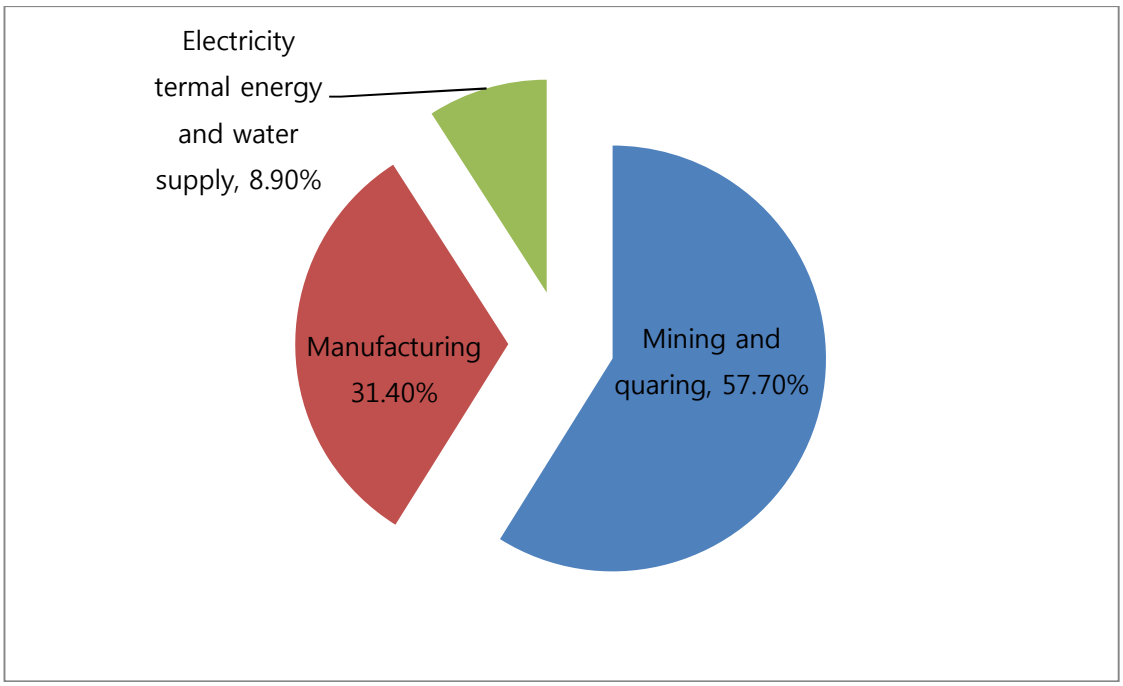
Table 5.5 Gross industrial output by divisions and subdivisions

Commodities	Units	2004	2005	2006	2007	2008
Electricity, thermal energy and water supply						
Electricity	Million Kwh	3 303.4	3 418.9	3 544.2	3 700.7	4 000.6
Thermal energy	1000 Gkal	7 746.6	7 805.6	7 850.4	7 723.5	7 759.6
Distribution of water	Million m^3	63.6	62.3	60.1	64.7	65.4
Mining and quarrying						
Coal	1000 ton	6 865.0	7 517.1	8 074.1	9 237.6	10 071.9
Crude oil	1000 barrel	215.7	200.7	376.5	850.2	1 174.2
Copper concentrate with 35%	1000 ton	371.4	361.6	370.5	371.9	362.3
Molybdenum concentrate with 47%	Ton	2 428.0	2 528.0	2 987.0	4 209.1	4 042.0
Gold	Kg	19 417.6	24 121.9	22561.3	17472.5	15183.8
Fluor spar	1000 ton	148.2	507.9	521.9	637.9	545.8
Fluor spar concentrate	1000 ton	468.2	134.1	137.6	131.8	142.9
Iron ore	1000 ton	33.5	167.7	180.0	265.1	1387.4
Zincum concentrate	1000 ton	-	22.8	109.9	154.7	143.6
Salt mining	Ton	258.5	196.7	166.7	4.0	115.0
Manufacturing						
Copper, 99%	Ton	2 376.1	2 474.5	2 618.4	3 006.5	2 586.6
Copper foundries	Ton	-	195.5	7.9	-	-
Metal steel	1000 ton	54.9	65.5	70.0	80.4	81.4
Metal foundries	1000 ton	29.5	36.2	54.2	67.4	75.9
Electrical conductor wire	Ton	103.8	198.0	221.2	294.8	705.8
Sawn wood	1000 m^3	17.8	13.2	9.6	11.0	17.4
Railway sleeper	1000 m^3	20.9	19.4	18.8	16.7	16.7
Cement	1000 ton	61.9	111.9	140.8	179.8	269.3
Lime Installed metal	1000 ton	30.0	81.2	60.4	43.3	54.8

Constructions	1000 m^3	2.4	4.8	2.7	-	-
Metal sleeper	1000 pieces	52.5	101.5	45.1	68.5	34.5
Bricks made from clay	Million pieces	12.5	14.6	22.2	20.8	28.9
Khurmen block	1000 pieces	4.5	9.4	77.8	287.6	601.3
Building wooden door and windows	1000 m^2	1.2	2.8	3.6	2.8	6.2
Combed down	Ton	357.0	581.9	1 388.2	1 554.7	1 723.8
Scoured wool	1000 ton	1.8	0.9	1.1	1.7	1.8
Spun thread	Ton	57.4	69.7	38.5	32.8	28.1
Carpet	1000 m^2	690.4	586.9	606.3	658.1	856.5
Camel woolen						
Blanket	1000 m	36.8	33.5	34.4	37.7	35.0
Felt	1000 m	67.8	69.1	68.8	87.8	86.5
Felt boots	1000 pairs	4.9	10.5	7.8	9.3	6.3
Knitted goods	1000 pieces	7 989.9	3 448.5	4 529.3	4 220.1	2 148.2
Woolen fabrics	1000 running m	58.7	64.8	50.4	120.2	195.8

Source: National Statistical Office

Figure 5.3 Composition of gross industrial output, by 2008 in %.



The quantity of industrial production measured per capita is shown in Table 5.6. In measuring per capita values or quantities, ideally one should adjust the production value and quantity for population changes. The table shows the development in each important area of industrial production of energy, minerals and agriculture and construction areas. The major changes are attributed to thermal energy, copper, and construction material.

Table.5.6 Industrial production per capita

Commodities	Unit	2004	2005	2006	2007	2008
Thermal energy	Gkal	147.5	3.1	3.0	3.0	2.9
Coal	tons		3.0	3.1	3.5	3.8
Copper concentrate	Kg	24.6	141.9	143.7	142.2	136.2
Milk, dairy products	Liters	2.7	2.8	2.4	3.5	4.9
Meat	Kg	3.1	1.9	3.0	2.6	4.5
Flour	Kg	22.9	22.9	24.7	27.1	23.3
Cement	Kg	2.3	43.9	54.6	68.8	101.2
Bricks made from clay	Piece	1.7	6.0	9.0	8.0	11.0

5.3 Service sector

The services sector is increasing in its importance in all societies and Mongolia is not an exception. This phenomenon is particularly important in the case of countries where the economy and public services rely heavily on revenues generated from the extraction of energy and minerals, which is the case in Mongolia as well. In this section we discuss trade, transportation, information and communication technology, tourism, hotel and restaurant services. The current state and development in each area is described in more detail below.

Trade: After the transition period, Mongolia began a market-based economy. The country has a very open trade policy. In 2008 the total sales of the wholesale and retail trade sector were 3,774.8 billion togrog and the total output was 914.0 billion togrog at current prices. The total output was increased by 296.2 billion togrog or 47.9% compared with 2007. The total output comprises 52.8 percent wholesale and 47.2 percent retail trade. The number of the population per commercial unit has decreased every year. It means that the number of commercial units is increasing faster than the population. By the end of the 2008, the number of the population per commercial unit was in the West region 113, in Khangai region 105, in Central region 72, in East region 118, and in Ulaanbaatar city 41, respectively.

Transportation: Mongolia has a vast territory and a small population. The population is currently settled too sparsely. Therefore the transportation sector is one of the important sectors of Mongolia. In recent years the transportation enterprises have been privatized and in that regard the role of private entities in the sector has increased. Almost all vehicles for passenger and freight transportation, passenger automobiles and taxi have been privatized. The Mongolian railway is now executing 95.2 percent of national freight turnover, with 1,815 km of railways connecting Mongolia with Russia and China, as well as major domestic industrial cities such as Darkhan, Erdenet and Sukhbaatar.

In 2008 volume of freight and number of passenger traffic was 24.0 million tons and 231.6 million persons, respectively. Freight turnover reached 9051.4 million tons/ km. According to the State vehicle inspection result, in total 190,400 vehicles were registered in 2008 and total improved roads was 6,341.2 km in 2008. Freight ton/km

and transported passenger km are a proper measure of output in transportation services as they adjust services for length and weights.

Information and communications technology: During the last few years the number of cellular, fixed and wireless telephone users, internet users, the ICT companies and new established service providers has considerably increased. Today, the whole population is able to communicate with each other by mobile, fixed phone and internet where connection means are mainly fiber optic, modems and wireless. The Mongolian main (fixed) telephone lines in operation are 178,658 in number. The number of main telephone lines per 100 inhabitants is 6.58 and the number of cellular subscribers per 100 inhabitants is 67.8. The total number of Internet subscribers, which was reported previously, is 42,001. The number of internet users per 100 inhabitants is only 1.54 and international Internet bandwidth measured in Mbit/s is 2.5 GB.

In 2008 the ICT sector's total revenue was $343 million and the sector's share of GDP was 10.4%. In 2008 the postal service's division sent 604,900 items of letter, mail, wrappers and parcels and in 2004 they sent 815,400 items to the customers. Hence the postal service's customers are decreasing over time due to the increasing use of internet and cell phones.

Tourism: The distinctive and original culture, the old-time hospitality, a remarkable variety of scenery, and the rich animal and plant kingdoms of Mongolia exert a fascination for tourists. Since Mongolia transferred to the market economy system in 1990, the tourism sector has evolved into a critical part of the country's overall development strategy and potential.

Around $150 million are collected each year from travel and tourism. It is equal to about 10% of the country's GDP The construction of more hotels, tourist camps, restaurants and reliable transportation networks which are up to international standards will draw more tourists to Mongolia and increase the profits of companies operating in the tourism sector. At the same time, Mongolia's transition to the market economy has resulted in the emergence of private sectors that have started to operate in the tourism industry. Tourism serves as an infrastructure and facilitator for the inflow of foreign direct investment and investment in other industrial sectors.

In 2008 446,446 tourists entered Mongolia. The tourists entered through immigration posts, of which 63.7 percent had an East Asian and Pacific Ocean region citizenships; 32.1 percent held European citizenship; 3.7 percent had American citizenship; while the remaining part were from the Middle East regions, South Asia and Africa. The diversity in the flow of tourists is great but increased living standards in China and a similarity in culture and distance will affect the increased flow of tourists from the south.

In terms of outbound Mongolian travelers, 817,600 passengers traveled through immigration posts, of which 87.0 percent were for private purposes. The majority, 94.2 percent, of outbound passengers traveled to China, Russia and Korea foremost for business and education purposes. The majority of outbound Mongolian passengers and inbound foreign passengers traveled up to 30 days.

Restaurants: In 2008, the total output of the restaurant sector reached 59.6 billion togrog and it increased by 3.7 billion togrog or 6.6 percent compared with the output level of 2007. At the end of 2008 the total number of employees of the restaurant sector was 6,300 persons and it increased by 14.4% or 797 persons compared with the 2007 level. The restaurant sector is still small, but improved living standards and tourism is expected to enhance the sector's expansion and growth.

Hotels: A preliminary estimate of 2008 show that the total output of the hotel sector reached 52.9 billion togrog and it increased by 8.8 billion togrog or 20.0% compared with the 2007 revenues. At the end of 2008 the total number of employees of the hotel sector was about 5,000 persons and it increased by 2.1%t or 104 persons compared with the 2007 employment level.

6. THE ROLE OF MINING AND ENERGY SECTORS

The mining sector creates the biggest opportunity for developing the Mongolian economy. In recent years, the Monglian Government's main objectives are to speed up the development of the mining sector to renew its legal environment, turn strategic and large mining deposits into economic circulation and grant parts of the revenue generated by the mining sector to citizens. Another aim is to develop and implement Mongolia's industrial development plan and develop a mining-based industry and to promote the establishment of small and medium enterprises based on local raw materials exploitation.

Based on the abovementioned objectives and conditions, the government has issued policy guidelines outlining mineral development and sector promotional goals for 2002–2010. The main focus here is on the market-driven, private sector-oriented industry to reinforce the already suitable legal environment for private mineral exploration activities and also recognize the transition away from state ownership and control of the businesses.

Since the Minerals law was approved in 1997, the exploration work has been fast-paced and the domestic investment has been increasing every year in mining. In 2008 domestic investment reached 280 billion togrog. From international investors in particular from countries like China, Korea and Japan there is strong interest in investment in energy and mineral explorations. These countries in recent years are increasingly exploiting opportunities to secure access to raw materials for their key industries and it is seen as a way to strengthen their industries' competitiveness in the global market.

In this situation and time it seems to be very important to find out about mineral resources and the energy sector's best and optimal policy options. The mineral sector is vitally important for the future development of Mongolia. The state is currently engaged in concluding a stability agreement between the holders of mining licenses and the Government profitably for each part. For example, the mining strategic deposits are Oyu-Tolgoi (copper and gold) and Tavan-Tolgoi (coal). On those stability agreements,

the major working group is still working with foreign holders of mining to facilitate better cooperation and smoother production and distribution. It will further ease the attraction of foreign investors.

In Table 6.1 the share of mineral resources and energy sectors of the total GDP, industry value added and export value added are reported. In each of the three cases the share is increasing, which is an indication of significant public and private, mainly foreign, investment in these sectors in recent years and is an explanation of their fast growth rates.

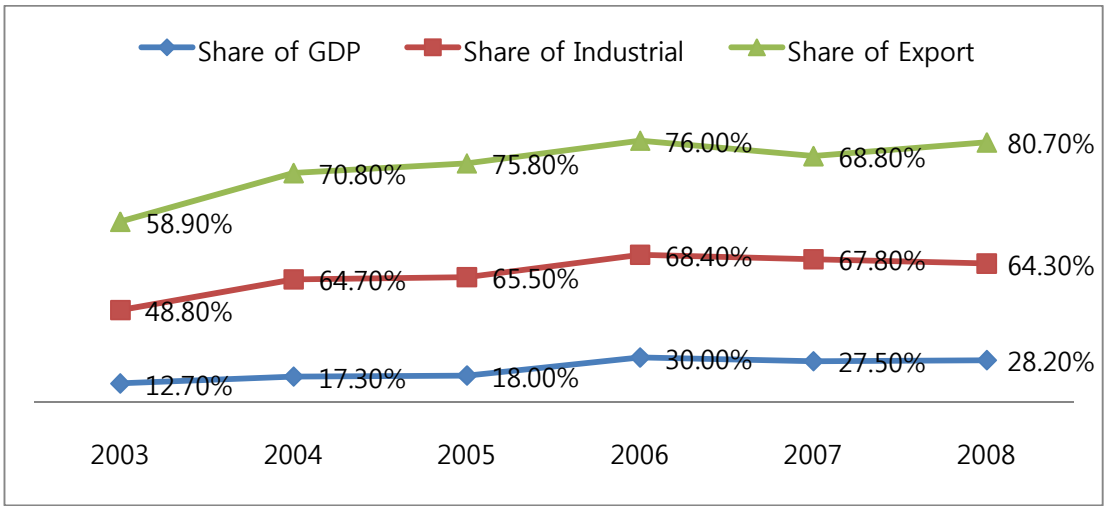
Table 6.1 Mineral resrouce and energy sector share of the economy, in %

	2003	2004	2005	2006	2007	2008
GDP	12.7	17.3	18.0	30.0	27.5	28.2
Industrial value added	49.8	72.0	79.1	75.5	71.2	68.6
Export value added	58.9	70.8	75.8	76,0	68,8	80.7

Source: Ministry of Mineral Resource and Energy

In 2008 the Mongolian mineral resource and energy sector made a major contribution to the economy and its growth rate. The amount of the contribution corresponds to 28.2% of the total GDP, 65% of industrial value added and up to 80.7% of total export value added. The level and development of these contributions are also shown in Figure 6.1. The export share is growing fastest. The growth rate is of course affected by both the general global economic development and in the East Asian region.

Figure 6.1 Development of mineral and energy sector share of the economy



Source: Ministry of Mineral Resource and Energy

The mining deposits by the end of 2008 are reported in Table 6.2. The table provides information about total deposits and resources for each of the minerals exploited in Mongolia. As was discussed before, currently the most exploited ones are gold, copper,

coal and zinc deposits. These make up the main mineral export components of Mongolia.

Table 6.2.Mining deposits by 2008-12-31

			Total deposit and resources	
	Mineral resource	Measurement unit	Deposit	Resources
1	Gold	ton	480	590.3
2	Copper	Million ton	5	13.8
3	Molybdenium	Thousands otn	4	357.4
4	Flourspar	Million ton	62	1004.0
5	Pewter (tin)	Thousands ton	11	22.3
6	Гянтболд	Thousands ton	13	244.4
7	Metal ore	Million ton	18	454.9
8	Zinc	Thousand ton	4	1924.0
9	Plumbum	Thousand ton	4	1512.8
10	Alimunium	Thousand ton	3	28.1
11	Coal	Million ton	75	5838.4
12	Asphalt (bitumen)	Thousand ton	2	1493.2
13	Oil shale	Million ton	3	636.9
14	Zeolite	Thousand ton	1	4800.0
15	Phosphorite (ore)	Million ton	3	223.8
16	Uranium	Thousand ton	4	68.6
17	Rare-earth elements	Thousand ton	1	12.5
	Total		693	

Source: Ministry of Mineral Resource and Energy

In May 2009 a total of 5,185 licenses were issued, of which 4,076 lisences are for exploration and the remaining 1,107 licenses are aimed at mining utilization. Those license issued cover around 32% of the country's mineral resources which are estimated as available for exploration.

In the present situation there are more than 62 types of mining, 1,170 deposits and around 8,000 mining pinpoint incipiences in Mongolia. These suggest the extent and importance of the sector to the Mongolian national economy and its development and great growth potentials.

6.1 Mining sector

Mongolian mining industry's output is and has historically been largely based on production of copper and gold. The country does not have a longstanding traditional activity in this area but primarily it is a response to the adverse effects of economic restructuring which are job losses, inflation, and declining real incomes. Mining is a viable solution for many in Mongolia because it is a highly labor intensive activity, technologically simple, and a low-cost production activity. Its growth, and sales on the

international market, has become an important factor for Mongolia in both economic and political terms.

The Mongolian government supports mining exports and also has determined that mining is the biggest priority sector for the economic development of the country. It provides various forms of tax incentives to modernize the sector by the introduction of advanced and appropriate technology and the enhancement of investment in the mining sector. The main focus of the government is on open competitiveness and a market driven, private sector-oriented industry and the reinforcement of the already suitable legal environment for private mineral exploration activities. The government also recognizes the transition away from state ownership and control to more flexibility in the operation of business in the mining areas.

Today Mongolia is starting to use the initiated mining strategic deposits. The first step of using mining strategic deposits is the "Oyu Tolgoi" project in the Gobi Desert, located in southern Mongolia. It will be one of the world's largest copper and gold mines when it comes on stream. The Mongolian Government signed a key investment agreement for USD4 billion with Ivanhoe Mines Ltd. and joint-venture partner Rio Tinto PLC in October 2009. The natural resource is considered as the Mongolian population's gleam of hope.

It is difficult to conclude a stability agreement between the holders of mining (foreigner investor) licenses and the government. The government primarily should set tax rates for a defined period of time and establish a licensee's right to export and market its products on the international markets. The objective should be to maximize the state revenue under the condition of minimization of the negative externalities so that it satisfies the expectation of investors in terms of their expected returns on their investment in Mongolian mining and the environmental considerations in the region.

The 1997 Minerals Law was approved by Parliament but Mongolia still has to improve the legal mineral environment. The Ministry of Mineral Resources and Energy is expected to implement regulations to govern the income of mining enterprises. Mongolia's mining tax system includes several tax items. These include corporate taxes, personal income taxes, mineral royalties, value-added taxes, customs and excise duties, social insurance, and different stability arrangements between the parts, namely the state and the corporations.

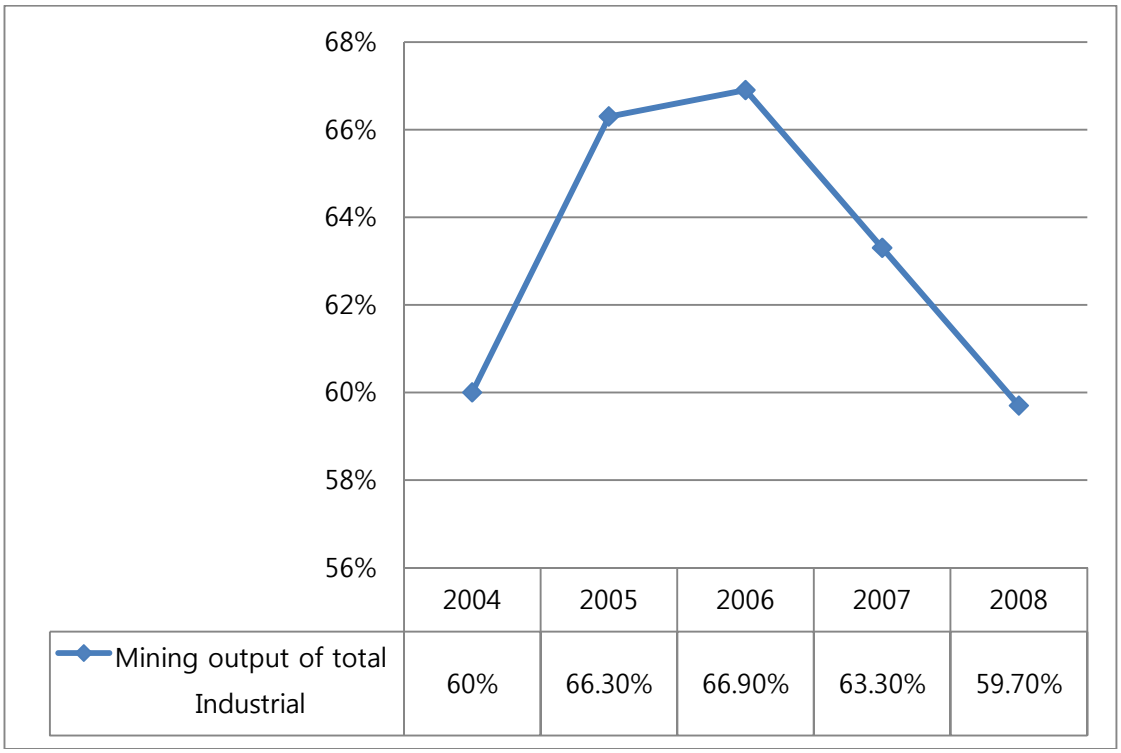
Currently in Mongolia there are more than 10 types of miners who are manufacturing their commodities. However, most often these firms are exporting the first step of concentrate commodity. Mongolia is still facing severe transportation and customs problems while exporting minerals. Thus, the development of the industry is a process of learning by doing and a gradual development and adaptation. Effective management of the sector and its operation takes time to develop a profitable and smoothly operated mining sector that is also internationally competitive.

In 2008 the average price of copper concentrate per ton was $1,433.7. It had increased by $98.5 or 7.4 percent, compared with the 2007 price level. In 2008, the average price of zinc concentrate per ton was $1,124.8. It had decreased by $201.6 or 15.2 percent

compared with 2007. These price developments have turned the mining sector into an important and profitable natural resource for the country.

In the current year the average price of gold, unwrought or in semi-manufactured forms per kilogram was $27,107.8. It increased by $6,818.0 or 33.6 percent compared with 2007 prices. Natural or cultured pearls, precious metals, jewelry exports comprised 12.1 percent of the total exports in 2007. But it has increased by 11.6 points compared with 2007 and it comprises 23.7 percent of the total export value in 2008. The development of mineral resources to the end of 2008 is reported in Figure 6.2. It is shown that the total industrial mining output increased until 2007, but it decreased between 2007 and 2008. The share varies greatly and is in the interval 59.70 and 66.9 percentages.

Figure 6.2 Mineral resources by 2008-12-31



	2004	2005	2006	2007	2008
Mining output of total Industrial	60%	66.30%	66.90%	63.30%	59.70%

Source: Ministry of Mineral Resource and Energy

The mining sector is a major contributor to the economy, accounting for 59.70 percent of industrial output, and 40 percent of export earnings in 2008. The most economically significant of these contributors to GDP are by tradition base metals, namely gold, and fluorite.

The thirteen main industrial mining commodities of Mongolia are listed in Table 6.3 Here the quantities produced and their development during the production period 2004-2008 is reported. The table shows both their production levels and its development but also levels and changes in relation to each other.

Table 6.3 Main industrial mining commodities

	Commodities	2004	2005	2006	2007	2008
1	Spar (1000 ton)	206.7	233.4	239.4	245.0	219.1
2	Copper concentrate (1000 ton)	130.0	126.3	129.7	130.2	126.8
3	Molybdenum concentrate	1141.0	1153.0	1403.9	1978.3	1783.6
4	Tin concentrate 50% (ton)	22.0	47.0	-	27.5	87.5
5	Tungsten steel conc. 68% (ton)	77.1	78.2	182.2	244.5	141.9
6	Coal (1000 ton)	6665.0	7517.1	8074.1	9237.6	9691.6
7	Gold (kg)	18500.0	21900.0	21267.0	18087.0	15184.0
8	Copper cathode (ton)	2376.1	2474.5	2618.4	3006.5	2586.6
9	Metal ore (1000 ton)	33.5	167.7	180.0	265.1	1387.4
10	Zinc concentrate (1000 ton)	-	22.8	109.9	154.7	143.6
11	Cast copper (ton)	-	195.5	221.2	-	-
12	Molybdenum oxide	-	-	157.8	2664.0	2112.2

Source: Ministry of Mineral Resource and Energy

In the last 10 years, the gold exploration has increased 17 times, copper-molybdenum exploration by 30.4%, and flourspar concentrate by 14.6%. In 1995 Mongolia had been exploring 4.8 million tons of coal. In 2008 the exploration of coal reached 9.7 million tons. Hence the domestic demand was fully satisfied and some of explored coal was exported to the two neighboring countries. Mongolia has to solve private mineral exploration activities. In 2008 the private mineral miners were about 30,100. They have exploration activities in 112 unit of 16 provinces.

6.2 Energy sector

Mongolia's heating and electricity supply systems function as a central distribution system but it is in a poor condition and with a high share of losses. Nearly all provincial capitals have some electricity supply either from the central system or from small diesel-fired power plants in isolated grids. But low reliability and inefficiency, both economic and operational, of the heating and electricity supply systems, particularly in rural areas, has been a consistent problem. Optimal solutions require investment in system rehabilitation, technical assistance to improve the system's management, and the strengthening of reform programs to improve the efficiency and commercial viability of these two vital services.

The electricity supply system is mainly divided into a Western area electricity supply system, Altai-Uliastain electricity supply system, Central area electricity supply system and Eastern electricity supply system. There are 7 electric energy generation and heating plants. Taishir and Durgun are two hydro power plant while Altai and Ulianstain are disel power plants. Also, there are 6 sub-plants which distribute energy to 1,400 km area by 220kV, 53 sub-plants distributing 4,240 km area by 110 kV and more than 3,300 sub-plants distributing energy to 25,000 km area by 0.4-35.0 kV.

One of the main visions of the state of Mongolia is to use renewable energy resources for the rural population. Hence, the state implemented its National renewable energy resource program in 2005 and the parliament adopted The Renewable energy law of

Mongolia in 2007. The country's needs, the state's will and parliament's support, together with increased environmental concerns and cost effectiveness, are among factors that are encouraging the increased use of renewable energy sources.

In recent years Mongolia has popularly been using renewable energy resources. For example, that based on the Bogd river's water power plant with 100-2,000kV capacity which is joined to Kharkhori, Chigj, Mankhan, Munkhkhairkhan, Guulin, Uyench, Tosontsengel, and Erdenebulgan. The Durgun water power plant was built in 2008. Hence, investment in renewable energy sources receives great attention from the public energy supply system. Mongolian economic development growth depends heavily on the energy sector. The government is working to achieve increased safety, reliability and efficiency, sustained sector activities, enlarged private sector participation, growth in power exports, decrease in power imports, implementation of a smart payment management system, increased collaboration with other energy stakeholders, the supply of electricity to small villages and administrative units, and in efficient and reliable ways.

The long term vision of Mongolia is to have the financial, operational and technical capability to be efficient, environmentally-friendly and export-oriented energy sectors with a sustained safe and reliable energy supply at fair prices for the private sector, households and municipal services. Satisfaction of industry energy demand is crucial to the development and economic growth of the country, and in particular the attraction of foreign direct investment to Mongolia.

The key sub-sectors of coal, heating and electricity together form an energy supply value chain. The financial sustainability of the system is an issue across the whole chain of electricity and heating demands and is expected to increase in the range of 4 to 5 percent annually between 2009 and 2020. Access to a heating system in sufficient quantity and availability is a matter of human survival for Mongolia's 2.7 million citizens. The energy indicators, including consumption, gross generation and imports, are reported in Table 6.4. The consumption and generation are both continuously increasing over the period of 2004 and 2008. The imports in recent years are also showing an increasing trend.

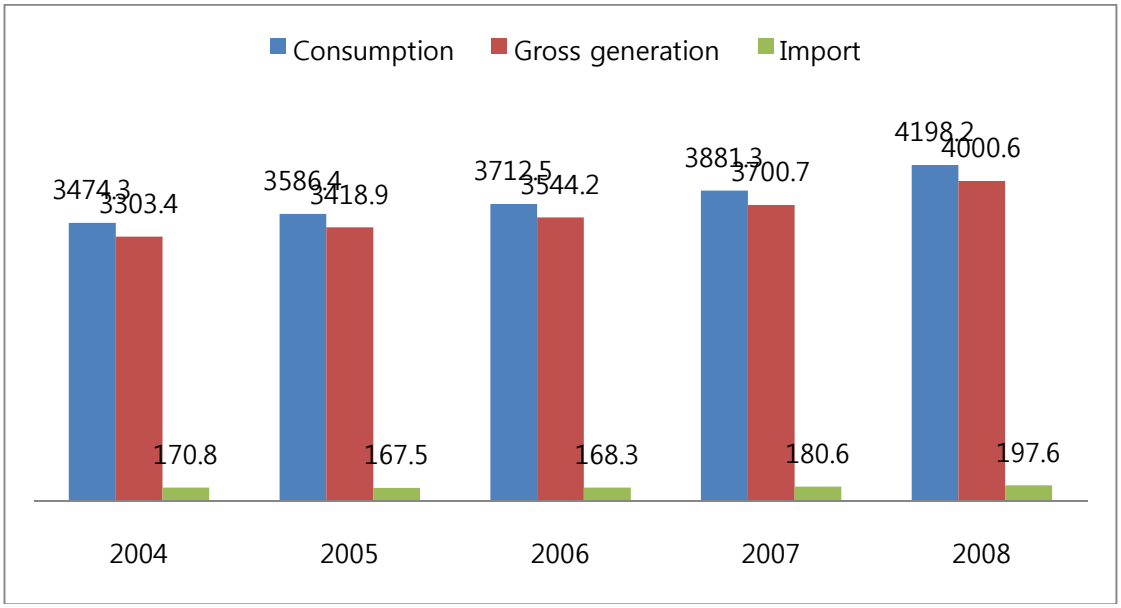
Table 6.4 Energy economic indicator

	2004	2005	2006	2007	2008
Energy consumption	3474.3	3586.4	3712.5	3881.3	4198.2
Gross energy generation	3303.4	3418.9	3544.2	3700.7	4000.6
Energy import	170.8	167.5	168.3	180.6	197.6

Source: Ministry of Mineral Resource and Energy

The development of the key and main energy market indicators in the form of generation, consumption and imports over the period of study, 2004-2008, is shown in Figure 6.3. As expected, generation plus imports make up the consumption of energy. All three components are increasing over time.

Figure 6.3 Energy economic indicators



Source: Ministry of Mineral Resource and Energy

Mongolian total inferred coal reserves are predicted to be around 150 billion tons. The preliminary and detailed exploration activities resulted in about 23 billion tons of coal reserves. The proved coal reserves are 12.2 billion tons, of which 2 billion tons are coking coal and 10.1 billion tons are heat coal deposits. The occurrences of coal reserves are located throughout the country. Mongolia has in total more than 40 companies which are exploring coal amounting to approximately 9.5 million tons supplied to the domestic market and 3.9 million tons supplied to the export market on an annual basis.

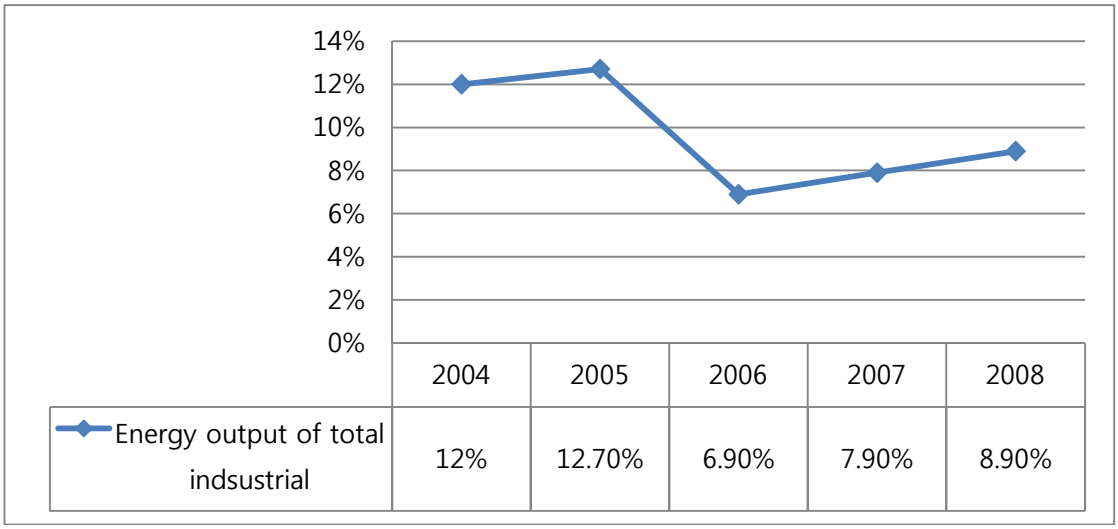
Mongolian oil imports are directly dependent on Russia as a source. All Mongolian oil companies import oil from Russia without many other alternative supplier choices. This is a disadvantage of the Mongolian small oil market. In recent prospecting activities, Mongolia has some positive results in the Southern and Eastern Regions. Investment is increasing, reaching $433.1 million in 2008. In 2 oil fields there are 150 exploration wells. These will pump up to 140,000 tons of oil in 2008, but are planning to reach 300,000 tons in 2010. However, this quantity does not seem to be enough to build its own oil refinery in Mongolia.

Liquefied petroleum gas is an imported product. It is used for household consumption, transport, tourism and in industrial production. In 2008 the liquefied petroleum gas was supplied to about 30,000 customers in different provinces and other local areas and over 12,000 customers in Ulaanbaatar. There are a few uranium deposits in Mongolia totaling about 83,000 tons. It means that 1.8% of the world uranium reserves are located in Mongolia.

Heating access is a matter of human survival for the Mongolia's 2.7 million citizens. While 72 percent of the population has access to electricity, primarily supplied by the central inter-connected system, the inter-connected grid only provides a subsidized heat

supply to 47.1 percent of households in the urban areas and 35.4 percent of the population in district centers. This means that nearly 64.0 percent of the rural population relies on traditional stoves. Coal is used for home heating in coal stoves that burn continuously throughout the winter. Poor households spend up to about a third of their annual budget on coal purchase. The total industrial energy output is shown in Figure 6.4.

Figure 6.4 Energy as share of total industrial output



Source: Ministry of Mineral Resource and Energy

The energy output accounted for 12% of total industrial output in 2004 and 8.9% in 2008. The energy output share of total industrial output is decreasing over time. However, as a result of the implementation of the National renewable energy resource program, the energy output has been going up since 2006 and will very likely help to provide a sufficient supply of energy to all potential users.

7. DEVELOPMENT AND ROLE OF FOREIGN DICRECT INVESTMENT

The government of Mongolia has been paying a great deal of attention to the issue of foreign direct investment (FDI) and in similarity with other receiving countries it provides different incentive factors to attract foreign direct investment. The Foreign Investment and Foreign Trade Agency (FIFTA) is responsible for foreign investment policy formulation and implementation in Mongolia. The Chinese success as a model for FDI policy been encouraging, but Chinese success also puts a lot of pressure on a potential receiving landlocked country like Mongolia.

In the Foreign investment law of Mongolia (1997), “Foreign investment” means every kind of tangible and intangible property, which is invested in by foreign investors for the purpose of establishing a business entity with foreign investment within the territory of Mongolia or for the purpose of joint operation of a business with an existing business entity of Mongolia.

Mongolia has concluded agreements on avoidance of double taxation with 31 foreign and partner countries. It has also signed agreements on Mutual Protection and Promotion of Investments with 34 countries. Mongolia is a signatory of the Multilateral Investment Guarantee Agency. These agreements and commitments have eased the country's trade and other types of relations in the areas of economics, cultural and political relations and cooperation.

Nowadays Mongolia has some kind of trade relationship with 114 countries. The government is working to enhance the export of commodities, for example traditional goods, but also facilitate the export of new commodities. This will help to balance payments. This is one of the Mongolian Government's priority policies. So that is why Mongolia should keep its bilateral and friendly trade relationships with Russia, China, America, Japan, South Korea, Germany and several others of its key trade partners. Mongolia has many trade contracts and agreements with those countries. These kinds of international contracts and agreements are providing good opportunities to the country because Mongolia is still highly dependent on foreign markets. Trade liberalization and foreign direct investment from these countries play an important role in Mongolia's development and future growth potential.

During recent years, the economic growth has been negative or slow in most countries and trade partners and it is rather damaging to future prospects for recovery, at least in the short term. The indications of such a pessimistic situation is falling stock market values, lower corporate profitability, a slowdown in the pace of corporate restructuring in some industries and even the winding down of the privatization process in some countries. These have led to the fact that global foreign direct investment inflows have declined significantly as a result.

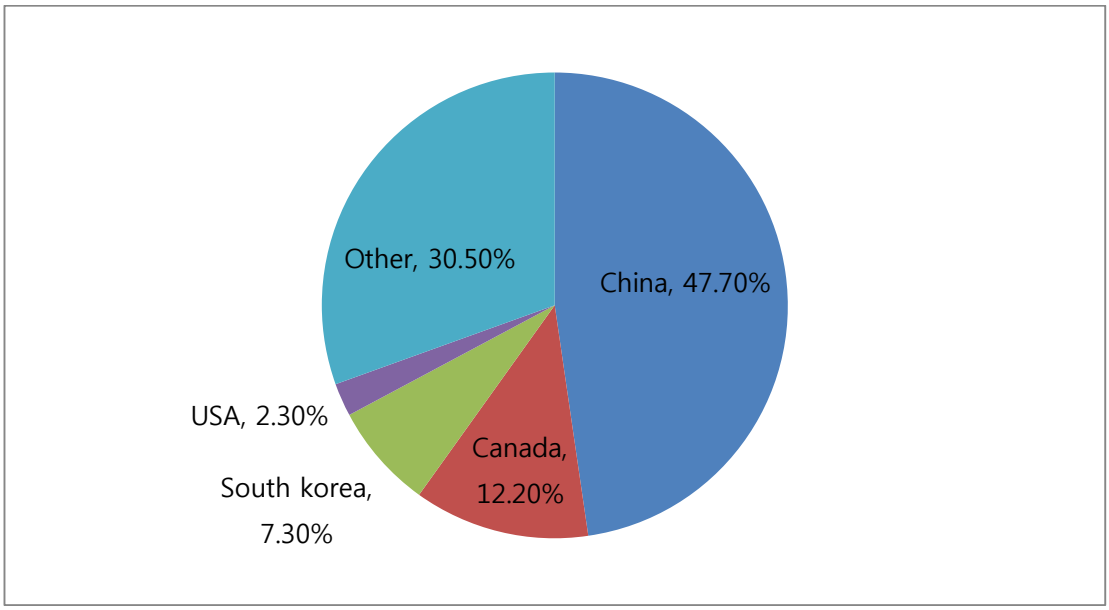
The decline in the flow of foreign direct investment was uneven across regions and countries. It was also uneven across industrial sectors. As an example, the flow of FDI into manufacturing and services declined, while those into the primary sector rose. This pattern of FDI inflow of course is heavily influenced by the countries' resource endowments and global production and demand for commodities using such resource inputs in their production.

Under the Mongolian foreign investment law, wholly foreign-owned business entities are allowed; and inward foreign direct investment receives an equal national treatment. No restriction is imposed on the size and content of foreign direct investment into Mongolia, except that the production of arms for security and defense reasons is prohibited. Foreign nationals or companies are not allowed to own land in Mongolia; however, they can lease land for up to 60 years. Foreign direct investment into Mongolia cannot be legally expropriated. Foreign investors can remit income, profits and payments out of Mongolia without any barriers; but they are subject to a 20% withholding tax.

The Mongolian Government supports foreign direct investment in all sectors and businesses and it does not discriminate against foreign investors, except in certain sectors for security and the protection of vital national interests. Foreigners may own 100% of any registered business with the exception of land ownership, petroleum

extraction, and strategic minerals deposits. Cumulative FDI in Mongolia throughout 2008 was estimated at $2.5 billion. FDI corresponds to 11.4% of total GDP. The distribution of FDI to Mongolia by source is reported in Figure 7.1.

Figure 7.1 The largest FDI countries in Mongolia



The largest foreign investors in Mongolia in 2008 were China (47.4% of total), Canada (12.2%) and South Korea (7.3%). The United States is ranked as 6th with a 2.3% share of total. The total FDI from other countries was 30.5%. Foreign direct investment in 2008 was $682.5 million, but it was projected by the IMF to fall to $316.5 million in 2009, due to the effects of the global financial crisis.

Russia is a large and growing investor and an important economic player in Mongolia. In March 2009 Russia extended a $300 million loan to help to boost Mongolia's agricultural sector. In May 2009 the Russian and Mongolian governments agreed to establish the Mongolian Railway Company, a 50-50 joint venture that is intended to help Mongolia to modernize and to build up its railroad system in exchange for development rights in various mining ventures including uranium, coal, and copper. This deal was valued at $7 billion. In June 2009 the Mongolian government reportedly requested the United States to re-direct nearly $188 million dollars in U.S. aid for improving the rail network to other national important projects, due to objections from Russia.

The trade agreements concluded by the Mongolian government, despite the worldwide decrease of foreign direct investors' interest especially the East Asia and North America, which gave Mongolia the status of the most favorable nation, played a major role in attracting foreign direct investment to Mongolia. In recent years, the inflow of foreign direct investment to Mongolia has been growing. Most of FDI is to mining, textiles, trade and the service sectors.

8. DEPENDENCY ON FOREIGN COUNTRIES AND TRADE

Mongolia is one of the developing economies and transition countries being an integral part of the world economic growth trends. It has a unique location situating itself amongst vertical, horizontal and inclined axes. Mongolian foreign economic relations have also a versatile nature. Today Mongolia is dependent on Russia for energy sources, copper, gasoline and fuel, on China for consumer goods and certain food items. These two large neighboring countries are the only exits to the rest of the world. The economic neighborhood policy is Mongolia's main trend and only available alternative policy option.

In order to support economic growth through an active trade policy, the government is encouraging the industrial, agricultural and services sectors to increase their exports. The Mongolian Government is giving more attention to change Mongolia's export structure by diversified export products and markets, and to work towards the establishment of free-trade agreements with Russia, China, and the United States. Physically, Mongolia is a landlocked country, having just two large neighboring countries on its borders. In view of the economic side and political sides, Mongolia has a deep and longstanding neighborhood and trade partnership relationship with USA, Canada, Japan, South Korea and in the recent decades with the European Union.

As has been explained, the Mongolian economy is very sensitive and susceptible to foreign markets and neighbors. Mongolia's exports and imports were highly dependent on and influenced by the Soviet Union before the transition period. The Soviet Union was almost the only economic partner. Currently the situation is much better and different. Chinese goods and commodities are widely available on the Mongolian market. Trade with China is estimated to account for over 64% of total exports and around 27% of total imports. Diversification of trade relationships is positive, but the landlocked condition is not changeable.

The status of the Mongolian economy, political system, society and geographic strategy has been completely changed since the transition period. It has become an open country, networked with the rest of the world. The super powers' attitude towards Mongolia has also been changing and a multilateral relationship with other nations has been maintained. Fruitful cooperation has also been maintained with Russia, China, the USA and Japan and the government gives a high priority to such relationships.

8.1 Economic partners and dependence

Russia and China provide the largest share of imports to the Mongolian economy. Together they account for 72 percent of Mongolian imports. The country is directly dependent on those countries both politically and economically. If Russia stops oil exports and China also stops goods and commodities exports, it causes significant harm to Mongolia with limited options. This possibility of unfavorable and harmful development in the countries' relationship casts a shadow over the future development and is seen by investors, businessmen and development planners as a serious problem. Mongolia has to keep a friendly relationship with these neighbors through contracts and

formal and long term agreements.

China is the dominating export market. It accounts for 64 percent of total Mongolian exports. China is the main importer of Mongolian copper and molybdenum concentrates. The majority of Mongolian washed and raw cashmere and hides also goes to China. The recent years of economic development and improved living conditions and consumption in China have been crucial for employment, production and export revenues of Mongolia. A redirection of exports to other countries would be rather harmful and disadvantageous to Mongolian producers.

The Russian Federation is also one of the largest export markets. Russia is the main importer of fluorspar concentrate and Mongolian meat products. Russia has long been a natural trade partner of Mongolia, and it is also the main supplier to Mongolia. Russian products account for 45 percent of total Mongolian imports. Russia supplies almost all of the Mongolia's petroleum product needs, as well as electricity and processed food products. After Russia, China is becoming the most important trade partner for Mongolia. Today Chinese exports to Mongolia account for 27% of total Mongolian imports. The import share from China is expected to increase. Manufactured goods and consumer products are among China's main exports to Mongolia.

Canada is the second largest export market and it accounts for 7 percent of total Mongolian exports and the USA is another large importing country of Mongolian export markets. Exports to the USA are mainly in the form of garments, textiles and cashmere products. Mongolia enjoys an annual tax-exempt textile quota with the US and the EU under a bi-lateral textile trade agreement. Mongolia's imports from Japanese and Korean account for 16 and 12 percents of total imports, respectively. These imports are primarily manufactured goods and consumer products. Italy is Mongolia's fourth largest export market and it accounts for 2 percent of total exports. Italy's main Mongolian imports are cashmere products.

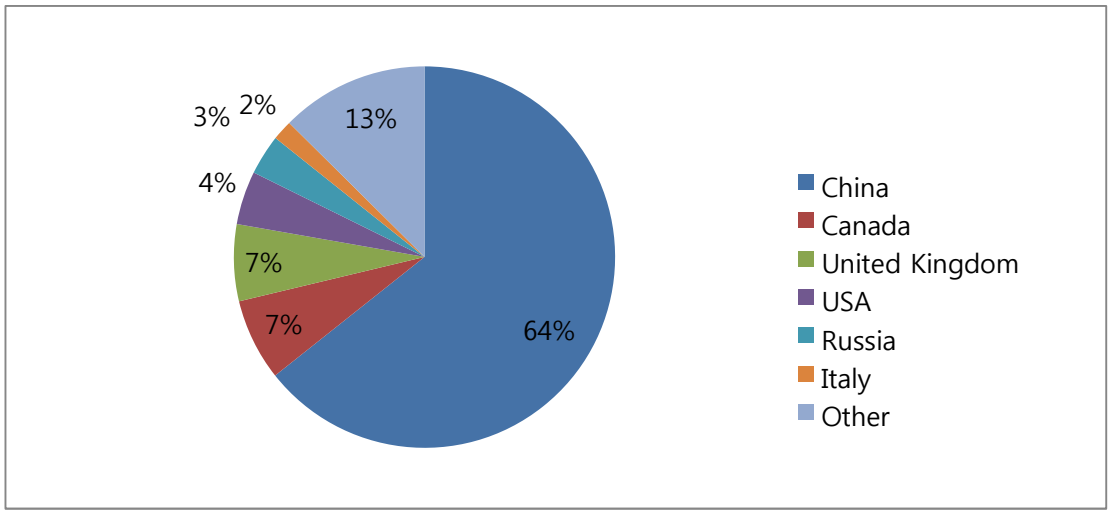
8.2 External trade

In recent years the import structure has greatly changed. Compared with the previous year, the export of gold, unwrought or in semi-manufactured forms, increased by 2.6 times, the export of mineral products increased by 17.5 percent, but otherwise the import of auto, air and water transport vehicles and their spare parts increased by 2.1 times, vegetable origin product imports increased by 2.0 times, base metals and articles thereof increased by 62.9 percent, petroleum product imports increased by 59.2 percent, food product imports increased by 45.7 percent, machinery, equipment, electric appliances, recorders, TV sets and spare parts' imports increased by 42.9 percent respectively, and it has affected negatively the external trade balance, causing a large and growing trade deficit. The government tries to avoid excessive and possibly harmful trade restrictions.

The country's exports enjoy very low barriers, as the major products are precious metals, mineral commodities, agriculture commodities and cashmere, but in recent years the export structure has been changed radically. Mineral exports comprised 40.7

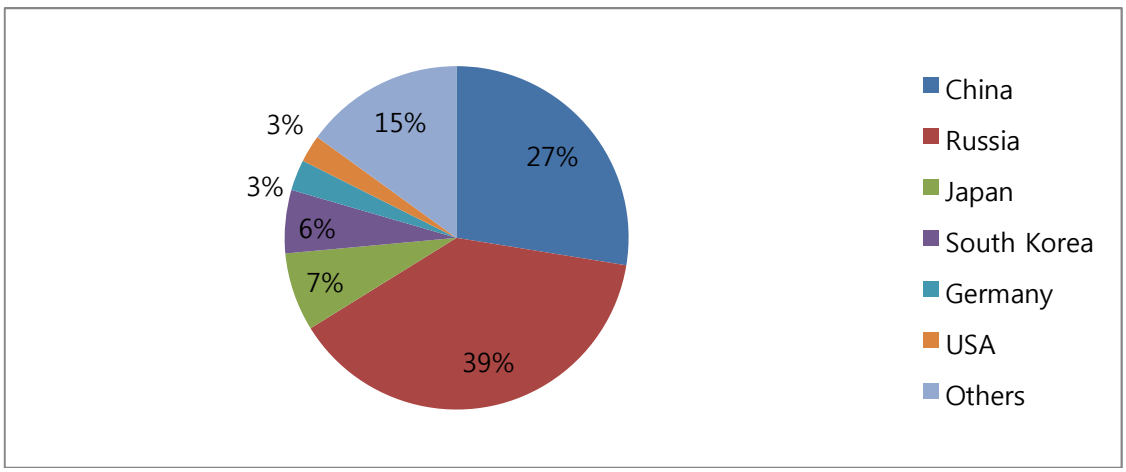
percent in 2004 of the total exports and increased to 60.3 percent in 2008. They are influenced by growing of copper concentrate, zinc concentrate and iron ore exports. Compared with 2007, sheep or lambskin exports increased by 1.7 percent, but goat and kid leather decreased by 18.7 percent. The combined goat products' exports also decreased by 11.0 percent, while cashmere exports increased by 27.7 percent. The total exports and their composition in 2008 are shown in Figure 8.1. China is the main importer, followed by Canada and the UK.

Figure 8.1 Total exports and their composition by destination in 2008



The total imports are still increasing. The increasing pattern is attributed to the fact that Mongolia's imports are expected to cover all consumption and production needs. In addition, the increased price growth of petroleum products causes imports to increase. The total imports and their composition by country source are depicted in Figure 8.2. The main importing countries are found to be Russia, China, Japan and South Korea.

Figure 8.2 Total imports and its composition by sources in 2008



As a result of interconnection with economic growth, particularly with the manufacturing industry, mining and quarrying, trade and service sectors' growth, the

mineral products imports increased by $361.2 million. The development of foreign trade and its division into export and import components is shown in Table 8.1. The trade balance with the exception of 2006 is negative. The largest imbalance is a trade deficit equivalent of $710 million in 2008.

Table 8.1 Development of foreign trade and trade balance

Foreign trade, million USD	2004	2005	2006	2007	2008
- Exports	869.7	1 063.9	1 542.0	1 947.5	2 534.5
- Imports	1 021.1	1 177.3	1 435.0	2 061.8	3 244.5
Foreign trade balance	- 151.4	- 113.4	107.0	- 114.3	- 710.0

In 2008 total external trade turnover equaled $5,779.0 million, of which exports accounted for $2,534.5 and imports for $3244.5 million. The total external trade balance turned a deficit of 710.0 million U.S. dollars. The deficit increased by $595.7 million or 6.2 times compared with 2007. The external trade deficit has been influenced by the import growth of products and fuel materials, which is approximately 27.2 point higher than export growth.

9. GOVERNMENT POLICY FOR DEVELOPING THE ECONOMY

The Mongolian Government economic policy has based on and is in line with the Millennium Global Goals, the National Development Strategy and also different political parties, as well as proposals made by different NGO's and on documents agreed with different international organizations.

The Government's main objective is to strive to take opportunities for the achievement of intensive and rapid economic growth based primarily on Mongolia's mineral resources and social development in an urgent and complete manner. The government aims is striving to build the needed capacity for Mongolia and its human development, to improve substantially the living standards of the population, to ensure transparency, openness, speedy and fair treatment of different issues, accountability and ethics in public administration, to improve the visibility of state and government organizations at all stages and to safeguard the national interests and maintain state security. [Resolution on Approval of the Action Plan of the Government for 2008-2012]

Since 1990 till the present time, the Mongolian Government has been striving to achieve a smooth transformation of the economy to a market based and open economy. Currently the private sector constitutes 80 percent of the total economy. In this connection the Mongolian Government is adhering to a policy which is narrow concerning the Government's role in each sector of the economy. Privatization and reduced public ownership, while maintaining influence, is seen as a good policy measure to promote efficiency in resource utilization.

At present the Mongolian Government has main five objectives in order to achieve stated economic and social development by: (i) to speed up the development of the

mining sector, renew its legal environment, turn strategic and large mining deposits into economic circulation and grant parts of the revenue generated by the mining sector to the citizens; (ii) develop and implement Mongolia's industrial program, plan and develop the mining-based industry, small and medium enterprises based on local raw materials; (iii) fully cover domestic needs in agricultural products, in particular meat, milk, flour, potato and vegetable; (iv) create a condition where every citizen can be healthy, educated, employed and able to have income and pay special attention to the training of professional workers; and finally (v) ensure transparency, openness, speedy and fair treatment in service delivery and accountability in public administration and strengthen mutual trust between the state, citizens and business.

According to those key main objectives listed above, the Mongolian Government is implementing a comprehensive package of key policy measures to achieve its stated economic development, which are to increase the average economic growth rate and create conditions for rapid economic development, pursue a policy of improving the economy structure and increasing the share of manufacturing and service sectors in the GDP, create a favorable economic development environment based on the private sector and the dominance of export-oriented industry and services, stimulate export-oriented production through taxation and incentive policies, pursue a policy of creating a structure that features the proper ratio of production and consumption, importing and adapting to local conditions advanced technologies and techniques, and increasing the processing industry, create and in an appropriate way finance raw materials and the labor market in order to ensure sustainable economic growth and build a proper market economy system and create a favorable environment for investment and business activity and to enhance the competitiveness of domestic products, works and services. [Resolution on Approval of the Action Plan of the Government for 2008-2012]

The new Government of Mongolia, formed as a result of the latest parliamentary elections, has defined its five year Action Plan for the period 2008-2012. The main objective of the Government at present when Mongolia faces challenges dictated by the global financial crisis with a strong impact on its economy and finances is to strive to take opportunities for the achievement of economic growth based on mineral resources and social development. The government aims: to build needed capacity for human development, substantially to improve living standards, to ensure transparency, openness, efficiency in service delivery and decision-making, accountability and ethics in public administration, to improve the visibility of state and government organizations at all stages and to safeguard the national interests and maintained state security.

The Government strongly believes that rapid economic growth based on the mineral resources will be achieved in the following ways: by securing the present level of economic development, consistent support for the industrialization policy, through intensive development of the mining and processing industry, agriculture, small and medium-size production based on local raw materials; and by enhancing transportation, communication, public utility services; increasing the types and volume of crop and livestock production to improve the living standards and self-sufficiency in the supply of basic commodities.

In the reading of the Government documents, one finds that there is too much catchword policy where there is also clarity in plans and programs in order to prevent and prepare for any economic ills and risks such as financial crisis. This real situation is completely different from theoretical issues. For instance the economic growth was about 8.6% in 2006, 10.2% in 2007 and 8.9% in 2008, respectively. The growth rate turned to a negative rate, -3.2% in 2009 and also in the middle of the 2008, the annual inflation rate reached the highest rate of 34.2 %. The causes of the increased inflation rate are increased wages and salaries and some major commodity markets depend on the few business groups, reducing market competition. Another causal factor to the high and changing inflation rate, both increases/decreases, is the government's financial policy. The accuracy in the rate fluctuations in the reported price changes by these causal factors impact on the poverty line and unemployment has increased this year, so even the banking system has become unreliable.

Mining, the processing industry, agriculture, construction and industry are among the main high growth sectors which have a positive impact on the social and economic development of the country. However, the government should prepare and use an economic development model which is based on the real internal and external economic conditions and account for the individual sectors' share or weight in the overall national economy.

Mongolia is directly dependent on its two large neighboring countries, both politically and economically. According to statistics, China provides the largest share of imports from Mongolia by 27% and exports by 64% of Mongolia's total imports. Together China and Russia account for 72% of the Mongolian imports. The possibility of unfavorable and harmful development in the countries' relationship cast s shadow over the future development and is seen by investors, businessmen and development planners as a serious problem and risk factor. Mongolia has to keep a friendly relationship with these neighbors through regular and intensive contracts and formal and long term agreements. Despite the high dependency relationship, government economic policy has not concentrated on the neighboring countries' economic conditions. China stands for around 90% of reciprocity in external trade. China is the dominating export market. It is the main importer of Mongolian copper and molybdenum concentrates.

In addition to the economic development policy orientation above, the Mongolian Government also has significant social and welfare policy measures to reduce poverty. For example, in order to establish the Mongolian Development Fund and after the distribution and public transfer called Gift to the homeland to enhance people's livelihood and opportunities, it allocates 500,000 tugrugs to newly married couples, and 100,000 tugrugs to each baby born. Unfortunately this kind of welfare program cause reduced economic activity, reduced labor market participation, and increased unemployment and incidence of poverty.

The public policy is determined that economic competitiveness is highly dependent on skilled human resources, technology capability, and business environment. There exists a long list for priority and emergency issues, though again some catchword policy, but there is a lack of timetable strategy plans. It is hard to know how these policies could

be implemented, governed and managed, to allocate the budget, to control, to report, in sum to be efficient in their implementation.

10. THE OPTIMAL OR FUTURE DIRECTION OF DEVELOPMENT

In this section the possible future directions by period are described. The periods are consistent with the official economic development plan and perspectives. Mongolia must comprehend the future and take advantage of its heritage and specific developmental opportunities created in relation to increased openness, liberalization and development locally as well as regionally in relation with China and Russia. In 1990–2000 there was a period of economic decline, yet a period of stabilization and also revival of the economy. At the end of the period 1997–2000, conditions for national independent economic development were to have been created. In other words there would be a dominant trend in the economy that would have a great impact. It was presumed that GDP growth would be around 3% at this crucial stage of development.

The Mongolian Government expects that in 2001–2010 the leading economic sectors would undertake steps to introduce advanced technologies and speed up the economic growth. Under these conditions, GDP would reach 10% growth around the end of the period. The basis for such high expectation about growth was discussed previously. Given that the neighboring countries have a very high economic growth and the fact that Mongolia supplies highly demanded raw material and the countries bilateral exchanges are comprehensive, there are good prospects that the expected growth rates can be easily be realized.

The government expects that during 2010–2020 GDP growth will be more than 15% per year, GDP per capita will be around $5,000, and an efficient economic structure will be gradually established and will be in place. This will make Mongolia become a semi-self-sufficient country. The economic structural dynamics should be maintained accordingly to attain such desirable goals. The formulation of the right development plan, strategy and tactics and their follow-up are important conditions fto attaining a self-reliant economic development that is consistent with the stated national objectives of the government.

The country strives to create a totally new knowledge-based economy that enables economic growth based on application of more advanced agriculture, mining technology, information technology, promotion of environmentally-friendly manufacturing and enhancing national competitiveness and self reliance. It is important that measures taken are in line with enhanced self-sufficiency and a policy of reduced vulnerability to and high dependence on neighbors.

Mongolia as a country has some special national features, such as the agriculturally developed nomadic culture, poor industry, a rapidly expanding service sector, new mining strategic deposits which are being increasingly explored, and thus the economy is highly sensitive and dependent on its two neighboring countries. Given such conditions, the economic development in Mongolia is highly dependent on and interrelated with the development conditions in Russia and China.

According to pluralistic opinion and modern scientific methods, the Mongolian economic development strategy in its attempt to improve self-reliance should reflect alternative choices, the best one of which should be chosen and added to a timetable. It is necessary to elaborate and implement a midterm program for economic and social development. Otherwise, a political party with a majority of seats in parliament would not be enthusiastic about formulating and implementing a new strategy, rather preferring to pursue the old, approved strategy. The result is a preservation of traditions of the elected parliament and government, implementation of renovation principles, and saving time and resources with no development. In addition to a correct strategy and tactics, foreign investment must be encouraged to provide sufficient investment capital to achieve the desired development goals.

In accordance with the economic plan and strategy, potential investors should be actively attracted to invest in Mongolia. A policy to attract such foreign investors to support the Mongolian economic growth should be implemented with a high priority. Free transfer of returns on invested capital and proceeds from foreign investments should be guaranteed, and there must be a sound and well functioning banking system that supplies necessary financial resources and infrastructure. Introduction of credit guarantee institutions is necessary to support small and medium enterprises in the establishments, their operation, survival, growth and competitiveness in the open market economy.

The price and exchange rate must be stable as a result of effective governmental monetary and financial policies. It is important to formulate and implement master plans for economic growth and development and for repayment of loans. This plan should reflect not only governmental policies and measures but also macro and micro economic policies, with some indication of the timetable and funding sources for its successful implementation.

In developing agriculture, industry and service sectors, the Government policy is primarily focused on an export-oriented industry policy. In this fact, the country has small population and too much dependency on neighboring the countries China and Russia. China is becoming the strongest economy country in the world. Hence, the Mongolian export-oriented industry, economic and competitiveness policy should fit these countries' economic growth. For example, first one should start developing the national industry to supply in the internal market and implement an industry-oriented policy for taking into account some fruitful sectors such as mining and some advanced agricultural products. The traditional state-dominated agricultural sector is transforming to private farm level and it involves new technology implementations.

As we have noted many times before, the Mongolian Government is paying attention to the mining sector. This sector is giving a major opportunity to such a poor and sensitive economy such as in Mongolia. Although we might have to be careful in developing this sector because the natural resource is limited and one day the mineral resources will be finished. Thus, transfer in the form of incentive programs should be a better alternative to promote the development of alternative resources. There are many countries among the transition and newly industrialized economies with experience in the utilization of

the mining sector. Their experience can serve as models of success or failure of such a mission. For example, Congo and Nigeria were exploited and evidence show that they failed in achieving economic development due to a wrong policy for mining.

The Mongolian Government should learn from experience and know-how from other countries in a similar situation and after that determine a national efficiency policy for rapid economic development based on national assets and features. The Mongolian Government focus will be given to development of the mining industry as a source of generating more revenues for the Mongolian Development Fund and after that earned revenues will be used in the realization of distribution and public transfer called Gift to the homeland to enhance people's livelihood and opportunities. In general direct public transfers are not positive for development, as they may lead to laziness and increased unemployment and poverty. The most negative effect from direct and unconditional public transfer is intellectual devastation, being inactive and so on due to the free transfer of money to people.

The Government is striving to enhance openness and fair treatment. In the real situation, the country has not experienced a strong relationship, trust and fair treatment between government and citizen mainly because of the prevalence of corruption. To the economic and social development activities Government plays an important role in how to govern, regulate, manage, control, create good business environment, create an infrastructure and so on. If there are no serious attempts to fight and root out corruption and eliminate weak aspects of development it will be harmful to the national economic development. There is a model for reducing corruption that is through the employment of e-Government, e-service and supporting use of information technology. This is the base for enhancing the knowledge-based economy.

By using information and communication technology, the Government has to improve interaction between ministries, agencies, private companies and citizens in order to improve openness and fair treatment. By 2008 almost 60% of the information and communication market is that of Mobil. The total number of subscribers and users of mobile phone services is increasing in Mongolia. About 64.8% of the total population is users of mobile phones. The Internet speed that the business enterprises are commonly using is 384 kbps on average and 10 mbps at its maximum. In recent years most of the new investments related to information and communication have been conducted in the area of fiber optic connections. Mongolia has completed the connection of all centers of provinces and sub provinces concerning internet access. Now all those who want to access the internet, have the possibility to obtain the services at all those locations. The country's e-readiness is such that it is possible to work along with the creation of knowledge-based economic development.

Finally, concerning economic and social development, instead of a welfare policy and free public transfer, the government should allocate support in the following ways. It should create a favorable legal environment and make Mongolia beneficial for contracts with foreign investors and especially to be careful in its engagement in the mineral sector areas. It should also create research and development centers by income generated from mining, enhancing the relationship between government, institutions and business and give great attention to skilled human resources, skill upgrading and

capability enhancement. Creation of national products and national brand products such as cashmere should be an important element of the national development strategy. Finally, there is systematically support for the National Innovation System and science and technology, enhancement of services and information and communication technology and encouragement of investment in the industry sector. Furthermore, the Mongolian Government should create opportunities to promote improved self-sufficiency, to be open and part of the globalization process and to strive to achieve a catching up strategy.

11. SUMMARY AND CONCLUSIONS

This report has covered general information about the Mongolian economy and its reform and development path in recent years. The relationship between the Mongolian economy and its neighboring economies and other external markets is also explored in detailed form from a Mongolian perspective. A number of important policy and development areas and factors are further discussed and several suggestions for further studies are also made to facilitate an effective resource utilization and smoother implementation of the national development plan and strategy.

Since 1990, the Mongolian economy has been transferred into an open and favorable environment for competitiveness and practice in the free market for trading goods and services. The economic growth of the country has been stable in recent years. Compared to 1990, as a base, till 2008 the economy has grown by 157%. The GDP per capita reached $1,972 in 2008. The growth in mining, the processing industry, agriculture, construction and industry are among the main sectors which have had a positive impact on the social and economic development of the country. In recent years Mongolia has enjoyed surplus in its foreign trade. The main source of surplus is the increased price of oil and mineral exports.

Nowadays, Mongolia is passing through the transition phase in its development from a centrally planned to a market economy. The government is trying to lay the foundation for a totally new knowledge-based economy. The new economy is expected to enable economic growth based on the application of advanced mining technology, information and communications technology, and bio- and nanotechnologies. The government is promoting environmentally-friendly manufacturing, transits, logistics, financial mediation services, it is nurturing the state and government system that serves the people, protects human rights and freedom and seriously attempts to be free from corruption and red tape. Altogether, the policy aims at strengthening the sovereignty of Mongolia and respecting national pride. Given the national and international economic conditions concerning the global financial crisis and its impacts the road is not fully smooth but the government has continuously supported the path of development and allocated necessary resources to succeed in achieving the stated multidimensional national development goals.

The Mongolian Government has determined to pursue a medium term economic expansion policy by boosting economic growth, solidifying economic sustainabilty, keeping the inflation rate under a sustainable level, facilitating public and private

investment, and by promoting commercial units and private consumption. The medium term targets and its policy components include five different areas of activity as: to keep the macro economic sustainability; to keep budget sustainability; to intensify the development of real sector; and to increase its effect on the economy. The success of such targets and policy measures will obviously depend heavily of the economic development elsewhere and in particular on the economic conditions and development in the two neighboring countries.

Mongolia's overall industry trade policy objectives, as stated in the Government policy program, which aims to support economic growth through an active trade policy, promotes the industrial, agricultural and services sectors, with the objective of increasing their export share of production. Currently, the industry has mainly been skewed and concentrated in a few urban centers. The location of vital industrial activities is not always optimal in relation to the available natural and human resource bases. Changes in concentration to locations that provide competitive advantage to local and national enterprises is highly desired.

The role of agriculture, industry and services is very important for the development of the Mongolian economy. The agriculture sector has about 45% of the total labor force, and it contributes 30% of the total exports, 31% of the overall value of the industrial production and it produces about 20% of the country's GDP. However, in recent years the mining sector has become increasingly important and is replacing the role of agriculture. Despite the changes in the agriculture/industry areas, the development of the industry sector is very slow due to the country's landlocked geography, small population of 2.7 million, half of which is nomadic, low purchasing power, inadequate physical infrastructure, rugged terrain, and increasing competition from neighboring China and Russia.

The services sector is also increasing in Mongolia. This phenomenon is particularly important in the case of countries where the economy and public services rely heavily on revenues generated from the extraction of energy and minerals which is the case in Mongolia as well. The increased service is also a response to the development of economy, incomes and consumption base. In most economies agriculture and industry are shrinking, while the service sector expanding. This process is part of the observed patterns in the evolution of societies in industrialized societies ranging from agriculture to industry, service and to knowledge-based societies. Mongolia is currently in the stage of transition from an agricultural to industrial society with elements of service sector development in parallel.

The Government is supporting the mining exports and it also considers mining as the biggest priority sector for its economic development. It provides various forms of tax incentives to modernize the sector by the introduction of advanced and appropriate technology and enhancement of both national and foreign direct investment in the mining sector. The main focus is on open competitiveness and market-driven, private sector-oriented industry and the reinforcement of the already suitable legal environment for private mineral exploration activities. The mining sector is a major contributor to the economy, accounting for 59.7 percent of industrial output, and around 40.0 percent of the total export earnings. The most economically significant of these export earnings

are the base metals, gold and fluorite.

Mongolia's heating and electricity supply systems function currently as a central and state-controlled generation, transmission and distribution system. However, they are in a poor condition and with a high share of losses which take place mainly during transmission and distribution moments. It should be noted that nearly all provincial capitals have some electricity supply generated either by the central system or by small diesel-fired power plants in isolated grids. Mongolia is committed to promoting the use of the renewable energy sources, targeting distribution to rural areas and their population. The policy is expected to support decentralization and lowering the current skewed concentration of industries in urban areas.

In recent years, the success of China and the Russian Federation encouraged the government of Mongolia to pay great attention to foreign direct investment. In similarity with other successful FDI-receiving countries Mongolia provides different incentive factors to attract FDI. The government is working to enhance the export of commodities, for example, traditional goods and facilitate the export of new commodities. This will help to improve the balance of payments through diversification of the economic structure, reducing the current high level of dependency on a few natural resources. This is one of the Mongolian Government's priority economic policies which to which great attention is paid.

The Mongolian economy is so sensitive and highly susceptible to the foreign market and its two neighbors. The status of the Mongolian economy, political system, society and geographic strategy has been completely changed since the transition period started. Mongolia has also been changing in many respects and its multilateral relationships with other nations have been strongly maintained. Fruitful cooperation has also been maintained with major economic partners such as Russia, China, the USA and Japan which government gives a high priority to such economic relationships and its further development in the industrial area.

It is desired that Mongolia in the near future will at least become a semi-self-sufficient country. The economic structural dynamics should be maintained accordingly. The formulation of the right development strategy and tactics and their follow-ups are important conditions for attaining a self-reliant and less vulnerable economic structure. Currently, the financial, organizational, management and other development resources and infrastructures are a limitation on the development strategy, implementation and outcomes. Integration and active participation in the regional economic development process will ease the resource limitations and the implementation of a progressive development strategy. The participation in the development of regional economies involves both the East Asian and Central Asian Economic regions.

In summary, the Mongolian economic development strategy should reflect alternative choices, the best one of which should be chosen and added to a carefully designed development timetable. It is necessary to elaborate and implement a midterm program for economic and social development. Otherwise, a political party with a majority of seats in parliament would not be enthusiastic about formulating and implementing a new strategy, rather preferring to pursue the old, approved and safe strategy. The result

is the preservation of traditions of the elected parliament and government, implementation of renovation principles, and saving time and scarce resources with no or poor development outcomes. In addition to a correct strategy and tactics, foreign investment must be encouraged to provide sufficient investment capital to achieve the stated national development goals.

REFERENCES

Davis, Graham A., 1998, "The minerals sector, sectoral analysis, and economic development", *Resources Policy*, vol. 24, no. 4, pp. 217-228

Dorj T. and D. Yavuuhulan, 2003, "Mongolian economic development export" *International Journal of Asian management* Vol. 2, No. 1. (20 April 2003), pp. 93-98.

Farinelli, F, 2007, "The Awakening of the Sleeping Giant: Export Growth and Technological Catch-up of the Argentine Wine Industry", *International Journal of Technology and Globalization*.

Francesco Pastore 2009, "School-to-Work Transitions in Mongolia" The European Journal of
Comparative Economics Vol. 6, n. 2, pp. 245-264

Gowen J. and B. Baatar, 2002, "Mining and Petroleum Sector Profile" A Report prepared for the World Bank Group.

Haque, Irfan. 2007, "Rethinking Industrial Policy" UNCTAD, Working Papers, No. 183.

Information and Communications Technology Authority, 2006, "Information and communications technology development in Mongolia – 2006" Intec Co. Ltd and Mongolian Information Development Association (MIDAS), Ulanbator, Mongolia.

Information and Communications Technology Authority, 2008, "Outlook of Information and Communications Technology 2004-2008", Ulanbator, Mongolia.

Information, Post and Communications Technology Authority, 2008, "Annual report of ICT sector" Ulanbator, Mongolia.

Johansson, T.B. and Goldemberg, J. 200), "Energy for Sustainable Development: A Policy Agenda", New York: UNDP

Kerry Dumbaugh, W.M. Morrison, 2009, "Mongolia and U.S. Policy: Political and Economic Relations", Congressional Research Service. Washington DC, USA.

Korea Development Institute and Korean International Cooperation Agency, 2004, "Building an Efficient Financial System in Mongolia: Managing Distressed Assets in a Transition Economy", Policy Recommendation Paper, Korea

Ministry of Mineral resource and Energy, 2008, "Annual Report 2008", Ulanbator, Mongolia.

Ministry of Finance, 2006, "Medium term target for economic development", Ulanbator, Mongolia.

Ministry of Finance, 2009, “Fiscal outlook 2009”, Ulanbator, Mongolia.

National Statistical Office, 2004-2008, “Statistical Bulletine and year book”, Ulanbator, Mongolia.

Porter M.E., 2008, “Competitiveness: Creating a Mongolian Economic Strategy” Institute for Strategy and Competitiveness Harvard Business School.

Robinson B. and A. Solongo, 2000, “The Gender Dimension of Economic Transition in Mongolia”, School of Continuing Education. University of Nottingham UK and National University of Mongolia.

Sarantuya G., D. Amarsaikhan and D. Uuganbayar, 2005, “The Role of RS and GIS for Agriculture in Mongolia”, Ulanbator, Mongolia.

The Government of Mongolia, 2002, “Mongolia National Program of Action 2002-2010”, Ulanbator, Mongolia.

The Government of Mongolia, 2008, “Resolution on Approval of the Action Plan of the Government for 2008-2012”, Ulanbator, Mongolia

The World Bank, 2006, “A review of Environmental and Social Impacts in the Mining Sector”, Ulanbator, Mongolia.

The World Bank, 2007, “Mongolian Mining sector: Managing the future”, Ulanbator, Mongolia.

The World Bank, 1993, “The East Asian Miracle: Economic Growth and Public Policy” World Bank Policy Research Report, New York: Oxford University Press.

UNTAD, 2007, “Least Developed Countries Report: Knowledge, Technological Learning and Innovation for Development”, New York: UN.

Walters B., D. Hall, F. Nixon and P. Stubbs, 1999, “Institutional change in a transitional economy: the reform of economics higher education in Mongolia”, *International Journal of Educational Development* 19, 423–439.

TEMEP Discussion Papers

2010-41: Ruzana Davoyan, Jörn Altmann, and Wolfgang Effelsberg, "Intercarrier Compensation in Unilateral and Bilateral Arrangements"

2010-42: Ruzana Davoyan, Jörn Altmann, and Wolfgang Effelsberg, "Exploring the Effect of Traffic Differentiation on Interconnection Cost Sharing"

2010-43: Ruzana Davoyan and Jörn Altmann, "Investigating the Role of a Transmission Initiator in Private Peering Arrangements"

2010-44: Ruzana Davoyan, Jörn Altmann, and Wolfgang Effelsberg, "A New Bilateral Arrangement between Interconnected Providers"

2010-45: Marcel Risch and Jörn Altmann, "Capacity Planning in Economic Grid Markets"

2010-46: Dang Minh Quan and Jörn Altmann, "Grid Business Models for Brokers Executing SLA-Based Workflows"

2010-47: Dang Minh Quan, Jörn Altmann, and Laurence T. Yang, "Error Recovery for SLA-Based Workflows within the Business Grid"

2010-48: Jörn Altmann, Alireza Abbasi, and Junseok Hwang, "Evaluating the Productivity of Researchers and their Communities: The RP-Index and the CP-Index"

2010-49: Jörn Altmann and Zelalem Berhanu Bedane, "A P2P File Sharing Network Topology Formation Algorithm Based on Social Network Information"

2010-50: Tai-Yoo Kim, Seunghyun Kim and Jongsu Lee, "The Gene of an Accelerating Industrial Society: Expansive Reproduction"

2010-51: Almas Heshmati and Sangchoon Lee, "The Relationship between Globalization, Economic Growth and Income Inequality"

2010-52: Flávio Lenz-Cesar and Almas Heshmati, "Agent-based Simulation of Cooperative Innovation"

2010-53: Erkhemchimeg BYAMBASUREN and Almas HESHMATI, "ECONOMIC DEVELOPMENT IN MONGOLIA"