

# Raw-Material Orientation of Kazakhstan: Economic Growth Through Improvement of Institutional Quality

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## ABSTRACT

*Efficient functioning of institutions plays one of the most significant roles in countries with raw-material based economy, as level of quality of such institutions has an impact on feasibility of management policy of national wealth. In this study need for improvement of institutional quality in Kazakhstan was identified on the basis of results of statistical analysis and review of various opinions of leading world economists regarding relationship between institutional quality and sustainability of redistribution of profits of available raw materials resources. As a result, the main factors increasing quality of institutional efficiency in Kazakhstan are defined with consideration of features of the national economy.*

**Key words:** raw materials resources, administration institutions, resources industry, national economy.

**Journal of Economic Literature (JEL) Classification:** H79, L51, O10.

## 1. INTRODUCTION

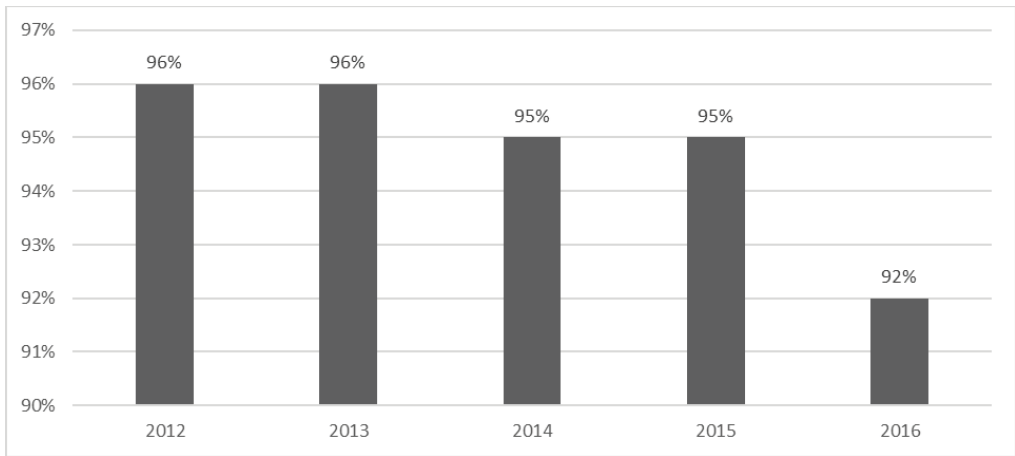
Kazakhstan possesses one of the largest reserves of raw materials all over the world. Resources industries and export of raw materials have significant shares in overall volume of turnover.

Natural resources sector is the basis of social and economical development of the Republic of Kazakhstan, formed from number of deposits of hydrocarbons, uranium, ferrous metals, nonferrous metals, noble and rare metals.

The main share of exports of the Republic of Kazakhstan includes goods of 27, 72, 74, 76, 78 and 79 groups as per the Foreign Economic Activity Commodity Nomenclature. Those are fuel, oil, oil products, base metals (zinc, ferrous metals, aluminum, copper, lead, tin). Oil and oil products take approximately 70-80% in overall volume of export of raw materials.

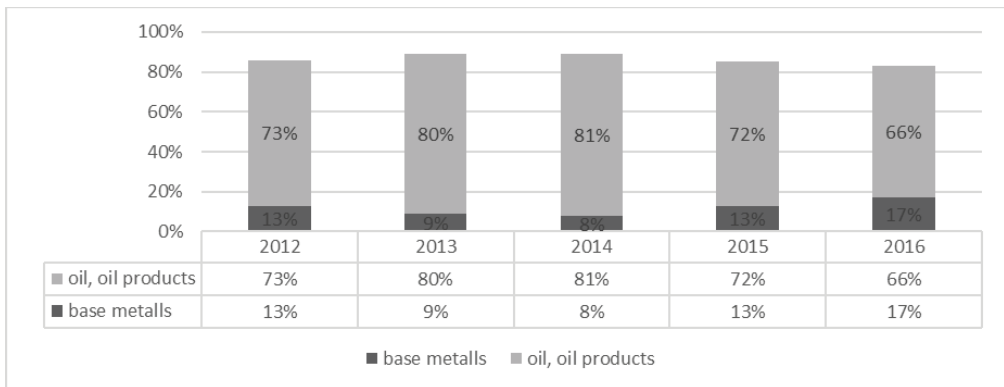
These facts predefine high dependence of national income and state budget income on prices in the world market. Taking into account that price level for raw materials in the world market is quite

unstable, this leads to lack of stability of GDP and state budget income, preventing achievement of long-term economical growth. Data are presented in Figures 1 and 2.



**Figure 1.** Share of the raw materials in the export of RK

Source: calculations of authors on the base of Trade map data



**Figure 2.** Share of the oil, oil products and base metals in the raw materials exports of

Source: calculations of authors on the base of Trade map data

Today the world economy forms a new type of intensive economical growth, which put accent on issues of improvement of mechanisms of scientific and technical development of economy, interaction of state institutions, scientific and technical field and market forces. One of the main mechanisms of restructuring, modernization and sustainable growth of Kazakhstan economy shall be the national system of functioning of efficient economical and civil institutions ensuring favorable conditions for wealth growth of the citizens of the Republic of Kazakhstan.

Demand for internal structural reforms and shift away from raw materials orientation is long overdue in the domestic economy. This present-day issue is reflected in many policy documents.

Thus, the State has accepted 14 programs on national economy diversification since 2016. Transition of the country to innovative and entrepreneurial development is our internal need, primarily caused by the surrounding global world.

## **2. GENERATION OF THE DATA**

Goal of this study is development of recommendations for improvement of institutional quality in order to reduce dependence of Kazakhstan economy on raw materials on the basis of statistical analysis and foreign practices of development of resource-based economic systems.

The main issue of this study is potential of the State to facilitate mastering of raw-material orientation of economy and measures for achieving this goal.

Goals of the study:

- to prove dependence of Kazakhstan on raw materials;
- to study interrelation between variation of prices for oil and growth of actual GDP of Kazakhstan;
- to review theory of institutional impact on resource-based economic systems;
- to review theory that countries with effective administration of resources have high institutional quality
- to develop recommendations for improvement of institutional quality in case of demonstration of correlation between institutional quality and economical efficiency of resource application.

### **2.1 Theoretical model**

Concept of "institutions" shall be presented as a rationale for selection of study subject, thus, giving a ground for study theory that institutional quality has a direct impact on economic growth of countries with resource-based economic systems.

Authors agree to the opinion of the Nobel laureate, one of the most well-known researchers of institutions - Douglass North. Douglass North considered that the market is a complex and controversial phenomenon. It is a structure with various institutions: laws, rules, and, primarily, certain codes of conduct, types of relations and correlations.

According to Douglass North, concept "institutions" means set of rules, compliance procedures, moral and ethical conduct of individuals for wealth maximization. Concept "institutions" means developed formal (laws, constitutions) and non-formal (deeds and codes of conduct accepted of free will) restrictions, as well as enforcement factors structuring its interaction. All these factors form incentive structure of societies and economies. Institutional development of economy is a result of interaction between institutions and organizations, when the former define "game rules" and the latter are "players".

Douglass North draws fundamental distinctions between institutions and organizations in his well-known book "Institutions". Organizations like institutions structure relations between people. As a matter of fact, analysis of expenses occurring due to institutional limitations shows that expenses arise

not only because of these limitations, but also due to organizations formed in response to existing of such institutional limitations. From the theoretical perspective it is crucial to distinguish rules from players clearly. Rules define way of a game. Concept "organization" includes political bodies and institutions (political parties, Senate, municipal council, regulating department), economical structures (firms, labor unions, family farms, cooperatives), social institutions (churches, clubs, sport associations) and educational organizations (schools, universities, vocational training centers). Organization is a group of people intended to achieve a common goal. Modeling of organization requires analysis of its management bodies, skills of members, as well as impact of training in course of activities on success of the organization to defined moment. Institutional limitations have a crucial impact on types of occurring organizations and on a way of their development. Organizations are established for achievement of certain goals due to the fact that existing set of limitations (both institutional and those reviewed by economic theory) creates opportunities for relevant activities; therefore, organizations are the main agents of institutional reforms in process of goal achievement.

Institutions influence economic process in a way that they influence costs of exchange and production. Along with applied technolo[gy organizations define transaction and transformation (production) costs, which constitute total production costs.

Additional rationale of authors' opinion regarding improvement of institutional quality includes papers of highly referent studies Mehlum,H., Moene. and Torvik,R. Institutions and the resource curse. As per these authors institutions are divided into two types:

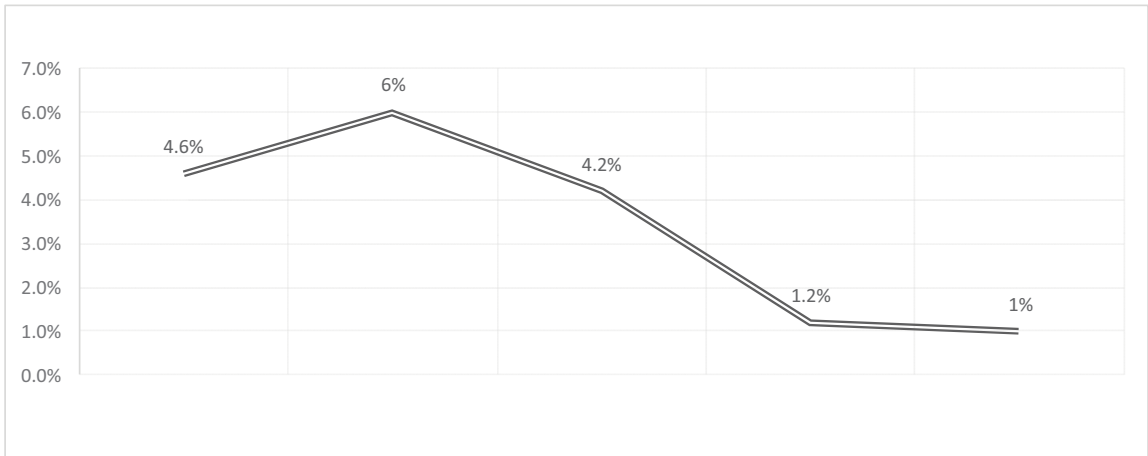
A) favorable to producers, in this case creative effort and orientation on gaining income complement one another.

B) favorable to searchers oriented only on gaining immediate and major income, in this case resource economy sectors fiercely compete with each other, thus, damaging the national economy.

## **2.2 Methods of regression studied**

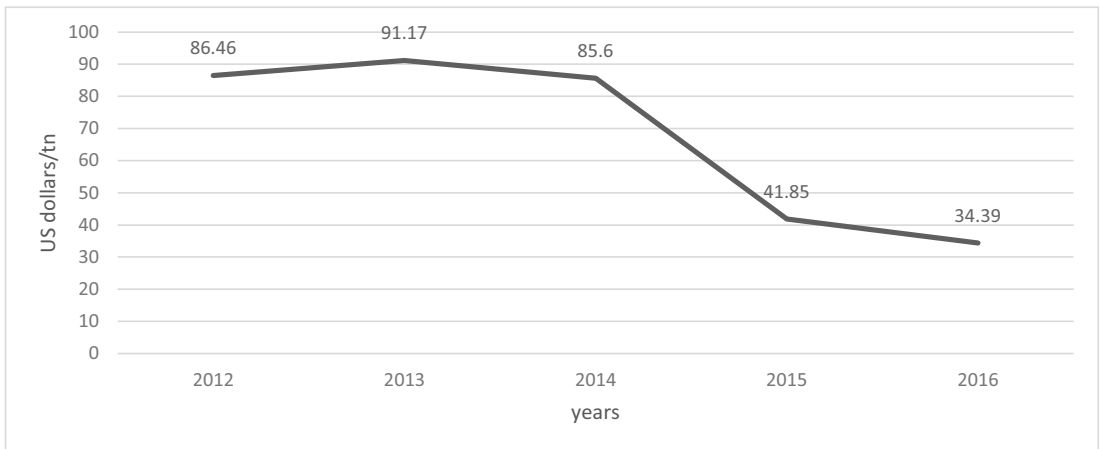
During this study authors reviewed the theory of dependence of Kazakhstan on raw materials. Then authors evaluated the theory that countries (with resource-based economy) with effective administration of resources have high institutional quality. Methodology of each theory is presented below.

Analysis of data of Kazakhstan actual GDP and prices for oil and oil products showed close connection. Authors decided to analyze price level of this group of goods as such goods take a major part of exports. Also it shall be pointed out that prices for mining products were relatively stable for the period 2011-2016.



**Figure 3.** Real GDP growth from 2012-2016

Source: World Bank staff calculations based on data published by the Statistical Office of Kazakhstan



**Figure 4.** Oil price dynamics

Correlation analysis between level of growth of actual GDP and price level for oil as per Chaddock scale<sup>1</sup> showed quite high correlation equal to 0,987. It means that level of economic growth of Kazakhstan is highly dependent on world prices for raw materials.

<sup>1</sup> Correlation factor reflects constraint force. Chaddock scale is used for evaluation of constraint force of correlation factors. It ranges from 0 to 1 reflecting degree from insignificant to complete interdependence (correlation) of variables.

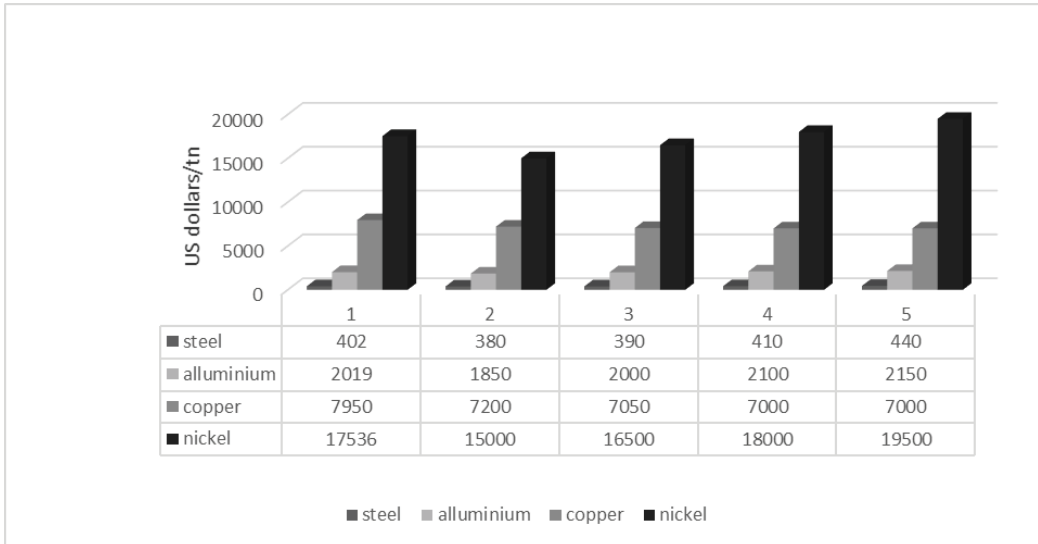


Figure 5. Base metals price dynamics

### 3. RESULTS

Calculations above provide evidence on dependence of Kazakhstan on raw materials. When the main part of GDP is generated from export of raw materials there are prerequisites for economic skewness, which in turn has a negative impact on social and economical situation in the country. This means rapid changes in salary level among economic sectors, inconsistency of economical development level of regions, high level of internal immigration, drastically different levels of employment in terms of regions.

Analysis of relation between institutional quality and efficiency of resource management showed interdependence.

Thus, the following countries were selected for the study: Norway, Australia, the United States of America, Colombia, the Republic of Kazakhstan, the Russian Federation, Turkmenistan, China, Saudi Arabia and Azerbaijan.

Selection of countries is determined by the leading positions in economic development and efficient management of subsoil resources, as well as by similar economic and historical factors, and by level of economy dependence on raw materials.

Non-commercial research center, specializing in research of world economic systems with rich resources, estimated operations of resource sectors of countries with resource-based economies for the first time in 2013.

In order to make rating of resource management 46 researches with work experience in resources industries were requested to assess management quality by four components: organizational and legal systems; reporting practice; guarantees and quality control, as well as favorableness of work conditions.

In addition data of the World Bank, human rights organizations, such as Transparency International, as well as various environmental associations were used. Rating of the state administration is a weighted average value of these four components.

Researchers estimated quality of resource management in 58 countries of the world, which produce 85% oil, 90% diamonds and 80% copper of world's output, gaining trillions dollars of annual profit.

In 41 of these countries resources industry brings one third part of GDP and a half of the total export volume. Future of these countries depends on their way of management of own resources. Many of these countries continue to obtain income from sale of raw materials in ineffective manner, and their citizens do not get any advantages from use of "common wealth".

Authors used data of the World Bank on analysis of institutional quality «The Worldwide Governance Indicators» as the second factor. Used data of this study regard to 2013, as analysis of resource management level was held once and for 2013. Period of analyzed data was chosen the same for two factors in order to maintain study quality.

Institutional quality is analyzed by 6 markers:

1. Freedom of vote. It reflects opinion on the level of participation of citizens in election of the government, and freedom of expression, freedom of association and freedom of mass media.
2. Political stability. It reflects opinion on the level of political stability and absence of violence/terrorism. Opinion on likelihood of political instability and/or politically motivated violence, including terrorism.
3. Administration efficiency. It reflects opinion on quality of state services, quality of civil service and the level of its independence from political leverage, quality of development and implementation of policy, trust to governmental adherence to such policy.
4. Quality of regulating. It reflects opinion on capability of the government to define and implement reliable policies and regulations, which allow and facilitate development of private sector.
5. Law and right. It reflects opinion on the level of trust and adherence of agents to society regulations, in particular quality of execution of contracts, proprietary rights, police and courts, as well as likelihood of crime commitment and violence.
6. Corruption and control. It reflects opinion on the level of exercising of governmental power for personal advantage, including minor and major forms of corruption, as well as "occupation" of the State by elite groups and private interests.

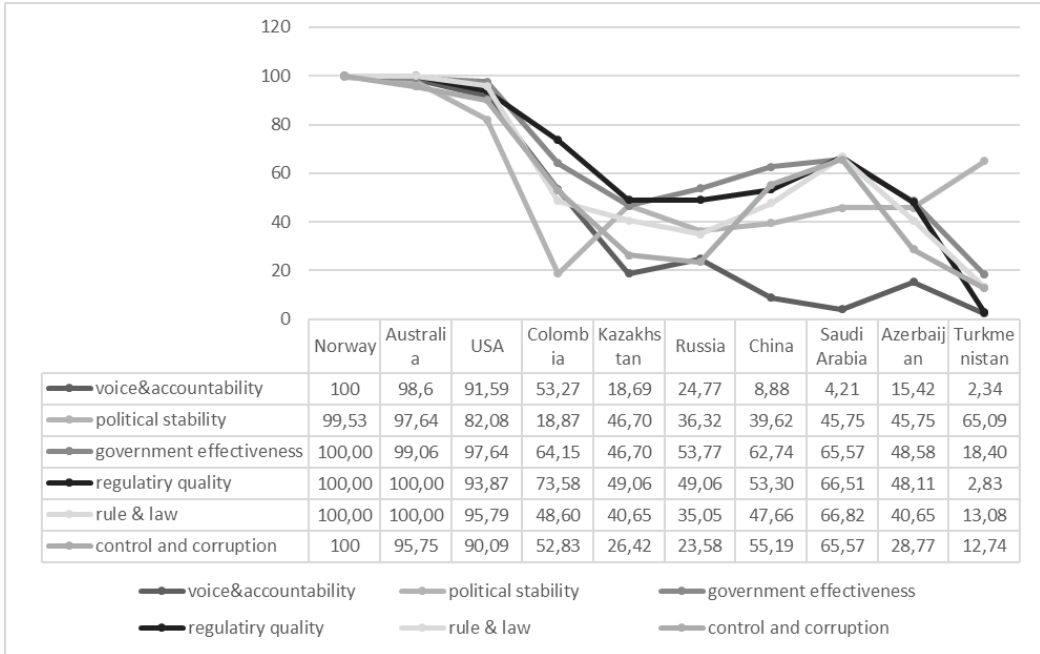


Figure 6. All markers of analyzed countries

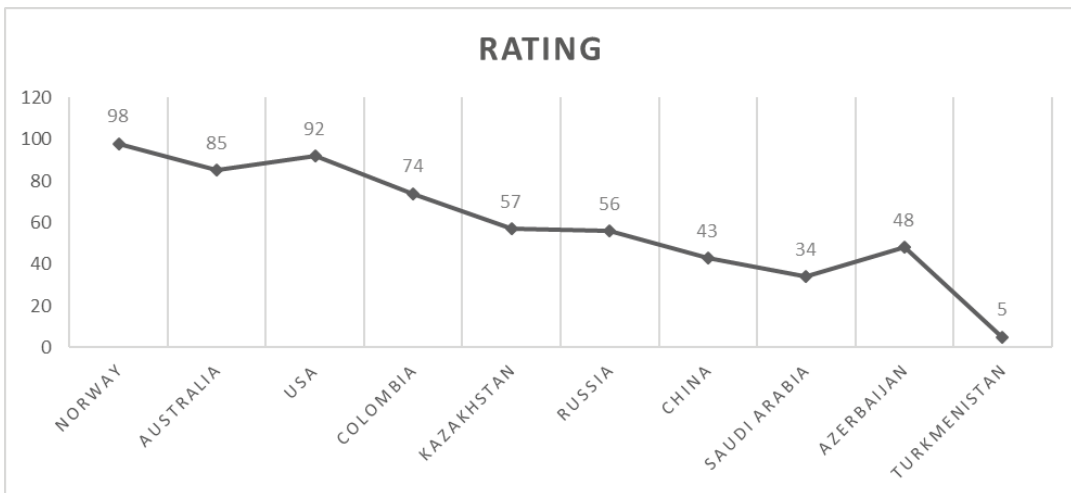


Figure 7. Quality of resource management

Figures 6 and 7 show ratings of institutional quality and quality of resource management (respectively). It is presented that trends of countries are similar, and in case of insufficient quality of institutions quality of resource management is also poor.



Resource plenty stimulates activity in searches for supplementary annuity, which in turn forms favorable conditions for corruption and increase of state expenses in resources industry.

#### 4. DISCUSSION AND CONCLUSION

Relative profitability of productive activity depends on institutions, such as supremacy of the statute law and bureaucratic efficiency. High institutional quality is the basis for balance, when all entrepreneurs act as creative producers.

Goal of the State is ensuring functioning of institutions in order to override resource dependence. Poor functioning of institutions complicates overriding resource dependence of the national economy.

Thus, resources may be a curse with poor institutional quality.

Effective economy system with functioning of high-quality institutions is a key factor for the economic growth.

Taking into account Kazakhstani positive policy on economy diversification, optimization of budget expenses and smoothing volatility of oil prices, we assume that establishment of favorable factors for improvement of institutional quality will facilitate improvement of quality of institution functioning, and as a result will lead to multiplicative effect in form of economic growth.

Summarizing above mentioned opinions in relation to impact of institutions on economical policy of the country, proved theories that Kazakhstan has resource-based economy, and proved theories that the level of institutional quality is related to economical effect of resources, we deem that improvement of institutional quality in Kazakhstan by development of the following factors appropriate (Table 1).

Table 1. Prior factors of Kazakhstan institutional quality development (created by co-authors)

Factor	Rationale
<b>Protection of proprietary rights</b>	<p>Strong protection of proprietary rights is one of the most important factors in resource-based economies. If proprietary rights are protected at sufficient level, economical subjects will have motivation to invest in sectors with low return. Thus, for instance, additional motivation for investments in mining and smelting sector, where period of repayment is longer than in other resource sectors, such as oil and gas producing sectors.</p> <p>If proprietary institution does not ensure adequate protection of rights, entrepreneurs will have intention for annuity, i.e. immediate gaining of profit without contribution in society wealth. In addition this fact creates conditions for nationalization of natural resources by certain persons, which are a priori property of the people.</p>
<b>High level of economy openness</b>	<p>Resource-based economy is facilitated by freedom of foreign trade policy, pass-through of working force and capital.</p> <p>If country is opened to experience exchange and adoption of best practices in various economy sectors, it will increase its competitive ability. In addition</p>

	<p>participation in global processes forces the administration and legislation of the country to be compliant with international regulations and standards, along with that the State obtains the right to defend its interests and rights on the global stage.</p>
<p><b>High level of governmental accountability, transparency of budget processes and decision-making procedures at state level</b></p>	<p>International experience of Chile and Norway may serve as a rationale for this factor.</p> <p>Economy of Chile is the sixth economy by GDP in Latin America and the seventh economy by purchasing power parity. Chile has the highest income per capita in Latin America (20 113 USD GDP per capita and 17 047 USD GDP per capita at nominal prices) and falls under the category of high-income countries according to the World Bank.</p> <p>Chile is one of the most dynamically developing countries in Latin America in terms of economic growth. Chile is the only country of this region with no deterioration of social conditions over the last years, and it is the least corrupt country in Latin America.</p> <p>Chile is less intended to improvident spending of rent for subsoil use, which is, primarily, explained by institutional features. Rent in copper sector is regulated by the national governmental bodies in a transparent manner according to technical regulations of definition and expenditure of excess profits. National governmental bodies are accountable to citizens of the country in relation to ways and amount of expenditures of funds from subsoil use.</p> <p>Excessive competition between political parties and their subsoil use custom base was reduced in Chile by consensus-building between current left coalition (Concertacion) and opposition parties in relation to implementation of anti-cyclical fiscal policy and formation of long-term deposit from copper boom.</p> <p>Similarly, Norway has succeeded in management of financial results of the policy of oil revenues. Democratic awareness and strong orientation on consensus-building between parliamentary institutions as key factors determined this result. Countries get benefits from common public understanding of necessity to hold back government expenditure and avoid volatile expenses. Transparency of political and bureaucratic processes, as well as political stability, which includes long-term planning, facilitate achievement of reasonable financial results.</p>
<p><b>Efficient and strong private sector</b></p>	<p>Government shall encourage inflow of investments from the private sector for economy diversification and participation in resources industry.</p> <p>Application of income from natural resources for growth of the domestic economy is dependent on significant increase of investments in the private sector, including entities from large scale infrastructure to small economical</p>

	<p>entities.</p> <p>Government shall provide compensation activities for ensuring inflow of capital.</p> <p>Firstly, in absence of governmental compensation activities major capital inflows can cause increase of cost in the national currency, which leads to decrease of competitiveness and deterioration of domestic production and export sectors. If these consequences are not addressed, private investment in export sectors may be reduced. Along with this, cost of investment in other domestic industries may increase. It may weaken economic growth and expose economy to impact of price volatility of raw materials, as resource industry becomes more significant part of economy.</p> <p>Secondly, state investment shall be responsive to demands of the private sector for strengthening of positive effect of income growth from natural resources. Key role of the government includes increase of capacity of the domestic economy for collection of income from natural resources and gaining opportunity for recovery of significant profits with minor investments of the private sector. Cooperation with this sector play a significant role in provision of additional economical resources: for instance, state expenditure for schools and hospitals creates more productive source of employees for companies.</p> <p>Government shall ensure favorable business environment in general without giving priority to any sector.</p> <p>Activities include reforms oriented on improvement of administration of capital, land and employment markets; provision of infrastructure and public good; as well as social policy for increase of workforce productivity.</p>
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