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Mongolia: Economic Miracle or Another Case of Resource Curse?

Diploma Thesis

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Abstract

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The subject of this thesis is analysis of natural resource abundance effects in Mongolia. The first part of this paper provides an overview of literature on the topic of resource curse, as well as brief description of Mongolia's economy with special focus on the mining sector. Second part of the paper closely examines outcomes of natural resource dependence in Mongolia in the period between 1996 and 2013 while focusing on specific channels mentioned in the literature. This is followed by policy recommendations and conclusion.

Keywords

Mongolia, resource curse, natural resource abundance, exports, dependence, mineral, mining, institutions, volatility, economic growth, economic development, Dutch disease

Abstrakt

Mičánek, J. Mongolsko: ekonomický zázrak, či další případ surovinového prokletí? Diplomová práce. Brno, 2014

Tato práce se zabývá analýzou vlivu surovinového bohatství v Mongolsku. První část práce poskytuje souhrn literatury na téma surovinového prokletí a stručný popis mongolské ekonomiky s důrazem na těžební sektor. Druhá část diplomové práce blíže zkoumá jednotlivé výstupy závislosti na surovinách v Mongolsku v letech 1996 – 2013. Tyto výstupy byly vybrány na základě výskytu v literatuře.

Klíčová slova

Mongolsko, surovinové prokletí, surovinové bohatství, export, závilost, nerosty, těžba, instituce, volatilita, ekonomický růst, ekonomický rozvoj, Holandská nemoc

Contents

LIST OF ABBREVIATIONS

CIA	Central Intelligence Agency
CPI	Corruption Perception Index
EIA	Energy Information Administration
EITI	Extractive Industries Transparency Initiative
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNI	Gross National Income
HDF	Human Development Fund
HDI	Human Development Index
IT	Information Technology
IMF	International Monetary Fund
OECD	Organisation for Economic Cooperation and Development
OT	Oyu Tolgoi
PPP	Purchasing Power Parity
PRC	People's Republic of China
SME	Small and Medium Enterprise
SPEAK	Survey on Perceptions and Knowledge of Corruption
UK	The United Kingdom
UNRISD	United Nations Research Institute for Social Development
USA	United States of America
USD	United States Dollar
WB	The World Bank

WGI	Worldwide Governance Indicators
PM	Particular matter

1. Introduction

Mongolia is a landlocked country covered mostly by far-stretching steppes. Under these steppes there lies an enormous wealth in form of natural resources. Copper, coal, iron ore and gold in particular are responsible for an amazing growth performance that Mongolia continues to demonstrate over the last decade. However, as history shows, large windfalls in natural resources revenues often turn into a curse in the long run, inspiring the term 'resource curse'. Extensive quantitative and qualitative research shows that resource abundant countries are more often confronted with negative economic, social and political outcomes than their resource-poor counterparts. Poor management of resource revenues is often the core of this problem. Corruption, rent-seeking and loss of overall competitiveness often correlate with natural resource abundance. However, examples such as Norway, Australia and Chile tell us that resource abundance does not automatically lead to negative outcomes.

Discovery of enormous mineral wealth along with liberalisation policies attracting foreign investors allowed Mongolia to receive substantial Foreign Direct Investment (FDI) inflows in the mining sector. This led to a fast economic growth. However, this is not to be confused with economic development which can be only achieved with globally competitive non-mining sectors. Resource-poor countries are forced to reach certain level of economic development through which they achieve economic growth in the long run. Asian Tigers South Korea and Taiwan are appropriate examples. By undertaking economic development, these countries achieved high and, more importantly, sustainable growth rates. Natural resources, on the other hand, provide a shortcut to bypass gradual economic development, and to achieve high growth rates through large resource windfalls. By skipping economic development short-run economic growth makes sustainable development hard to reach. Countries fail to undertake process of gradual learning by doing and become dependent on primary exports.

Within the resource curse debate, prevailing opinion is that institutional reform towards a democratic and good governance along with economic diversification is the key towards sustainable economic development in resource-rich countries. Mongolia's democracy is still quite premature and quality of institutions is not high enough to handle such enormous windfalls without problems. The relation between social, political, economic and international factors needs to be considered. Interaction of these factors affects Mongolia's ability to overcome resource curse.

More research in general has to be done in this area. Since World War II most natural resource-rich developing countries failed to create sustainable economy through resource windfalls. A great portion of fossil and mineral resources that fuels todays' global economy is imported from developing countries. These countries often suffer from bad institutions, not properly developed market economy, and they lack access to markets and capital needed for developing and financing their mining sectors. In such cases, vulnerability to a resource curse could be quite significant. It is thus important to recognise this great danger and better understand the origins of failure or success in resource-rich developing countries.

Debates on resource curse in Mongolia are not yet well established and lack any hard evidence about this phenomenon as mining boom is still quite recent. Research of this topic will thus be particularly interesting and important. Mongolia has a potential to become one of the world's top mineral producers, especially in terms of copper. It is still young democracy with enormous development potential. If it will use its wealth properly, it can set an example for other resource-rich developing countries. However, to transform this potential into stable economic development which could provide opportunities for future generations, much more than just high growth rates is needed. Strong institutional environment and diverse economy are two pillars of such future. Today, Mongolia is strongly dependent on natural resources and so far, lack of social pressure and lack of investments in its non-mining sectors will likely prolong this dangerous dependence.

Mongolia is extremely dependent on its natural resources, coal and copper in particular. The main objective of this thesis is to find out whether Mongolia is facing the resource curse thanks to its dependence. In this thesis, the resource curse is defined as a situation where a high dependence on natural resources in terms of percentage of exports has a negative effect on a country's socio-economic development.

This thesis aims to 1) add to the study of the resource curse phenomenon and to development studies in general; 2) provide thorough analysis of the resource curse phenomenon in both theoretical and practical dimensions; 3) understand the channels and extent of the possible resource curse in Mongolia and 4) provide policy recommendations to avoid negative outcomes of resource abundance.

Second chapter concerns with the theory on the topic of a resource curse including examples of natural resource abundant countries to illustrate how different can the outcomes of resource abundance be in individual countries, and to better understand what type of policies have been used to prevent the resource curse.

Chapter three provides a brief description of Mongolia's economic development since its transformation to market economy. Special attention is dedicated to the recent mining boom.

Chapter 'Results' determines the possible extent of the resource curse in Mongolia. Analysis of current government policies as well as policy recommendations to overcome the resource curse. In this chapter hypothesis that 'Natural resource abundance has negative influence on socioeconomic development in Mongolia' will be tested through individual analysis of possible outcomes of the resource curse. Each subchapter thus tests specific hypothesis. These are following: 1) Natural resource abundance causes declining terms of trade and loss of competitiveness of non-mining sectors; 2) Natural resource abundance has negative effects on social capital and quality of institutions; 3) Natural resource abundance decreases government initiative to invest in human capital; 4) Natural resource abundance causes the domestic investments to decrease; 5) Natural resource abundance increases inflation rate, unemployment rate and external debt; 6) Natural resource abundance has negative effects on GDP growth rates; 7) GDP growth rates of Mongolia are determined by global mineral prices.

In chapter seven, results of my research are discussed and compared with literature. Limits of the research are listed as well.

The final chapter summarizes the findings of this research. Conclusion regarding influence of natural resource abundance in Mongolia and the possibility of the resource curse is then made.

2. Literature overview

This chapter will provide brief analysis of literature on the topic of resource abundance as well as overview of Mongolia's recent socio-economic development.

2.1. Influence of resource abundance – evolution

Except for the last two decades of 20th century, the established knowledge was that natural resource abundance is a great advantage, and an opportunity for developing countries (Rosser, 2006). In 1950s this view was shared and promoted by most of the mainstream academics. Common knowledge was that resource endowments are a major advantage for any country aiming for a rapid economic growth. They would enable developing countries to manage transition from underdevelopment to industrial take off, just as they had done in case of Australia or the UK. They could also accelerate development of domestic industry by providing investible funds and domestic markets.

Most mineral exporting countries had reasonably high growth rates during the 1960-1980 period, this was caused by rising prices of mineral resources (Mikesell, 1997). However, between 1980 and 1993 they suffered a steep decline of growth rates and a great number of them experienced negative per capita growth rates. In these countries, foundations for sustainable development had not been established.

As some resource abundant countries were experiencing decline of their growth rates the star performers among developing countries were resource-poor (South Korea or Taiwan). Since the late 1980s a serious change of view on resource endowments in developing countries has come (Rosser, 2006).

Extensive research indeed shows that there is a significant negative relationship between high dependence on natural resource exports to Gross Domestic Products (GDP) and economic growth rates (Sachs, Warner, 1995). Almost all of the resource abundant countries have stagnated since the early 1980s, inspiring the term 'curse of natural resources'. The empirical studies that claim the curse of natural resources actually exists include, among others, Auty (2002), Gelb (1988), Sachs & Warner (1995, 1999), and Gylfason (2001, 2004). It is not universally agreed what exactly is the cause of the resource curse and how it manifests itself.

The earliest explanations of negative influence of resource endowments were based on the structuralist view focusing on a decline in terms of exchange between primary and

manufactured production, the excessive volatility on the primary products markets and limited connections between the mining sector and rest of the economy (Torres et al., 2013).

Substantial research can also be found on negative influence of resource abundance on social stability of the country, which can shift into social conflicts or civil wars (Humphreys, Sachs and Stiglitz, 2007; Ross, 1999). Studies has shown that natural resource abundance increases the possibility of high levels of poverty, worsening institutional quality, which can lead to an authoritarian rule and/or civil war. These studies have provided evidence that natural resource abundance and poor development outcomes are correlated with one another. They have not, however, proven that resources are the cause for these bad outcomes. There are also voices being heard that are often critical towards the resource curse hypothesis. These are summarized by (Rosser, 2006). However, most of the studies on this topic show a correlation between natural resource abundance and negative growth outcomes. Nevertheless, this does not automatically imply that there is a causal relationship between these two.

In overall, while there is a strong evidence of relation between natural resource abundance and low rates of economic growth, the link between these two is neither direct nor simple.

2.2. What is the resource curse?

The resource curse itself is a puzzling condition as production of natural resources a) has been the primary source of most development, b) provides almost instant source of foreign exchange, c) attracts foreign investments, skills and technology, d) supply domestic economy with raw materials and market for manufactured products (Mikesell, 1997). However, most of resource abundant developing countries tend to struggle to use these advantages effectively.

From the beginning the harmful influence of natural resources on country's development seemed to be essentially of an economic nature. Specifically, it was suggested that natural resource exporters experienced declining terms of trade, volatile commodity prices, narrowing structure of national economy or a 'Dutch disease' a condition which I will explain in detail in following parts of my thesis.

However, later political and institutional perspective of this problem gained more attention. Now there seems to be an agreement that curse comes from causations that are more of political and/or institutional nature (Rosser, 2006). Resource windfalls tend to trigger harmful activities such as corruption and rent seeking of government officials, although there could be only minor distinction between those two. Others have suggested that dependence on resource funds leads to emergence of "rentier" states that lose the institutional capacity to supervise the economy

and increase the possibility that a country will be forcefully integrated into global economy. Many scholars have stated that the resource curse is a general tendency rather than an iron law.

Despite of extensive research on both economic and political science ends of this phenomenon a major challenge for researches has been explaining the variances among individual resource abundant countries (Stevens and Dietsche, 2008). While the majority of resource rich developing countries, especially oil countries appear to have suffered from the political or economic type of resource curse there are a few often mentioned examples of countries that seem to have avoided this curse to some extent or entirely. Usually the examples are Norway, Canada or Australia among the industrialized countries. In case of developing countries it is Chile and Botswana most notably, and then also Malaysia and Indonesia. Possible explanation of these variances has been offered with the re-emphasis on the importance of institutions in economic development, which took place since the 1990s. Institutional influence on economic development in resource driven economies will be examined further in this thesis.

The term "Resource curse" has been coined by Auty (2002). He emphasizes that mineral production occupies a specific spot in a structure of economy as it is extremely capital intensive and employs only small part of domestic workforce. Mineral production also tends to create an enclave structure of economy with most of local production being focused on mining sector. Retention of capital is also low as most of it immediately flows to overseas investors. The critical factor identified in the study is the volatile nature of natural resource sector revenues. Volatility arises from the capital-intensive production of mining which leads to market rigidity. This is manifested in series of booms and slumps.

Sachs and Warner (1995) further support the resource curse thesis. Their findings are backed by evidence that there are only 2 out of 18 developing countries included in the research that sustained even 2 percent growth during the 1970-1990 period. Results in the paper are consistent with the view that a key division that is essential for endogenous growth is tradable manufacturing versus natural resource sector. Sachs and Warner continue to argue that government policies extremely important to avoid the resource curse.

2.3. Explanations of the resource curse

In the following part of my thesis, I plan to formulate individual aspects of resource booms and their effects and consequences, negative ones in particular on economy.

2.3.1. Economic

Unequal information

Unlike following, this problem arises even before resources are extracted and traded. Governments of developing countries face significant challenges when dealing with international corporations interested in mining contracts (Humphreys, Sachs and Stiglitz, 2007). The expertise, technology and liquidity needed to begin such capital intensive production as mineral mining is in these cases usually on the side of corporations. This can produce the situations where the buyer (corporations) knows more about the goods and their value than the seller (government).

Dutch disease

The best known macroeconomic effect connected to natural resource booms is known as "Dutch Disease". The Dutch Disease theory was formed to explain the economic difficulties of Netherlands in 1970s after the discovery of natural gas in the North Sea (Philippot, 2010). Surprising result of this discovery was that local manufacturing sector experienced a steep decline. Since then, several countries had followed similar pattern. Rapid rise in the value of natural resource exports leads to appreciation in the real exchange rate, which hinders conditions for exporting non-natural commodities and manufactured products (Humphreys, Sachs and Stiglitz, 2007). This makes competing with foreign imports rather difficult (this is called the "spending effect"). Foreign exchange earned from primary exports is then used to supply imports from the international markets, at the same time, domestic capital is relocated to primary sector as a key income generator (this is called the "resource pull effect").Sachs and Warner (2001) present empirical evidence that resource rich countries tend to have higher price levels thus their manufactured products are uncompetitive and not suitable for exporting. These countries therefore miss out on benefits of export-led growth from which many other developing countries managed to gain (Murshed, 2004).

While manufacturing industry declines sectors connected to mining industry can flourish. However, when resource sector eventually experience a decrease these sectors can have serious difficulties recovering. Such crowding-out effect can lead to deindustrialization. When the world price of the export commodity goes down, boom subsides and primary commodity

exports return to their pre-boom levels and growth rate may be reduced below the pre-boom levels (Mikesell, 1997). This effect is caused by distortion of the economy by reducing output of manufacturing industry and worsened terms of trade thanks to appreciation of real exchange. Also mineral price downswings tend to emerge quickly and they call for instant compensatory expansions from the decreasing sectors.

Even if the expected endurance of the increase in commodity world prices turns out to be accurate, crowding-out effect of manufacturing industry is highly undesirable, as it brings a lot more growth potential, for example, in the form of innovations in the long run (Frankel, 2010).

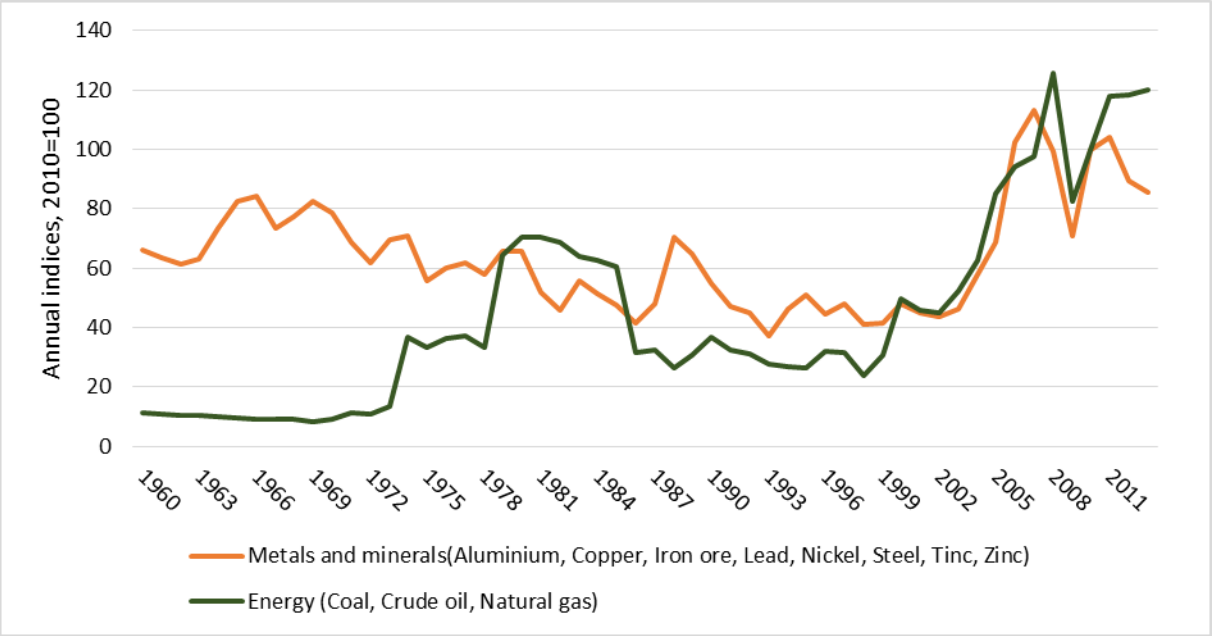
Governments of developing countries also find commodity-boom windfalls hard to utilise carefully (Auty, 2002). They tend to apply too rapid rate of domestic absorption so they increase the boom effects. This expands the service sector and reduces attractiveness of non-primary tradable sector (for example manufacturing industry) for both investors and workers. These booms can thus affect distribution of employment throughout the economy as wealth effects pull resources from other sectors.

Volatility

The issue of Dutch disease results from the quantity of resource money coming into country. Other problems arise because of the timing of these windfalls (Humphreys, Sachs and Stiglitz, 2007). Earnings from natural resource production are highly volatile. This volatility is mostly caused by three reasons, the differences between the extraction volumes over time, the variability in the times of payments from corporations to government, and of course the price of extracted resources on the world markets. Development of commodity prices is illustrated in Figure 1.1. It is easy to recognize the volatile nature of chosen commodities with constant price swings[1].

[1] Data has been selected to correspond with Mongolia's mineral production, consisting mostly of metals (mainly copper), and energy resources (mainly coal).

Figure 1.1 Annual commodity price indices



Source: The World Bank, 2014

The dependence of mineral-rich countries on exports of these resources makes their economies particularly vulnerable to external shocks and price volatility that is characteristic for markets of mineral commodities (UNRISD, 2010). Factor which is adding to the vulnerability of developing resource-rich countries is their position in the commodity value chains. While most of the upstream segment (processing or refineries) is located in developed countries, resource-rich countries are usually dependent on the segment that is most valuable to external shocks – raw materials extraction and export.

There are lots of complications with highly volatile source of revenues (Humphreys, Sachs and Stiglitz, 2007). With uncertain volumes of resource windfalls, long term planning is quite difficult. Usually, volatility in incomes transforms into volatility in expenditure. This could mean high levels of spending in good years followed by deep cuts in bad years. These swings lead to "boom and bust cycles". Too often the benefits gained in good years are temporary while the problems accumulated during the bad years endure.

The extent of these swings is often increased by international lending. When the economy is going through a boom cycle and the incomes are rising, country borrows from abroad, magnifying the boom. However, when commodity prices fall, the income decreases. Lenders demand payments and government is forced to undergo expenditure reduction as massive cuts of public financing, thus increasing the magnitude of downturn. During the oil price booms in 1970s several oil producing countries borrowed against rising oil revenues and ended up in deep

debt when the oil prices fell in 1980s. Mexico, Nigeria and Venezuela are classic examples of this phenomenon. Future resource revenues work as a guarantee that improves accessibility of international finances for resource rich countries. It makes sense to borrow and invest these funds in infrastructure, however, international borrowings has been usually wasted or stolen.

Utilisation of capital

As governments start spending their earnings, new series of problems arise. Because natural resources are non-renewable, spending of any revenues should be viewed as a consumption of capital rather than a consumption of income. If all revenues are then consumed in each period, the value of country's capital declines.

More troubles result from political pressures on expenditures, resulting into spending revenues sooner rather than later. These pressures come from many sources. Politicians with uncertain hold on power have strong motivation to project revenues into expenditures instead of leaving opportunities for future political opponents. There can be also strong pressures from population demanding rapid pace of improvements in their welfare.

Education

Sachs and Warner (2001) examine the influence of primary production booms on education of the workforce. They argue that contrary to the resource-rich counterparts, workforce in countries experiencing endogenous-growth have higher initiative to invest in their education. This process then leads to gradual innovation among the workers.

Philippot (2010) argues that in resource rich countries, public spending on education and school enrolment rates are lower than in resource-poor countries**.** As countries gain revenues through primary production, manufacturing and other production activities which require investments into human capital become less necessary for the realization of current income.

2.3.2. Political and institutional

Beyond negative influences on economy there is number of issues connected to political and institutional environment in resource countries (Ross, 1999). Quality of institutions (everything from the enforcement of contract law to the honesty of government officials) and their influence on economic growth is a topic well examined throughout the literature (Frankel, 2010). Development economists argue that weak institutions lead to wealth and income inequality, corruption, authoritarian rule and plundering of the country by some of the elites. Those who see natural resource dependence as a curse to sustainable development usually stress out the

negative effect on country's quality of institutions and governance. Some scholars agree that the institutions are really a crucial factor in resource rich countries. For countries with sound institutions, resource endowments are blessing. For those with bad institutional quality they can mean curse. They are the foundation for good growth performance and it is useless to recommend specific micro and macroeconomic policies if the institutional foundations are not supporting them (Frankel, 2010).

For example, oil dependent economies are considerably more likely to have limited political freedoms, are more likely to be ruled by non-democratic regimes, tend to have much higher rates of corruption. In extreme cases, there are higher chances of civil wars within their boundaries (Humphreys, Sachs and Stiglitz, 2007). Strong arguments suggest that natural resource dependence is connected with these issues to various extents.

Corruption and rent-seeking

High levels of corruption are the most obvious political risk resulting from large resource endowments (Humphreys, Sachs and Stiglitz, 2007). The short run availability of sizeable windfalls increases the chance that these revenues will be exploited and stolen by political leaders. Those who control these windfalls can use the wealth to keep themselves in power either through legal means (political campaigns and populist measures) or arms. Mobutu in Congo, with its enormous copper deposits and vast amounts of diamonds, zinc or gold, is often presented as an example of the later (Halvor, Moene, Torvik, 2006). Another example is Nigeria's president Abacha who was by some accounts responsible for a theft of approximately USD 3 billion.

Especially in oil-rich developing countries corruption is somehow one of the characteristics of the resource business (Humphreys, Sachs and Stiglitz, 2007). The presence of resource endowments can also support corruption indirectly. Relying on windfalls creates weak state structures that make corrupt practices significantly easier. If the power of bureaucratic caucus rises which is the usual development in resource based economies, the risk of corruption is even more aggravated.

International or local mining companies are also actor with major influence. Companies often seek the best possible way to maximize their profits. They frequently obtain the mining contracts at below market value by bribing government officials.

Dissolving of state structures

States that have the means of generating revenues from resources are then less reliant on citizens (Humphreys, Sachs and Stiglitz, 2007). Linkages between citizens and state thus become weaker. Citizens that are untaxed have less information and less motivation to engage in politics. As a result, state have less need to engage with citizens. As resource revenues are more dependent on world market prices rather than performance of the economy, governments have less of a need to engage in activities to support the economy. Thanks to massive inflows governments often become overconfident and temporarily relieved from appropriate but usually unpopular economic policy decisions (Iimi, 2007).

Detrimental effects on producing regions

The process of natural resources production itself can be quite harmful for the producing regions (Humphreys, Sachs and Stiglitz, 2007). The extraction may result in forced migration outside the region or new migration to the region. These movements can lead to population pressures and environmental pollution and degradation. Population of producing regions can also feel harmed if they see the wealth leaving the region and benefiting others even though it is their region that takes the damage.

Inequality and institutions

Resource dependence typically leads to economic inequality as revenues usually accrue to a relatively small fraction of the population (Isakova, Plekhanov, Zettelmeyer, 2012). High inequality may then negatively affect development prospects of lower classes as talented people have limited or no access to education and capital. It may then increase pressures on governments to focus policies on redistribution instead of economic development.

Resource dependence often leads to weakening economic institutions. With weak institutions, such as property rights or courts of law, economic actors do not have the right incentives and confidence to invest or innovate. This often supress growth in non-resource sectors.

International experience suggests that the outcome of resource abundance depends mostly on the initial quality of economic and political institutions. In countries where institutional quality is low it further worsens under the pressure of resource rents, while countries with strong institutional basis like Norway or Australia are more likely to be able to develop frameworks for utilisation of the windfalls.

2.4. Examples of resource-rich countries

In this part I present different countries with different outcome of resource abundance. For illustration I have chosen a comparison of two Sub-Saharan countries – Nigeria and Botswana which both share similar colonial history and resource abundance. Chile is then presented as an example of successful diversification. Azerbaijan and Kazakhstan are listed next as they are both natural resource abundant countries that share long history of socialist rule, conditions similar to Mongolia.

2.4.1. Nigeria

The most dramatic and often cited example of this phenomenon is probably Nigeria (Van Der Ploeg, 2011). Oil revenues in Nigeria increased from USD 33 per capita in 1965 to USD 325 in 2000. However, income per capita has been at the same values since Nigeria's independence in 1960 at around USD 1100 in PPP terms which makes Nigeria one of the fifteen world's poorest countries. In Figure 3.1 the harmful influence of oil price volatility is appallingly obvious as it clearly projects into country's business cycle, making the business environment highly unstable. It is clear that Nigeria's GDP growth rates were below the Sub-Saharan average for a large part of the examined period.

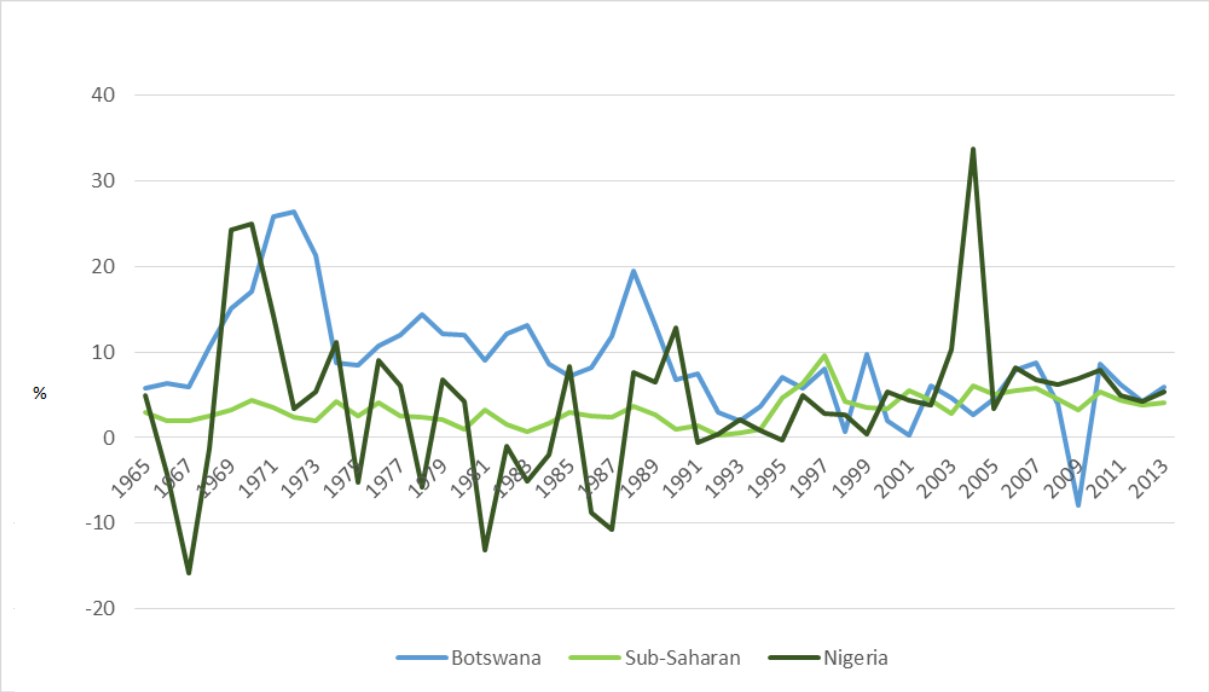
The share of population in Nigeria which survives with less than USD 1 per day has grown from 26 percent to almost 70 percent between 1970 and 2000 (Van Der Ploeg, 2011). Income inequality has also worsened in this period. In 1970 the top 2 percent shared the same income as the bottom 17 percent. In 2000 the same income as the bottom 55 percent. These numbers clearly show that large resource endowments have not helped the average Nigerian at all.

Although Nigeria has experienced physical capital growth at 6,7 percent per year, its total factor productivity has been declining by 1,2 percent per year. Manufacturing capacity utilization is around one third, thus two thirds of capacity, often owned by government, goes to waste. By the Corruption Perceptions Index Nigeria is ranked 144th out of 177 countries (Transparency International, 2014). By the Human Development Index it is ranked 152nd out of 187 countries (UNDP, 2014). Oil wealth has significantly changed politics, governance and society in Nigeria. While it reached growth rates of more than 25 percent per year during the oil peaks in early 1970s it fell deep into negative rates for a major part of 1980s.

Another example of negative influence of resource endowments can be the deindustrialization and disappointing growth experience of South Africa following the boom in gold prices (Van Der Ploeg, 2011). OPEC countries as a whole also experienced negative growth during the last

few decades, while their resource-poor counterparts with comparable GNP per capita enjoyed growth.

Figure 3.1 GDP growth rates – Botswana, Nigeria, Sub-Saharan average



Source: The World Bank, 2014

2.4.2. Botswana

Nevertheless, there are also positive examples of large resource endowments in developing countries. Botswana is one of them. Over 40 percent of Botswana's GDP comes from diamonds which is a dangerous dependence, however, it seems that Botswana managed to beat the resource curse (Iimi, 2007). It has used its diamond rents to support rapid growth that has made Botswana the most prosperous country in mainland Africa, having surpassed South Africa in terms of per capita gross national income (GNI) adjusted for purchasing power parity. It has one of the world's highest rate of public spending on education. Gross secondary school enrolment rose from 19 percent in 1980 to 80 percent in 2006. Since 1965 it enjoys relatively high rates of GDP growth (see Figure 3.1).

Botswana has developed a Sustainable Budget Index - the ratio of non-investment spending to non-mineral revenues[2] . It has also invested a portion of its natural resources into a Sovereign Wealth Fund that saves part of the diamond revenues for future generations.

Good level of institutions is believed to be one of the crucial factors of Botswana's success (Arezki, Gylfason and Sy, 2011). The Corruption Perceptions Index by Transparency International ranks Botswana 30th from 177 countries which is by far the highest rank out of all African countries. In The World Bank's "Ease of Doing Business" 2014 index it is ranked 5th in Sub–Saharan Africa. Tragically, this remarkable growth performance has been accompanied by HIV/AIDS epidemic which caused that increase in life expectancy experienced only a modest growth.

Although the volatile nature of resource exports is strikingly obvious from Figure 3.1, it is also clear that Botswana sustained higher growth rates than regional average in the examined period. Botswana's experience is even more worth noting since it was one of the poorer Sub-Saharan countries in the past. Its GDP per capita was lower than the Nigeria's in 1970 and it was even under the Sub-Saharan average for over a decade.

2.4.3. Chile

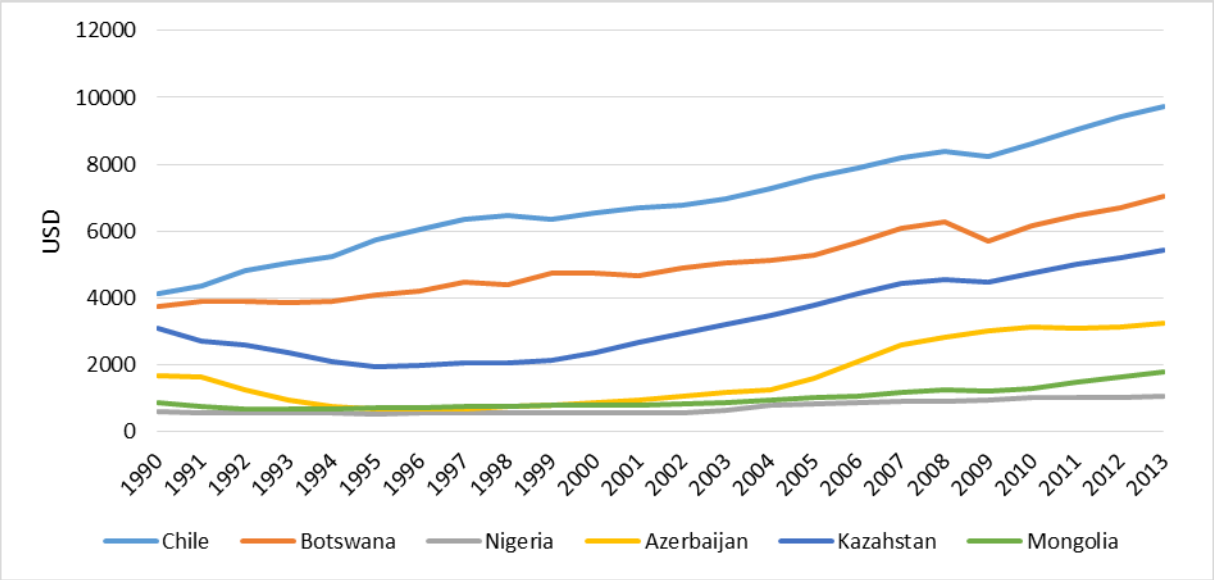
Chile, another country which is often set as an example of successful resource economy based its growth on copper exports (Arezki, Gylfason and Sy, 2011). Since its return to democracy in 1988, it has made some rapid progress and become a full-fledged democracy and a member of the OECD, tripling its real per capita GDP since 1980s (see Figure 3.2). It has opened to global trade as exports of goods and services almost quadrupled between 1960 and 2008 while sustaining low inflation rates. Secondary school enrolment is at 84 percent. It is ranked 41st in HDI and Doing Business index. It is also ranked as 22nd from 177 countries in Corruption Perception Index. Chile thus sets an example: exports, education, investment and price stability are good for growth, especially when supported by good institutions.

Key factor of Chile's success is diversification. It has not chosen the way of industrial exporter unlike, for example, Malaysia and Indonesia. However, it has developed into a dynamic and more diversified commodity exporter, with a focus on high-value primary-based products. Crucial element has been its successful countercyclical fiscal policy, using the savings from

[2] For example, in 2012 the government set the Sustainable Budget Index at 0.8 which means that no more than 80 percent of non-mineral revenues can be spent on recurrent government expenditures outside the health and education.

high copper price periods to stabilize economy when the price drops. Chile has developed prosperous salmon and wine industries. Both of these involved developing long-term public-private partnerships.

Figure 3.2 GDP per capita growth for 1990-2013 period



Source: The World Bank, 2014

2.4.4. Azerbaijan

When speaking about resource-rich but income-poor countries, two former Soviet republics – Azerbaijan and Kazakhstan are often mentioned examples. Contrary to countries mentioned previously these post-Soviet republics are similar to Mongolia as they all share long socialist history. Institutional environment can thus share certain similarities to some extent. Both countries have grown rapidly since 2000 and have so far been able to avoid any significant negative impact, although certain stresses are appearing (Brookings, 2008).

In Azerbaijan, new oil reserves which were discovered in 1990s has led to an increase in production from less than 200 barrels a day in 1997 to more than 1 million in 2010 (EIA, 2014). As per Figure 3.2, growth of oil production has transformed into national income only in the second half of previous decade. Still it is well below other resource-rich countries in terms of GDP per capita.

More than 90 percent of Azerbaijan's exports comprises of oil and gas. This implies very strong dependence. Dangerous dependence and enormous windfalls can be harmful for Azerbaijan when the institutional quality in considered. Both Azerbaijan and Kazakhstan ranked 126th out of 175 countries in the Corruption Perceptions Index 2014 (Transparency International, 2014).

In The World Bank's Doing Business they ranked 80th and 77th out of 189 respectively (World Bank, 2014). Steps are, however, being taken to soften the negative impacts on society and economy. Azerbaijan was the first country to fully comply with the Extractive Industries Transparency Initiative (EITI) (Future Challenges, 2011). It has also established national resource fund, however, contrary to Kazakhstan it has used it to expand its public spending dramatically and ran significant budget deficits. Government also borrowed excessively from abroad which, combined with the fiscal policy, created strong inflationary pressures. Kazakhstan's State Oil Fund was not so far significantly helpful.

2.4.5. Kazakhstan

The case of Kazakhstan is much similar to Azerbaijan. Unlike Azerbaijan however, Kazakhstan has been a major oil producer for a long time (since 1911) and it has second largest both oil reserves and production among the former Soviet republics, just after Russia (EIA, 2014). Massive production begun in the 1960s and 1970s and since the mid-1990s, with a help of major international companies, Kazakhstan production soared. Daily production was estimated to be 1,64 million barrels per day in 2013.

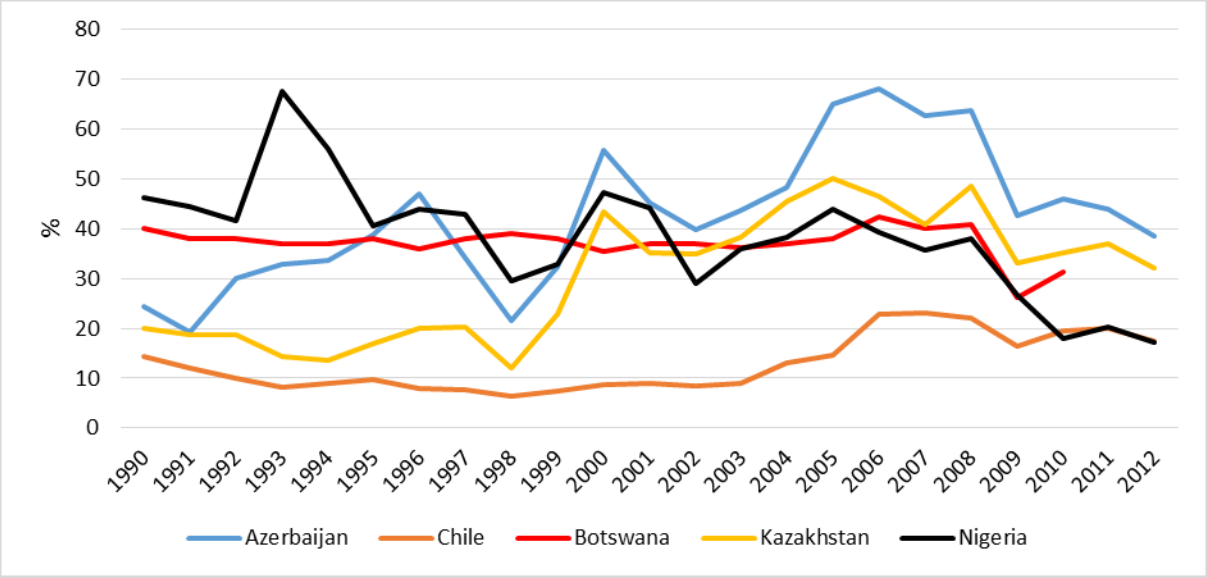
Contrary to Azerbaijan, Kazakhstan is often praised for proper utilisation of its national oil fund which is monitored by the national bank (Brookings, 2008). Thanks to high oil prices and rising production, Kazakhstan ran large overall budget surpluses and kept budget deficits small. It generally did not use National Fund assets to support budget or off-budget spending. As a result it has accumulated a large National Fund, as it is called, which is currently at USD 93,9 billion, it is expected to rise to USD 122,1 billion in 2016 (Tengrinews, 2013). In following years Kazakhstan plans to invest heavily into the national economy, specifically infrastructure projects which should boost transit shipment and improve exports to global markets.

Out of 65 resource rich countries, only 4 of them managed to achieve long term investment exceeding 25 percent of GDP and an average growth of GDP above 4 percent - these are: Botswana, Indonesia, Malaysia and Thailand (Gylfason 2001). Three listed Asian countries have achieved such positive results by industrialization and economic diversification. But still, they haven't been as successful as their neighbours Hong Kong, Singapore and South Korea, countries with minimal natural resource supplies.

In Figure 3.3 we can see that among selected resource-rich developing countries, Nigeria was one of the most resource-dependent country. Again, the changes in natural resource rents share can clearly illustrate how dangerous can dependence be when it is combined with such high

levels of volatility. Chile, on the other hand, has been able to sustain low rates of resource dependence while experiencing strong economic growth and development.

Figure 3.3 Natural resources rents (% of GDP)



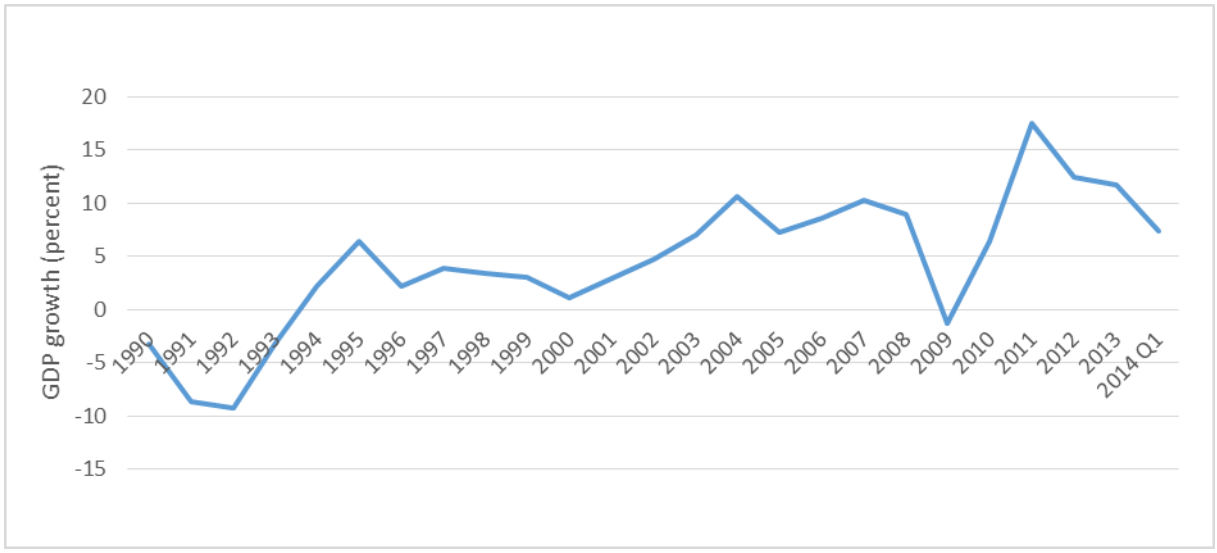
Source: The World Bank, 2014

3. The case of Mongolia – an overview

Mongolia is a country that bears the legacy of the famous conqueror Chinggis Khaan. It is landlocked between two superpowers – China and Russia and it has a long history with both its neighbours. In the late 17th century it came under Chinese rule (CIA, 2014). Mongolia then won its independence in 1921 with Soviet backing and communist regime was installed in 1924. The modern country of Mongolia, however, represents only part of the Mongols' historical homeland; more ethnic Mongolians live in the Inner Mongolia Autonomous Region in the People's Republic of China than in Mongolia. In 1990 it undergone peaceful revolution and transformed into democracy.

It is the world's scarcest populated country and a large part of its territory is covered by the Gobi Desert. Mongolia is known for its vast steppes and traditional nomadic lifestyle. However, in the course of the last 20 years Mongolia has transformed itself from a socialist country to a vibrant democracy with booming economy (The World Bank, 2014). Since its peaceful revolution it has seen deep recession, because of political inaction and natural disasters as well as economic growth thanks to reform-embracing, free-market economics, major privatization of formerly state-run economy, and recently and most notably – mineral mining boom. Summer droughts and harsh winters (dzuds) in 2000-2002 resulted in massive livestock die-off and thanks to the strong dependence of the economy on agriculture, it caused lower GDP growth rates. Since 2002 there has been a period of high growth rates (see Figure 4.1). Growth averaged about 9 percent between 2004 -2008, this performance was initiated by high copper prices. Such impressive growth rates were followed by a soaring inflation.

Figure 4.1 GDP Growth



Source: The World Bank, 2014

This performance was interrupted by the global financial crisis in 2009 (Polemics, 2012). Mongolia was one of the worst hit countries by the crisis in East Asia. The significant dependence on its mining sector made the economy vulnerable to price swings in commodity markets. Copper prices fell from USD 8700/tonne in April 2008, to USD 3000/tonne in March 2009 - a 65 percent reduction. Unemployment also skyrocketed during this period. It reached over 13 percent in 2009. This suggests that Mongolian government has created a linear relationship between the health of the mining sector and health of Mongolia's economy as a whole. However, unemployment tend to show highly seasonal pattern due to difficult work conditions in the harsh winter, reaching the highest levels in first quarter especially in the areas that are heavily dependent on seasonal businesses such as construction, agriculture, mining or tourism.

However, with global commodity markets stabilizing and a vision of operating two large mines in the near future the economy managed to bounce back and even surpass the pre-recession rates. This strong recovery may also be attributable to other factors including strong policy response from the authorities, major assistance from the International Monetary Fund in a form of USD 242 million stand-by loan, and strong growth from China (ResCap, 2011).

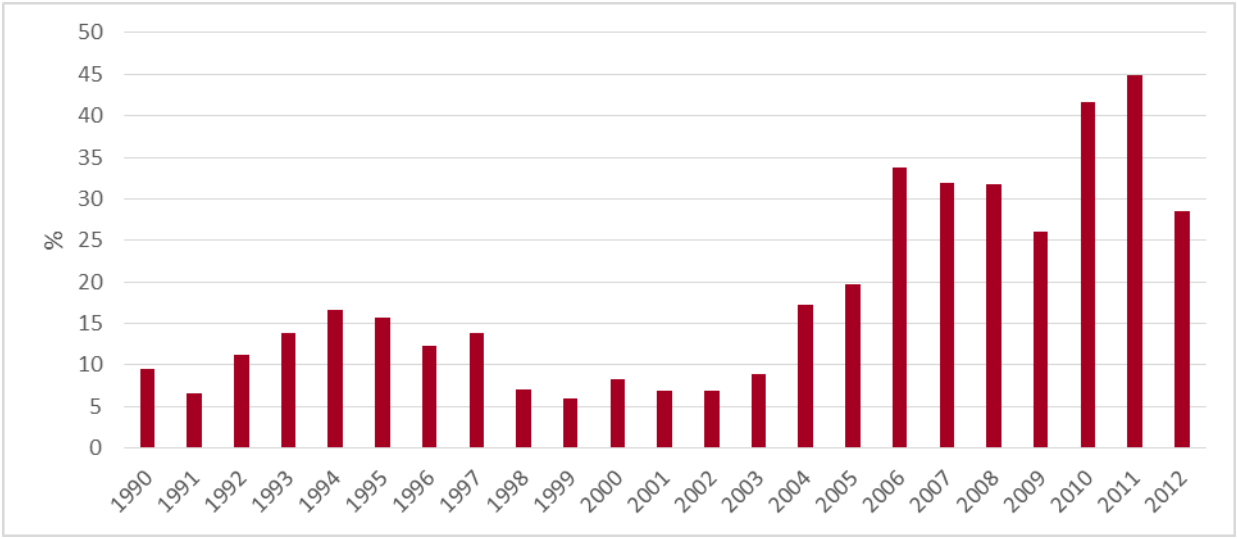
Thanks to its enormous natural wealth, Mongolia, which until recently attracted only little attention from foreign investors, quickly became exceptionally attractive for the mining and financial giants of the world.

3.1. Mining sector

Since the exploitation of its vast resource wealth Mongolia is on the path of major transformation driven by the roaring mining sector. The estimated value of total resource supply is about USD 1,3 trillion. The government's attempts to create a proper investment environment through tax reforms and other legal instruments is paying off. Large number of both small and large scale investors are actively interested in Mongolia nowadays and helping to start growing number of different projects.

Such performance is not only due to increase of resource exports as the manufacturing and construction sectors experienced some growth too (Polemics, 2012). However, commodity exports increased dramatically and it is supposed to remain the main driving force. This is caused by a rise in trade with the People's Republic of China (PRC) due to its hunger for Mongolia's minerals and energy fuels which feed China's roaring economy. Mongolia's mineral sector demonstrates exceptional growth, as share of natural resources on country's GDP steadily rises (see Figure 4.2).

Figure 4.2 Mongolia's natural resources rents (% of GDP)



Source: The World Bank, 2014

3.1.1. Mining projects

Thanks to its booming mining sector, Mongolia is often being called "Minegolia" (Fair Observer, 2012). Mongolia's growth story began in 2009 when the government signed a massive contract with Ivanhoe, a Canadian mining company, and the London-based giant Rio Tinto which formally assumed management of the project, to explore as much as 32 million tons of copper and 1200 tons of gold at the Oyu Tolgoi (OT) mine, located in the Gobi Desert, about 80 km north of the border with China. It is located on one of the world's largest undeveloped copper-gold resources.

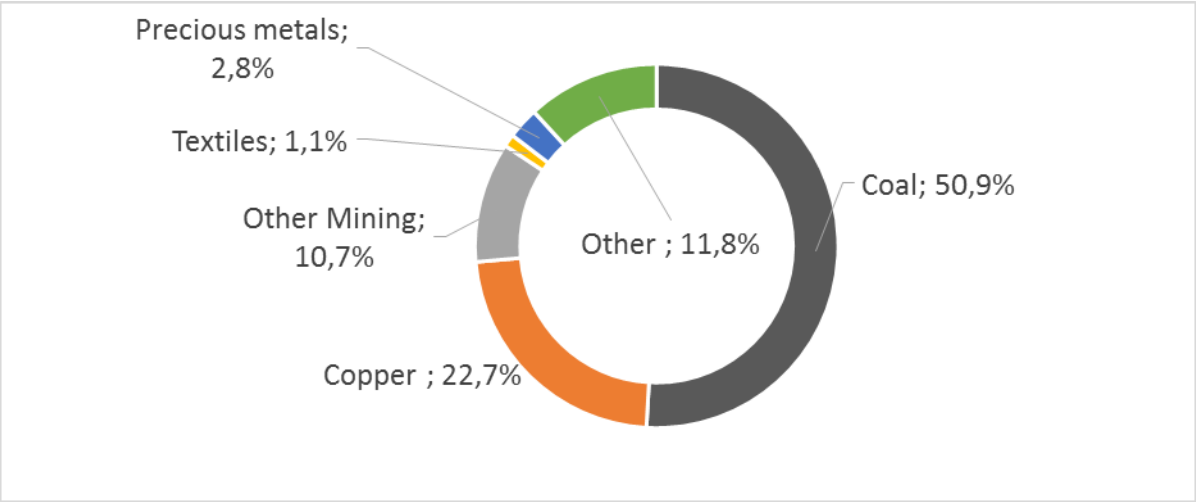
It should reach its full production capacity by 2017-18, supplying 450 000 tonnes of copper a year, a figure that is close to three percent of the total world output (Isakova, Plekhanov, Zettelmeyer, 2012). It will produce an ore concentrate on site which will be shipped by road to international markets. Launching production is estimated to require investment of over USD 4 billion, rising funds to USD 18,6 billion over its production period. According to the International Monetary Fund, the government of Mongolia will be the largest beneficiary from this enormous mining project. Mongolia will receive up to 71 percent of the project's cash flow. The mine's supply is expected to last at least fifty years (Oyu Tolgoi, 2014). Estimates say that in 2020 when the mine will be fully operational, it will create up to third of Mongolia's GDP. Unfortunately for all interested parties, this mammoth project is currently on hold as Turquoise Hill Resources that is majority-owned by mining giant Rio Tinto is in dispute with Mongolian government over claims of unpaid taxes and penalties; the firm is also in disagreement over fees it is owed.

Second crucial mining project is Tavan Tolgoi which is estimated to hold reserves of over six billion tonnes of coal (Isakova, Plekhanov, Zettelmeyer, 2012). Mine is also located in South Gobi, 240 km north of the border with China and 150 km far from Oyu Tolgoi. The site has been operational since 1967 but with substantially lesser production volumes. It is estimated to be the largest coal reserve in the world.

3.1.2. Mining exports

Mongolia's exports remain strongly concentrated in just few items. About 84 percent of all exports are related to mining. From the Figure 4.3 it is clear that the impetus behind Mongolia's mining boom so far is coal. It comprises for more than 50 percent of total exports. Mongolia has exported above 21 million tons of coal in 2011 with value over USD 2,2 billion (see Figure 4.5) (IMF, 2014). It has increased its production of coal almost sevenfold since 2006. With new mining operations being built, this number is expected to rise.

Figure 4.4 Division of Mongolia's exports



Source: World Trade Organization, 2014

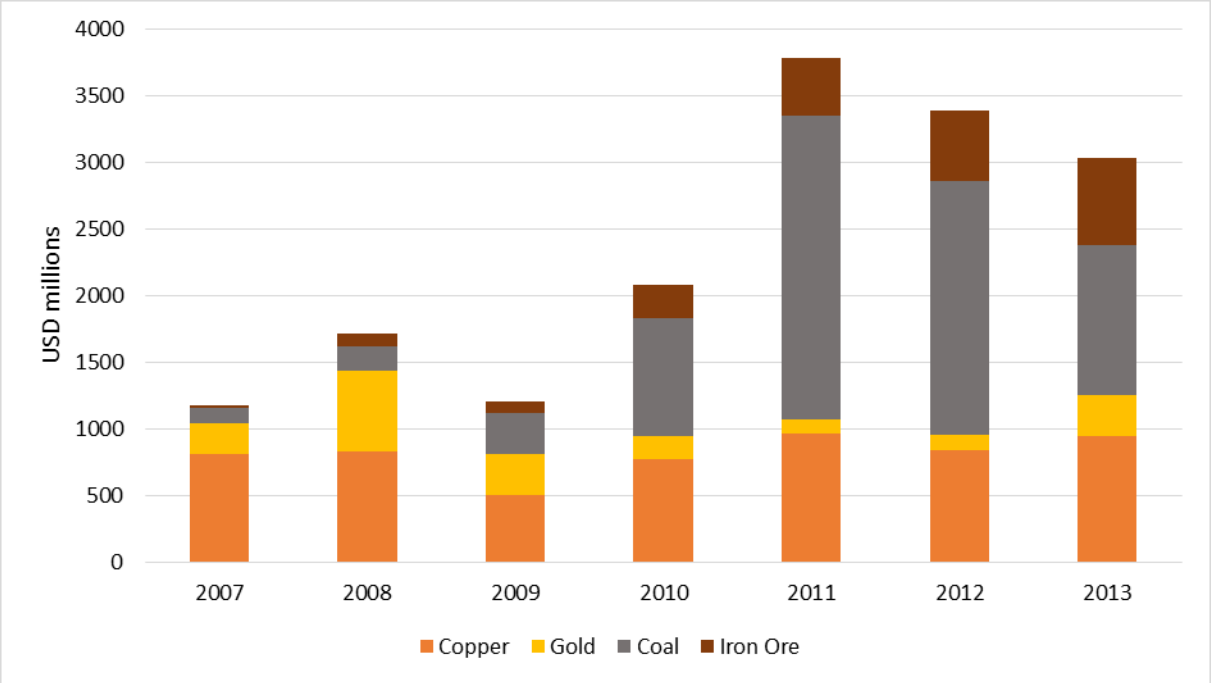
Thanks to its proximity to the world's biggest coal consumer –China, demand for newly mined coal is assured. About a quarter of Tavan Tolgoi reserves consist of high quality coking coal which is one of the main inputs to steel production (Rescap, 2011). Most of the coking coal fuels furnaces of Chinese heavy industry. The PRC has stopped exporting coal in 2007 and its imports of coking coal grew from 8,5 million tonnes in 2008 to 50 million tonnes in 2010, figure that represents only 8 percent of country's consumption.

Mongolia is ranked 2nd in the world by copper reserves and when Oyu Tolgoi, the gigantic gold and copper mine will be fully operational, copper, its primary product is expected to surpass coal in value of exports by far.

Iron ore is also one of the commodities with high importance to Mongolia. Iron ore mining commenced in 2007 and is continuously increasing in recent years both to supply domestic metallurgical plants and to feed the expansion of steel production in China (Oxford Business Group, 2014). In 2012 Mongolia produced 7,56 million tons and exported 6,42 million tons. Mongolia plans to benefit from increasing demand from the north-western Chinese steel mills and the deteriorating quality of Chinese iron ore to increase exports beyond 20 million tons by the end of decade. It now accounts for 8,7 percent of all Mongolian exports.

Besides above mentioned commodities, Mongolia's output has become more diversified. Growing output of gold and iron ore should be soon matched by production of tungsten, uranium and rare earths over the next decade.

Figure 4.5 Total value of selected exported commodities



Source: International Monetary Fund, 2014

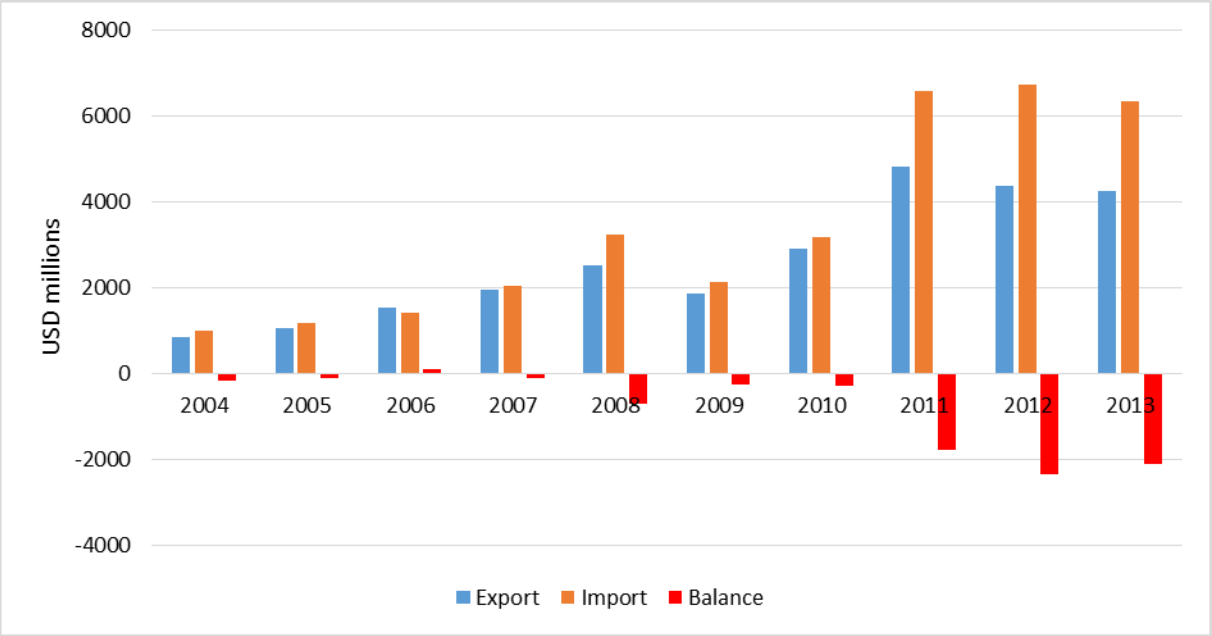
3.2. Economy

Despite the recent growth, the domestic market is quite small and purchasing power is low (UNCTAD, 2013). Addressing this limitation Mongolia has adopted an open trade policy, however, as a landlocked country with limited infrastructure it faces high transport costs. Its geographic location also means that it is heavily dependent on the infrastructure and policies of China and the Russian Federation to access international markets outside the region.

In the last decade, Mongolia's trade increased significantly and its trade deficit has widened as well (see Figure 4.6). Trade balance has dropped significantly in the course of last three years as global demand for minerals experiences decreased. Almost the full volume of exports are commodities and almost 80 percent are minerals. This creates a dangerous vulnerability to international price volatility. Also, agricultural products that account to 15 percent of exports, are highly vulnerable to seasonal changes (weather conditions and natural forces). Animal husbandry is the most important agricultural sector. In the cruel winter of 2010 it suffered a loss of 10 million heads of livestock which reduced the sector's output by 19 percent.

Imports are composed of energy fuels (mostly from the Russian Federation) and industrial components. China is by far the most important trading partner absorbing over 90 percent of all exports and accounting for almost 45 percent of all imports (WTO, 2014). Many Mongolian lawmakers fear that this overdependence weakens Mongolia's bargaining position on commodity prices.

Figure 4.6 Mongolia's balance of trade



Source: World Trade Organisation, 2014

Today, the share of mining in GDP is above 20 percent (The World Bank, 2014), however, it reached staggering 44 percent in 2011 (see Figure 4.2) and with new operations working, this number is expected to rise again. Manufacturing accounts for about 7 percent of GDP and agriculture's share is around 14 percent, however, agriculture still employs almost third of Mongolia's workforce. Composition of the GDP ilustrates Mongolia's alarming reliance on mineral extraction and commodities, very low industrialization of the economy and its limited diversification.

Manufacturing sector accounted for almost one-third of the economy just before the democratic revolution (Oxford Business Group, 2014). There was a solid light industrial capacity, mainly meat processing, dairy products and textile industry. However, once Soviet subsidies ended, demand dropped and many enterprises were forced to close down. Manufacturing dropped steadily for more than a decade after the democratic revolution, and it suffered another blow in 2005 when the Multi-Fibre Agreement has ended. This system gave countries like Mongolia an advantage thanks to quotas limiting large economies, such as China or India. This was great blow to local manufacturers, especially in the textile industry, which was estimated to be the number two export, just after minerals.

Any diversification through development of manufacturing sector faces some great challenges. Main one is quite obvious – China. Mongolia simply cannot match quality or price of anything what is mass-produced. Mongolia's geographic location is also far from convenient. With no

ports, landlocked between two countries, far from any overland markets, and given its poor infrastructure, exporting is quite difficult. Besides increased cost of transporting, labour is also relatively expensive in Mongolia and with mineral windfalls flowing into the country, pressures on wages are increasing.

3.3. Infrastructure

Coal is the dominant source of energy in Mongolia and about 28 percent of total domestic production is used for heating and electricity production (Asian Development Bank, 2014). There is no natural gas available in Mongolia and all refined oil is imported, mainly from the Russian Federation. Mongolia has very high development potential in renewable energy sources (e.g. wind, hydro and solar).

Energy intensity is more than two times higher than in OECD countries but it is comparable to Kazakhstan. Both countries' industrial sectors are mining oriented, this leads to excessive demands for energy. Both countries also share a cold climate which translates into long heating seasons. In Mongolia, heat access is a matter of survival as winter temperateures can range from -20˚C to -40˚C, thus demand for heating is more than twice that of electricity.

Demand for electricity and heating has almost doubled in the last decade due to development of mining sector and increasing urbanization. However, no significant investments have been made to meet the growing demand. The existing facilities providing heating and electricity are dated back to the Soviet era, they are inefficient and vulnerable. There is a strong need for major investments in production capacities and infrastructure otherwise electricity and heat supply crisis may occur in the near future.

Mongolia's transport infrastructure is one of the main obstructions for attracting foreign investors and economic development. Only some 12 percent of the roads is paved (UNCTAD, 2013). There are strong interests for building heavy load traffic roads in the mining areas, however, non-mining areas with small population density are neglected. Railroad system is preferred for most of Mongolia's international trade but its coverage and freight capacity is limited. Two railway lines that would connect Mongolia to Chinese rail network are projected, however, the country's railway network has been built using the Russian broad gauge which is incompatible with international standard (also used in China) this creates an additional obstacle to trade. Government is also reserved regarding such projects as it would like to diversify its exports outside of China. However, most of the mineral exports are still being transported by trucks. This is often criticized as ineffective.

First step is to develop properly the mining sector itself, by attracting the necessary expertise and providing the required infrastructure. The quality and extension of existing infrastructure is quite low (as mentioned before). Global Competitiveness Report 2014-2015 ranked Mongolia 112nd in terms of infrastructure quality (World Economic Forum, 2014). This is well below other developing countries with large mining sectors such as Chile (49th), Botswana (101st) or both post-Soviet resource-rich countries Azerbaijan (70th) and Kazakhstan (62nd).

3.4. Foreign Direct Investment

Mongolia is in the group of countries with the highest growth potential over the next decades (UNCTAD, 2014). Investors from all over the world are well aware of this fact as their investments flow into Mongolia's economy. FDI have a crucial role to play in economic development and are extremely important for diversification which should be one of the top priorities for future Mongolia.

Mongolia's FDI history is quite recent, however, very dynamic. Between 1996-2000 FDI averaged only USD 29 million annually but surged to USD 4,6 billion in 2011-2012 which is outstanding growth when we compare Mongolia to other resource-rich developing countries. This increase is even more impressive in relative terms. FDI inflows per capita averaged only USD 12 between 1996 – 2000 but reached USD 1 625 in 2011-2012. This shows that FDI has grown to become one of the most important components of Mongolia's economy as it accounted for about 50 percent of GDP in 2012 which is the highest share among examined resource-rich developing countries.

FDI has also significant impact on fiscal revenues. Companies with foreign investments accounted for 48 percent of total tax revenue in 2011-2012. Such companies are also important in terms of employment, by the end of 2012 they accounted for roughly 7,7 percent of total employment in the country. However, there is an evidence that the large mining companies are absorbing majority of the English-speaking workforce in the labour market by offering higher wages. This is one of the early symptoms of the resource curse, as it could lead to slowdown in innovations.

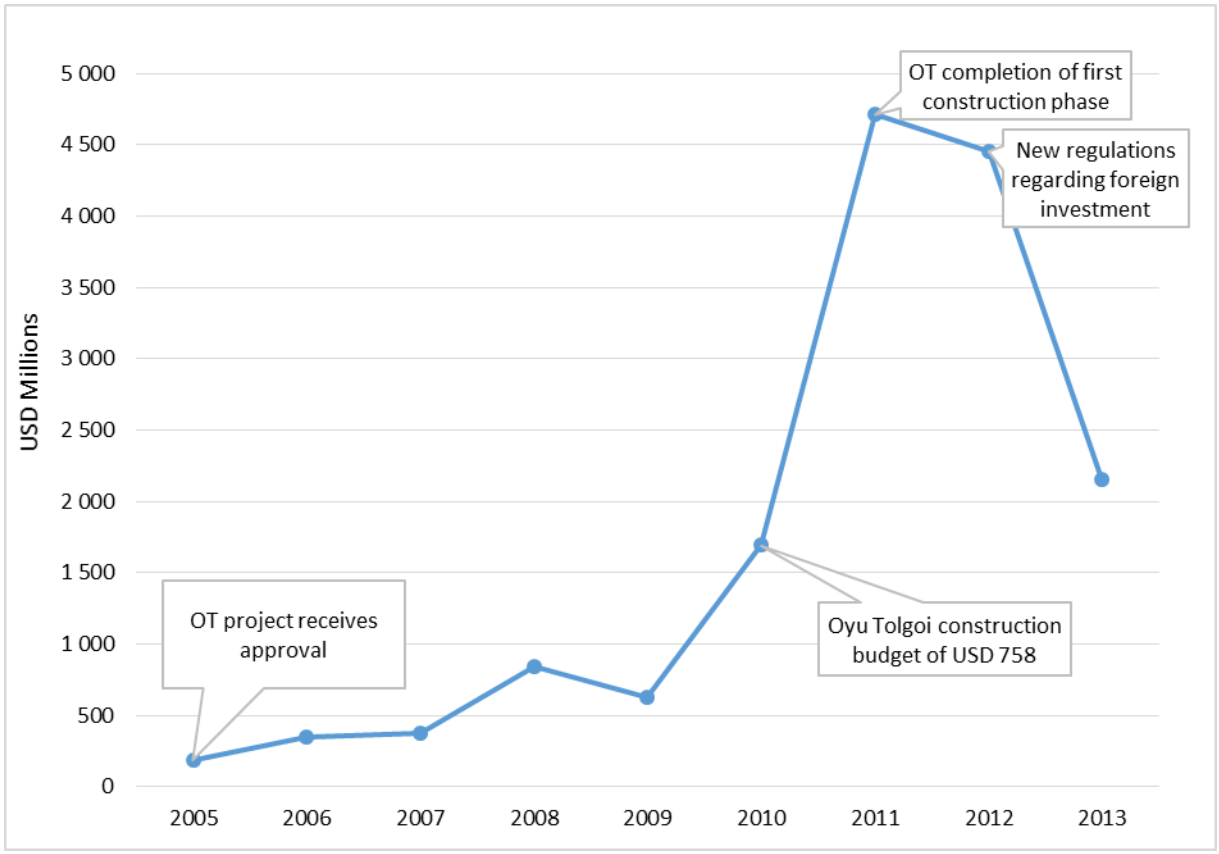
There is limited FDI in services and manufacturing and if so they are based almost solely in Ulaanbaatar. Without decisive policy action, these imbalances could grow and can become harmful for Mongolia's economy. For example, 71 percent of foreign direct investment went to the mining sector whereas only 1 percent went to the communications and IT sectors. Nevertheless, FDI has played some role in Mongolia's infrastructure development and in the

future, the contribution could be even greater. Russian investments helped build Mongolia's railway system and investments in telecommunication have helped expand the country's mobile network and internet connections. Another example of relative success could be the growth of cashmere industry. A modern, export oriented industry which was partly financed by the Japanese FDI.

Since its transition to a market economy, Mongolia has received only limited amounts of FDI. However, in the second part of the 2000s inflows began to increase dramatically as Mongolia's government allowed foreign investors into its mining industry. The Oyu Tolgoi mine is the project that significantly contributed to this increase and explains the spikes in the volume of FDI inflows (see Figure 4.7). As a result of the mining boom, FDI inflows grew almost nineteen fold in the last five years.

Mongolia has been hit hard by the global financial crisis, FDI inflows to the country fell by 26 percent in 2009. However, they quickly recovered in 2010 with a phenomenal growth of more than 170 percent. In 2011 there was also significant increase in non-mining FDI. This growth continued, however, mining FDI experienced a decrease.

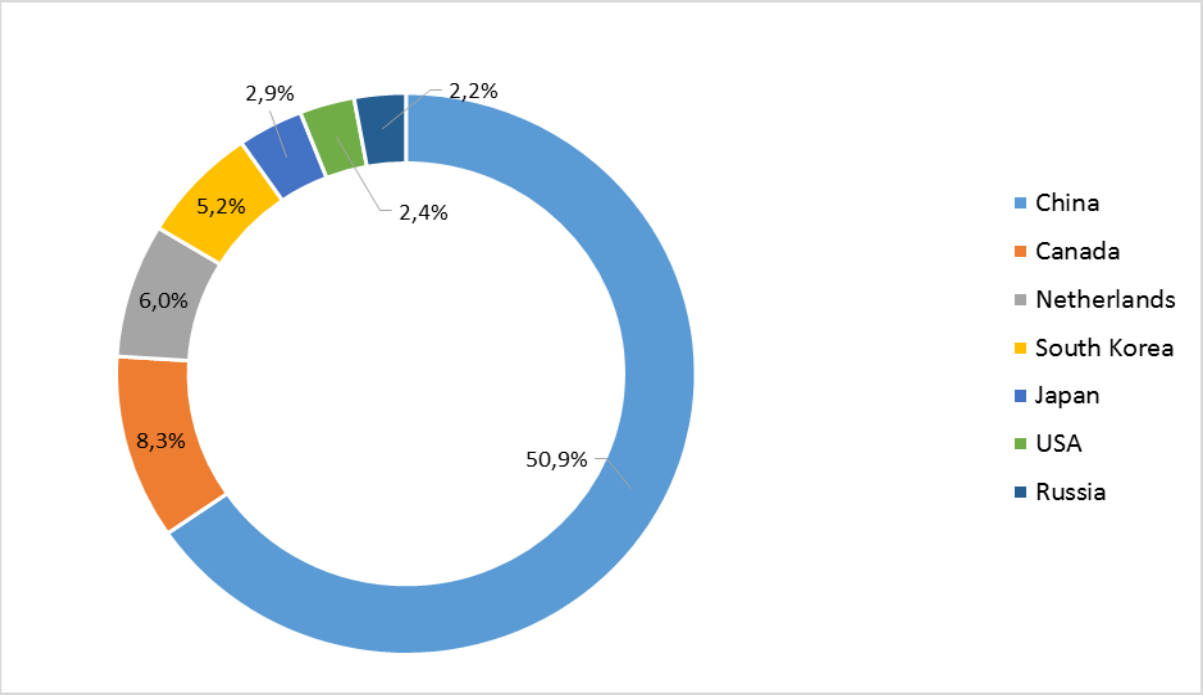
Figure 4.7 FDI inflows



Source: The World Bank 2014; UNCTAD 2013

However, gains from FDI are not guaranteed. Since Mongolia has begun its supreme growth, FDI has been quite skewed by both sector (mining) and country of origin (China). Figure 4.8 clearly shows this dominance in FDI. Mongolia's drive to increase the FDI inflows into its mineral sector has led to overdependence on Chinese investments. Country's legislation allowed Chinese businesses to dominate Mongolia's small and medium sized mines. Partly or entirely Chinese financed companies of small and medium sizes most likely account for majority of active Mongolian mining companies. Chinese state-owned enterprises also play an increasingly important role in major investment projects as OT or Tavan Tolgoi. In response to this, Mongolian government passed a law regulating foreign investment in 2012. This law gives government greater control over investments, however, it was followed by strong criticism from foreign investors and by a drop in FDI inflow.

Figure 4.8 FDI inflows by the country of origin



Source: Oxford Business Group, 2014

3.5. Social development

Despite 15 years of continuos economic growth poverty started decreasing only in the last couple years. In 2012 more than 27 percent of population lived below the national poverty line compared to 38,7 percent in 2010 it is a considerable drop. However, the income inequality is high and increasing over time. There is a perception among many people of rising inequality in terms of income distribution, but also in terms of access to opportunities such as a good education, a good job, or just to get a decent healthcare.

As the economy slows, the question is what effect will it have on poverty leves and income inequality (The Asian Foundation, 2014). Thanks to high rates of inflation, the costs of living in the capital have already increased significantly. This increase affects the poor to a much higher extent. There is also a clear divide in rural (35,5 percent) and urban (23,2 percent) poverty levels. Herders in the countryside struggle to preserve their dissolving traditional livelihood with fewer job opportunitites for young generations. This causes migration of rural population into cities, mostly into the capital, which now accounts for nearly 50 percent of total population (BTI, 2014). This movement has been boosted even more after the massive livestock die-off during the 2009's dzud. Most migrants have only limited skills and experience to offer on the urban marketplace, therefore they face difficulties in securing employment. This increases the share of poor people in urban areas.

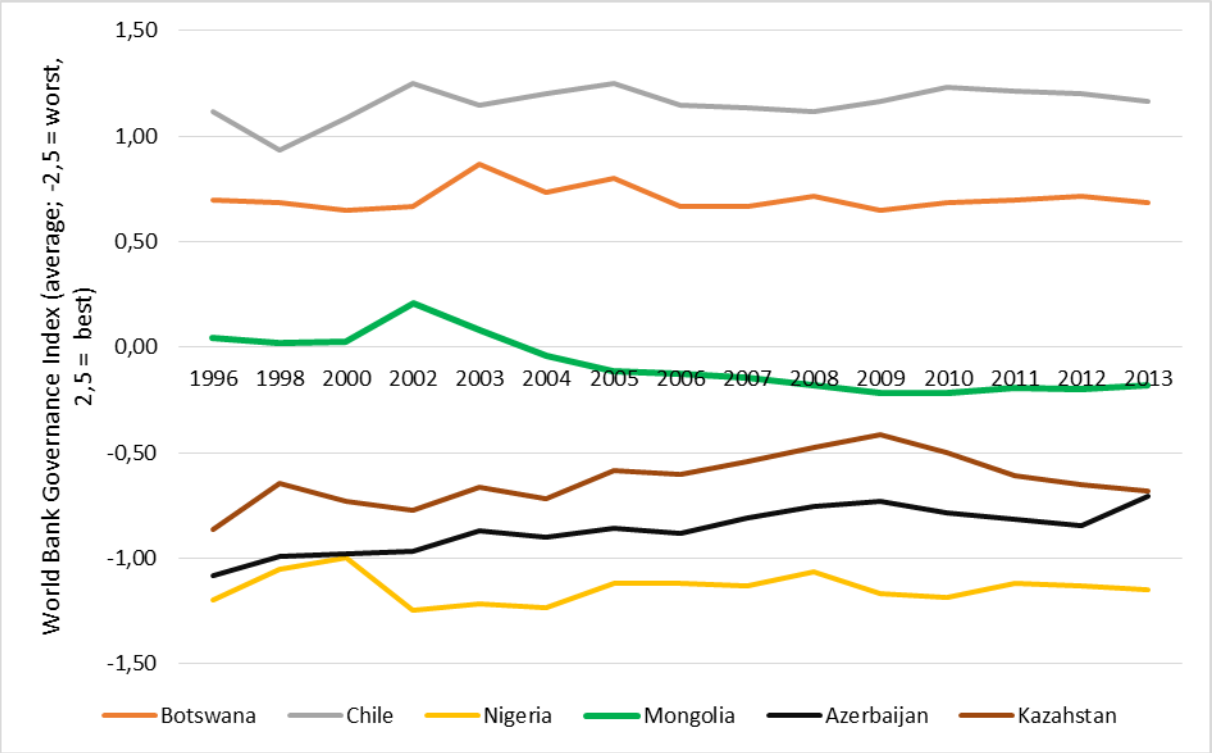
Ulaanbaatar's popuplation has increased by 70 percent over the last 20 years but the capital's infrastructure has not been aple to keep up with the growth (Global Institute For Tomorrow, 2012). According to a World Bank's report on Mongolia's Infrastructure Strategy, only 20 percent of the population lives in comfortable apartments connected to urban services. More than 50 percent live in traditional Mongolian tents – Gers which are used also in the poor districts of the largest cities. These tents are not connected to central water system and they lack any heating. During extreme Mongolian winters, residents can only use poor quality stoves or boilers fuelled by coal, black tar dipped bricks and car tires. This extremely adds up to the existing problem of air pollution, specifically PM2,5 (Particular Matter smaller than 2,5 microns) which can cause serious respiratory illnesses (The World Bank, 2014). Average exposure to the PM2,5 throughout the year was found to be 10 times higher in Ulaanbaatar than the Mongolian Air Quality Standards. Ulaanbaatar, the world's coldest capital can thus become the world's most poluted capital in terms of air quality.

3.6. Institutional quality

We could say that Mongolia is on an instutional borderline (Isakova, Plekhanov, Zettelmeyer, 2012). It has entered the mining boom with relatively solid institutions. According to the The World Bank's Worldwide Governence Index (WGI), it has scored well above the two post-Soviet resource-rich countries Azerbaijan and Kazahstan (see Figure 4.9), countries that both share the history of a communist regime. Nevertheless, when compared to the advanced resource-rich economies such as Chile institutions in Mongolia are rather weak. Since 2002 the WGI has been gradually declining (see Figure 4.9). The largest decrease occurred in Control of Corruption and Rule of Law, indices not less than critical for avoiding the institutional resource Curse.

From such development one important issue arises, Mongolia is on the verge of becoming one of the countries where insufficient insitutions further detoriated under the pressure of commodity rents as discused in theoretical part of this thesis. Mongolia's chief challenge will be to reverse this trend and improve the quality of its economic and policital institutions.

Figure 4.9 The World Bank Governance Indicators average



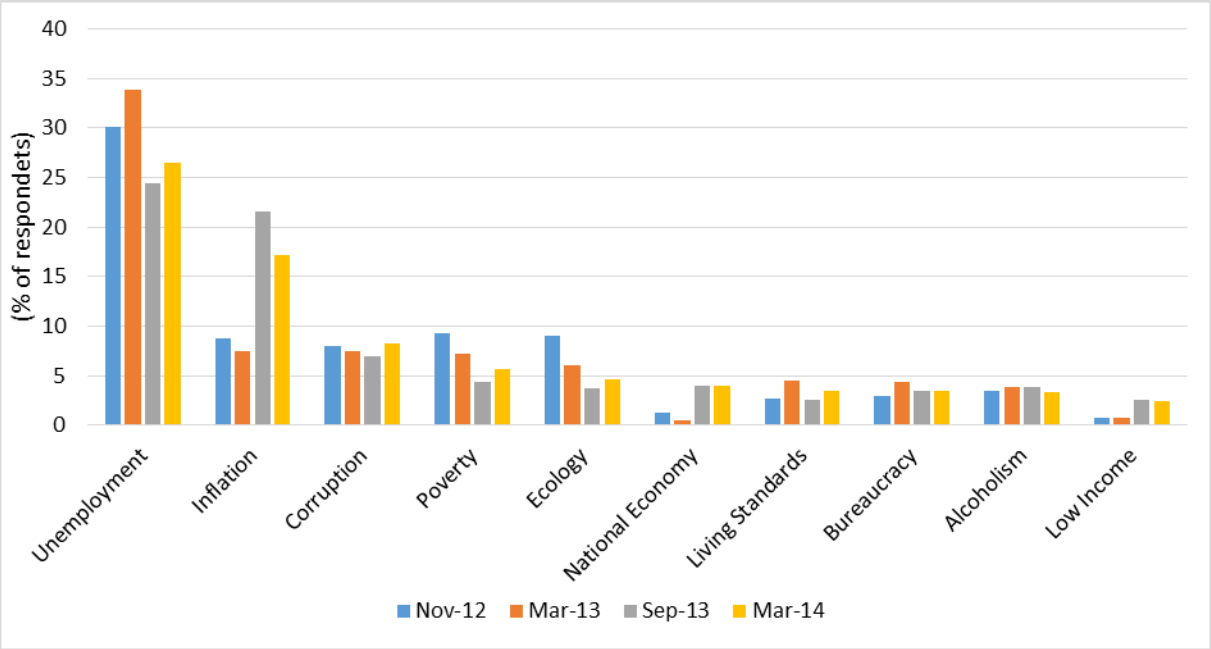
Source: The World Bank, 2014

The World Bank's Doing Business Survey indicates that there is a lot of space for improvements in this area. In Doing Business 2014 report, Mongolia ranked 72nd out of 189 countries which is below both post-Soviet resource-rich countries Azerbaijan and Kazakhstan (The World Bank, 2014). Considering that in 2010 Mongolia ranked 52nd from 178 countries, the results are even more worying. In particular, Mongolia scores very low in the areas of starting a business, construction permits, access to electricity, trade across borders and insolvency resolutions.

Survey on Perceptions and Knowledge of Corruption (SPEAK) 2014 by The Asian Foundation, surveyed 1360 households. It implies that perception of corruption as a major problem decreases (The Asian Foundation, 2014). In 2006 when SPEAK was conducted for the first time, corruption ranked as the second most critical issue with 29 percent of respondents thinking that it is the most crucial. In 2014, only 8 percent of respondets mentioned it as the most critical issue (see Figure 4.10). When combating corruption there are three serious considerations: the legal environment, the institutions that are expected to implent the laws, and the culture. About 80 percent of respondents thought that the legal environment in Mongolia is not satisfactory. There is a question whether this shows general dissatisfaction or lack of understanding of the legal environment, however, in both cases the understanding and participation of the population

is a key factor for improvement. Regarding the place of corruption in Mongolia's culture, not much has changed since 2006. Still, more than third of respondets believe that some levels of corruption should be acceptable and is part of business culture.

Figure 4.10 Perception of major problems from 2012-2014



Source: The Asian Founfation, 2014

According to the Transparency International's Corruption Perception Index, Mongolia has improved substantially in fighting corruption (Peterson Institute for International Economics, 2013). The index ranked Mongolia 98th out of 174 countries in 2012 which is a considerable improvement from 2011 when it ranked 120 out of 182. There is not only a statistical evidence of development in Mongolia, in August 2012 former president Nambaryn Enkhbayar was sentenced to four years in prison after being found guilty of corruption, earlier in the same year, former chairman of the Mineral Resource Authority D. Batkhuyag was sentenced to six and a half years for illegaly issuing mining licenses. The question is whether such affairs are sign of successful struggle against corruption or its extension among the top of country's representatives.

3.7. Environmental aspects

Mining boom is also creating serious threats to Mongolia's environment (The Wilson Center, 2012). It is not only polluting air, water and soil, but threatening the country's limited water resources with overuse. Particularly coal mining is extremely water demanding and it is driving a critical water – energy confrontation that resembles issues in China's dry and coal-rich north.

Mongolia is a very dry country, especially in the south where annual precipitation averages less than 50 mm. Mongolians have centuries of experience adapting their agriculture and nomadic livestock herding to water scarcity. However, today water is heavily consumed by the mining industry as mining operations need water for production. Coal production also use water for cleaning to enhance the quality of coal.

Also, the demand for electricity is projected to increase fivefold from 2012 to 2030. Most of the demand is expected to be met by coal power plants which use large amounts of water for cooling. Both energy facilities and mining operations are or will be built in water-scarce areas. Nation's water scarcity issue is even more exacerbated by fast urbanization, as these problems are most notable in the capital. Water quality is also a growing issue. Most people collect water from unprotected water sources which are being more and more often polluted by livestock and waste disposal.

There are strong worries over water rights in Mongolia. Oyu Tolgoi itself is projected to consume up to 920 litres of water per second for the next 30 years alone. As OT and other mines continue to swallow such huge amounts of surface water, herders throughout Mongolia are forced to relocate. Often, herders thus abandon their traditional way of life due to water scarcity and move to a city.

Overlapping structure of government's water management most likely prevented creating clear regulatory measures to halt the excessive water drain by mining. A 2009 study by the Mongolian Ministry of Nature concluded that 852 rivers, 1 181 lakes and 2 277 springs have dried up mainly due to poor management of forests and mines. Especially in the dry south where most of the mining facilities are located, there are strong worries about continuous desertification. The excessive thirst of mining industry shows no sign of slowdown, it is expected to consume up to 200 000 m^3 per day by 2020 which is 22-fold increase from the 2009 daily demand of 9 000 m^3.

Some government regulations encourage poor mining practices. For example, high windfall taxes were set on gold mines and government mandate that all gold mined in Mongolia must be

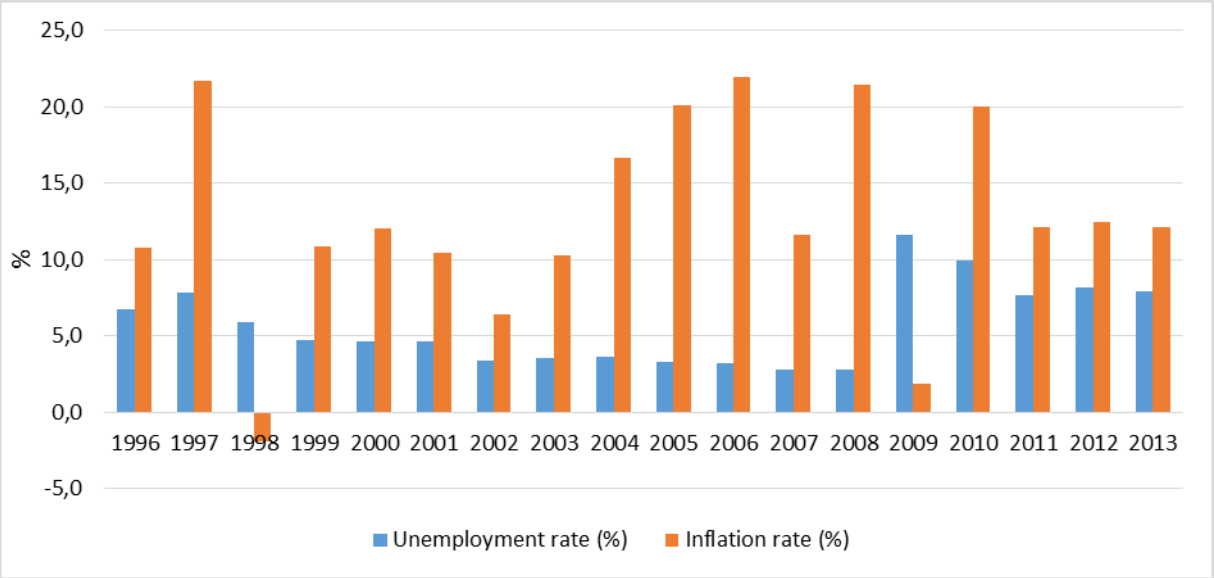
sold to Mongol Bank at a fixed price encouraged number of small and medium sized mines to operate illegally outside the regulated mining industry. Among those there is about 100 000 so called ‘ninja miners’. These miners dig countless holes, leave behind quantities of unprocessed waste, and poison local area water with mercury and sodium-cyanide (chemicals used to extract gold). The areas in which they operate become uninhabitable and ruined for grazing. Some believe that these unregulated mines pose the greatest threat to Mongolia’s rivers and water supplies. Water pricing system is also strongly criticized as it clearly subsidizes industry.

But priorities are apparently straight for Mongolian government. Decision of the Minister of Road, Transportation and Construction and Urban Planning’s to suspend all coal exports to China from Tavan Tolgoi due to environmental damage was suspended by Ulaanbaatar.

3.8. Current tensions within the economy

Impressive growth performance and extensive government spending are followed by soaring inflation rates (see Figure 4.11**)**. High inflations threatens not only to hinder economic growth, but can also cause political instability, however, government seems unable to deal with it. After falling as low as 1,8 percent during the recession period it resumed its upward trend by 2010 reaching values of 20 percent. This year the Consumer Price Index hovers around 14, such high and volatile values point to the overall instability of the economy. Inflation has eased slightly in the last two years, but remains persistently high due to high food prices and expansionary fiscal policy which has led to demand side pressures in an already overheating economy (BTI, 2014). Much of this was due to popular pressure to increase wages with civil servants receiving a wage increase of some 50 percent. According to IMF, limiting expenditures is critical to address the overheating economy issues.

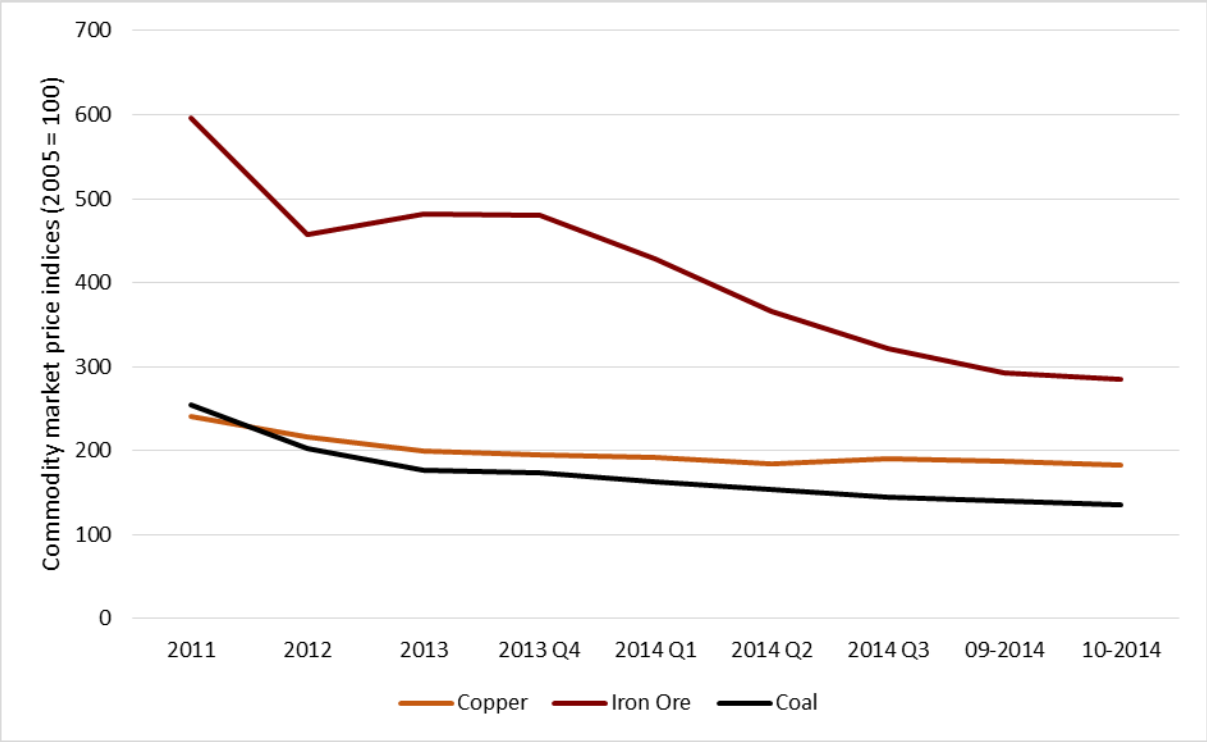
Figure 4.11 Unemployment and inflation rate



Source: The World Bank, 2014

In Figure 4.5 we can't overlook the fact that the value of exports have decreased in two consecutive years. In Figure 4.12 we see that market prices of Mongolia's primary export commodities are experiencing continuous decrease since 2011. Considered that these three commodities make up to around 80 percent of Mongolia's exports, such development should be considered alarming. In 2015, weak commodity market situation will most likely continue (The World Bank, 2014). Global metal prices are expected to fall about 5 percent in 2014-2015 as new supplies will combine with weaker demand, especially from China. Specifically iron ore and copper are expected to decline the most.

Figure 4.12 Price indices of major export commodities



Source: The World Bank, 2014

As examined earlier in this thesis there has been a significant drop in the financial inflows to the country recently. FDI as a share of GDP has dropped from 60 to 20 percent. This can be connected again to the OT project (The World Bank, 2014). Construction has been ongoing for several years, but financing decelerated lately after the phase-one investment has been finished. This drop can also be linked to a change in government policies and debates regarding strengthened regulations on foreign investments. In May 2012 a new foreign investment law was introduced. It aimed at giving the government more control over foreign investment activities in the country. Some welcomed the regulation as a sign of clarity and necessary safeguard against excessive foreign control (especially from China). However, lots of aspects of this regulation were unclear and vague. It also led some foreign investors to suggest that the investment climate in Mongolia is deteriorating. Government promised revising the regulation to find a balance between private and public sector. As it gains more knowledge of mining sector and foreign investors the government realizes that it needs improved legislation that is more detailed and specific if the country is to control its resources to its own prosperity.

Such a major decrease in FDI inflows resulted into heavy balance of payments pressure in 2013 as current account deficit remained close to 30 percent of GDP for the third consecutive year. Weak global mineral market added to this pressure and thus the lack of capital inflow with

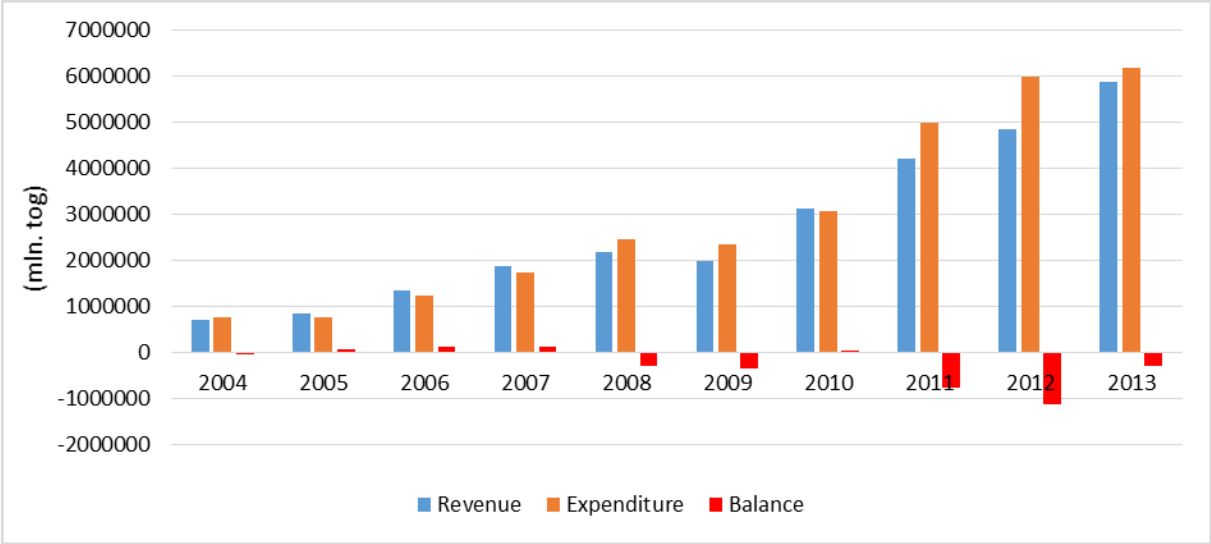
persistent large current account deficit puts strong tension on local currency value and foreign exchange reserves (ResCap, 2014). A trade deficit can be expected to some extent in case of economy in an early stage of developing massive mining projects as it requires growing imports of mining investment and equipment. However, current account deficit reached extraordinary level during high growth period as it was further fuelled by fiscal and monetary policies. Balance of trade could be further distorted by steadily depreciating currency which is now on its 10 year minimum. Even the debt rating agencies have downgraded Mongolia's outlook and various related credit rating. Years of expansionary policies have contributed to domestic vulnerabilities placing sectors, such as banking and construction at particular risk.

In 2013, Mongolian government and monetary authorities implemented strong economic interventions to sustain double-digit growth rates as the country experienced a major drop in FDI inflow and decrease in commodity prices (The World Bank, 2014). The central bank injected liquidity equivalent to about 20 percent of GDP to boost the economy and mitigate deficit rising. This policy achieved its goal and induced high growth, however, it also came with significant balance of payment pressure and high inflation.

In 2014 the economy is undergoing dynamic changes in response for the large external and internal imbalances. Economic growth slowed to 7,4 percent in the first quarter of this year, significant drop from 12,3 percent from the last quarter of 2013. Although strong growth of mineral GDP at over 27 percent, non-mineral GDP growth dropped to 3 percent in first quarter of this year, down from 15,6 percent in the previous quarter. Domestic demand is now under tension from high inflation and currency depreciation.

This development also projects itself into the government budget balance has been negative for three consecutive years (see Figure 4.13).

Figure 4.13 Government budget balance



Source: IMF, 2014

4. Methodology

I use both qualitative and quantitative methods to analyse possible resource curse effects in Mongolia. Comparative approach will be used to analyse similar cases in history. Both quantitative and qualitative data will be used to give general overview of the recent socio-economic development in Mongolia. Quantitative data will then be used to evaluate to what extent the natural resource abundance can be harmful for Mongolia, and to what extent it is facing a resource curse. This will be done in the chapter "Results" where quantitative data will be used to determine the correlation between natural resource dependence and recent socio-economic development in Mongolia.

Social, political and economic indicators has been chosen due to their frequent occurrence in the fundamental literature on resource curse. As per most of this literature, negative outcomes of resource dependence are: 1) declining terms of trade and loss of competitiveness in non-mining sectors (Dutch disease); 2) deteriorating quality of social and institutional capital; 3) less education and human capital; 4) less domestic investment; 5) less growth than countries less dependent on natural resources; I've also chosen to add following indicators: 6) the overall health of the economy, and 7) external volatility based on global mineral prices. These indicators will be examined over time. Selected period of time for this research is 1996 to 2013.

As this thesis aims to analyse the influence of natural resource dependence, all the indicators used in research will be tested for a correlation with the 'Share of mining on exports (%)' indicator from the National Statistical Office of Mongolia.

For the Dutch disease hypothesis, following indicators will be used: Exports (USD mln.); FDI inflows (USD mln); Agriculture, value added (% of GDP); Manufacturing, value added (% of GDP); Services, etc., value added (% of GDP) from The World Bank.

For the Social capital and institutional quality hypothesis, following indicators will be used: GINI coefficient (1998, 2002 and 2008 only) from The World Bank; Transparency International Corruption Perception Index (2004 – 2013 only); Institutional quality will be measured by the following The World Bank Worldwide Governance Indicators: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government effectiveness, Regulatory Quality, Rule of Law, Control of Corruption.

For the Human capital and welfare hypothesis, following indicators will be used: Public spending on education (% of GDP), Public spending on health care (% of GDP), Public spending on social security and welfare (% of GDP) from the Asian Development Bank.

For the Investment hypothesis, indicator of Domestic investments (bln tug) from the National Statistical Office will be used.

For the Overall health of the economy hypothesis, indicators of Inflation (%), External debt (2000-2011 only; USD millions) and Unemployment (%) from The World Bank will be used.

For the GDP growth hypothesis, indicator of GDP growth (%) from The World Bank will be used.

For the volatility hypothesis, indicator of GDP growth (%) will be used instead of 'Share of mining on exports (%), prices of the following export minerals will then used to determine dependence between these variables: Copper (USD/mt), Coal (USD/mt), Iron ore (USD/mt). All these variables come from The World Bank.

Results of these indicators provide a good overview of the interaction between the state, the economy, and the society. Based on the results of these tests for period between 1996 and 2013, it can be concluded whether negative resource abundance effects appear in Mongolia.

5. Results

In this chapter, hypothesis that 'Natural resource abundance has negative influence on socioeconomic development in Mongolia' will be tested. It will be tested through different resource curse channels. Each subchapter thus tests specific hypothesis. These are following:

1) Natural resource abundance causes declining terms of trade and loss of competitiveness of non-mining sectors.
2) Natural resource abundance has negative effects on social capital and quality of institutions.
3) Natural resource abundance decreases government initiative to invest in human capital.
4) Natural resource abundance causes the domestic investments to decrease.
5) Natural resource abundance increases inflation rate, unemployment rate and external debt.
6) Natural resource abundance has negative effects on GDP growth rates.
7) Economic growth of Mongolia is determined by global mineral prices.

5.1. Channel I: Dutch disease

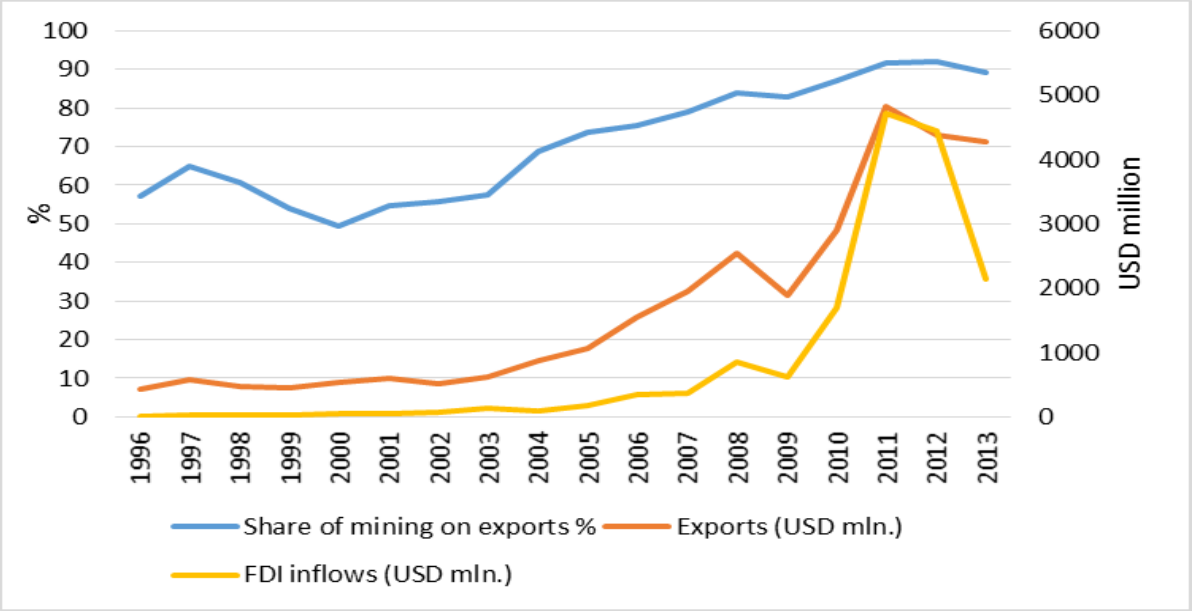
There is evidence across literature proving that sudden large inflows of resource windfalls have negative effects on competitiveness of the economy, through declining terms of trade. This means that country will as a result of currency appreciation export less in total and also receive less FDI. Loss of competitiveness then translates into a decrease in non-resource sectors (Humphreys, Sachs and Stiglitz, 2007; Philippot, 2010). To determine whether Mongolia suffers from the Dutch disease, test for declining terms of trade and non-mining sectors will be conducted.

Dutch disease hypothesis is "Natural resource abundance causes declining terms of trade and loss competitiveness of non-mining sectors.

5.1.1. Declining terms of trade

As mentioned before, an abundance of natural resources creates the possibility for the Dutch disease to occur. It has negative impacts on the competitiveness of economy. Resource-rich countries which are strongly dependent on commodity exports have to face declining terms of trade in such way that they will export less and also that they will receive less FDI (Gylfason, 2004).

Figure 5.1 Mineral dependence, Exports and FDI



Source: National Statistical Office, 2014; The World Bank, 2014

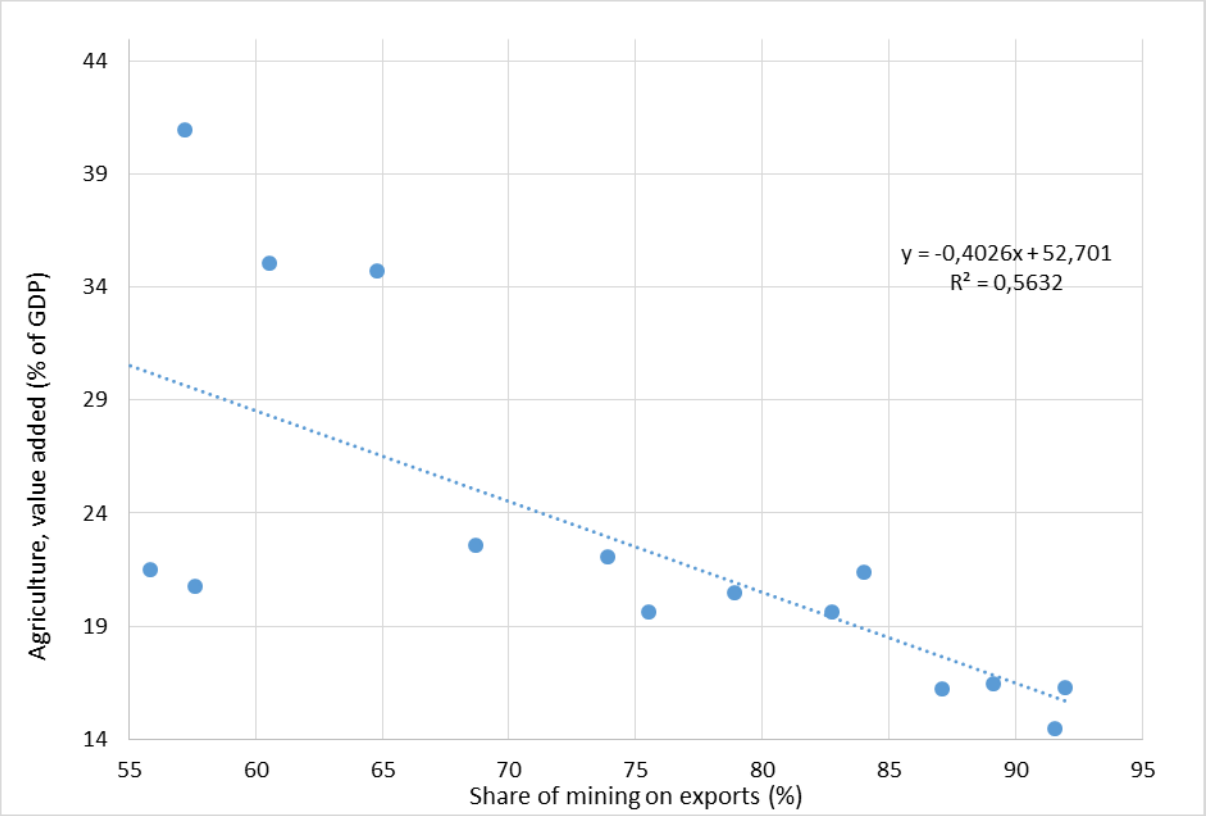
Figure 5.1 shows that over the period 1996 – 2013, Mongolia has not decreased value of its exports in overall terms. The same applies for FDI. Since 2011, we can observe steep decline in both exports and FDI. Foreign investment slowdown is caused by completion of OT's most expensive construction phase, as well as changes in foreign investment regulations. Drop in exports can be partly explained by weak commodity markets and decrease in demand from China. Generally, slowdown in both FDI and exports can be connected to current dynamics and volatilities which is this rapidly growing economy going through, rather than signs of the Dutch disease.

5.1.2. Declining non-mining sectors

Another sign of the Dutch disease can be observed in overall decrease of non-mining sector of the economy (Humphreys, Sachs and Stiglitz, 2007) while manufacturing sector is the most vulnerable one (Mikesell, 1997). Auty (2002) also emphasizes that sudden commodity windfalls artificially inflates the service sector.

Agriculture sector

Figure 5.2 Mineral dependence and agricultural sector

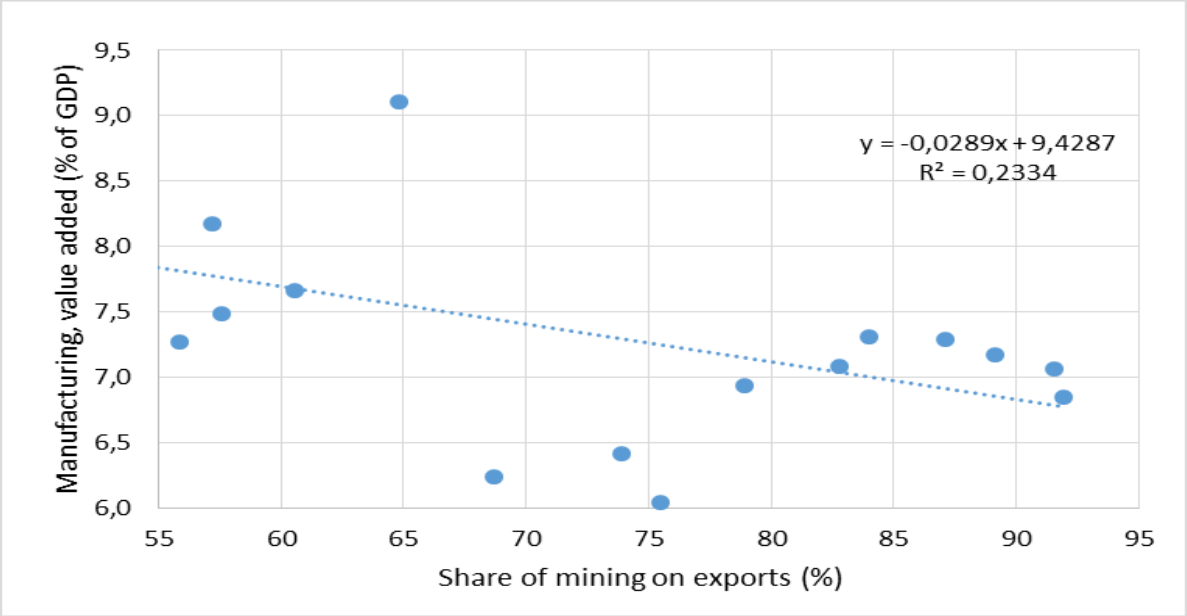


Source: National Statistical Office, 2014; The World Bank, 2014

From Figure 5.2, we can clearly see that with rising dependence on mining, agricultural sector decreased significantly over the observed period, as it dropped from 40 percent to 16 percent. Correlation index R= -0,75044 indicates strong negative influence of mineral dependence on the agricultural sector. As mentioned in the previous chapter, this drop is partly caused by mass migration of rural population into urban areas. Severe conditions during the winter in 2009 which caused deaths of about 22 percent of total livestock in Mongolia can also be connected to this decrease.

Manufacturing sector

Figure 5.3 Mineral dependence and manufacturing sector



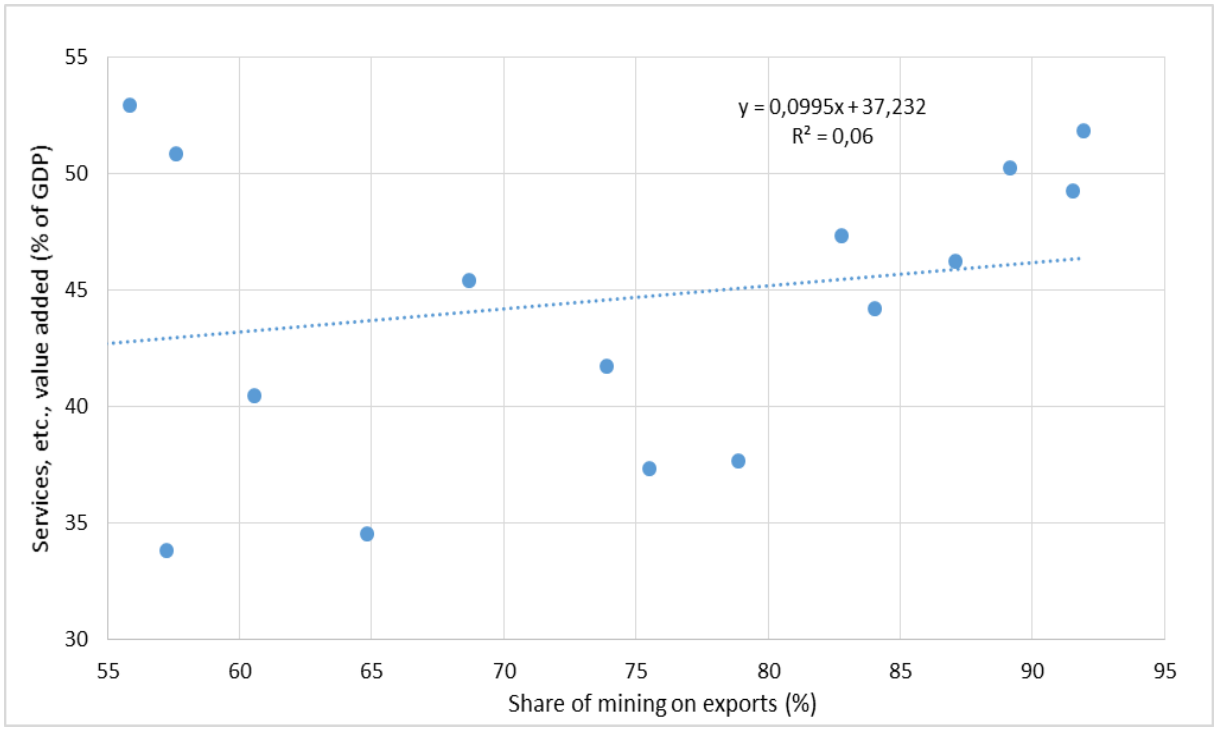
Source: National Statistical Office, 2014; The World Bank, 2014

Similar to agriculture, value added of manufacturing relative to GDP also experienced a decrease over the selected period, however, due to fast growth of GDP, the relative share of Manufacturing could not keep up. Compared to agriculture, the decrease in manufacturing has not been so significant, however, the GDP share of manufacturing was substantially lower than of agriculture. Correlation index R = 0,48308 shows relatively weak correlation, however, this is again caused by low value added during the whole selected period.

Service sector

GDP share of the service sector was the only one which experienced an increase over the selected period. It grew by almost 12 percent, however, correlation index R =0,24504 indicates weak correlation.

Figure 5.4 Mineral dependence and service sector



Source: National Statistical Office, 2014; The World Bank, 2014

This growth may also be connected to inflating of the service sector by the sudden inflow of resource cash (Auty, 2002). Utilisation of the commodity windfalls requires increases in the size of the state sphere which is part of the service sector. These windfalls also attract financial institutions which are strongly linked to the financial flows from the resource sector. However, in case of falling commodity prices and/or weak demand for minerals, these segments are not able to substitute the mining sector as a primary source of revenue.

After experiencing a continuous stagnation or decrease, manufacturing and agricultural sector can have troubles recovering (Murshed, 2004). In case of quick mineral price downswings, these sectors are expected to provide compensatory expansions which attributes them a critical importance. As mentioned in the theoretical part of my thesis, manufacturing sector also brings a lot more growth potential through innovations in the long run (Humphreys, Sachs and Stiglitz, 2007). Compared to the mining sector, manufacturing and agricultural sector also employs larger workforce, in case of manufacturing this means increasing human capital. Agricultural and manufacturing sector also provide better distribution of wealth as nearly all mining revenues are distributed through central government, a process which is often hindered by corruption, rent-seeking and bad governance.

According to these findings, Mongolia does not suffer from declining terms of trade resulting in decrease in exports and FDI inflows which often occurred in countries affected by the Dutch disease. However, declining agricultural and manufacturing sector is another characteristic of this phenomenon, development that is taking place also in Mongolia. Dutch disease hypothesis has not been confirmed in case of Mongolia.

5.2. **Channel II: Social capital and institutional quality**

Besides adverse economic effects, natural resource abundance can have strong impact on social capital and quality of institutions (Humphreys, Sachs and Stiglitz, 2007). Social capital is measured through inequality and corruption. Institutional quality is then measured by The World Bank Worldwide Governance Indicators.

Hypothesis thus says: "Abundance of natural resources has negative effects on social capital and quality of institutions".

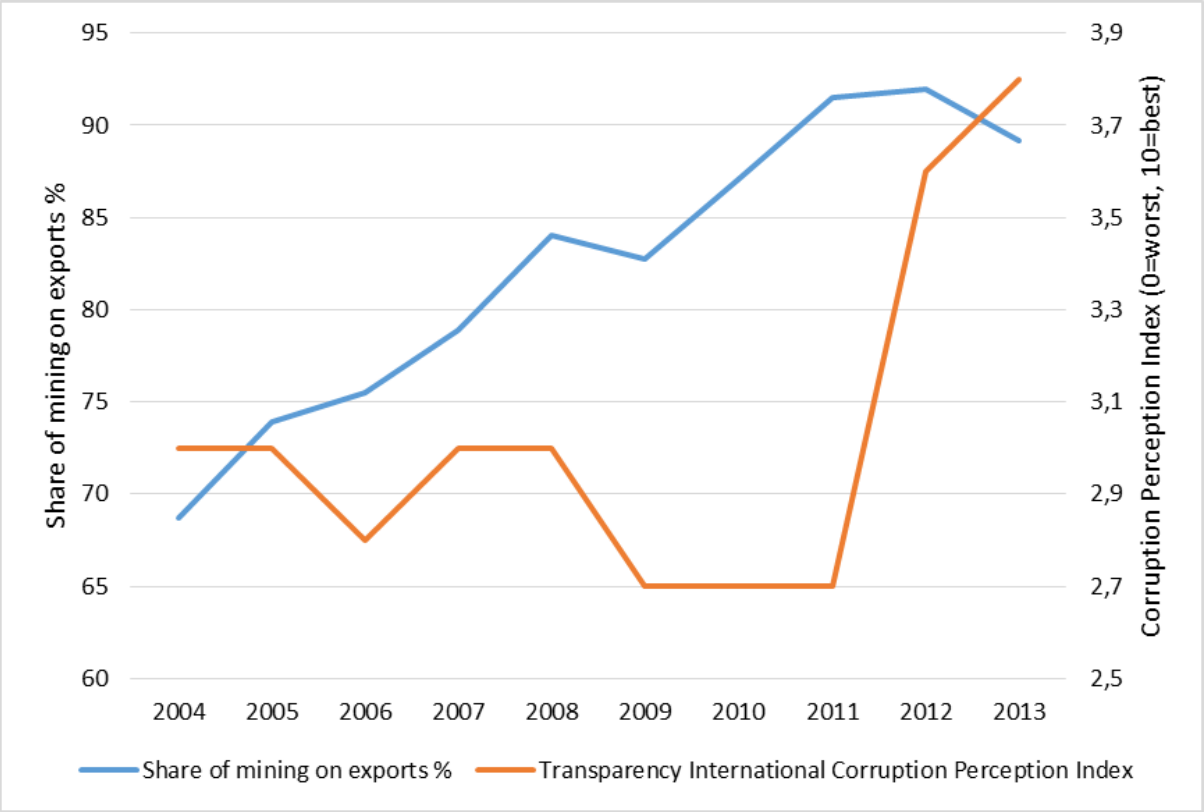
5.2.1. Inequality

Inequality is measured by GINI coefficient which ranges from 0 to 100 (higher number means higher inequality). The quantity of data for inequality in Mongolia is very limited. There are three available records for 1998 (30,3), 2002 (32,84) and 2008 (37) (The World Bank, 2014). Such results indicate relatively equal distribution of wealth in the society. The rising trend of inequality is associated with increasing living standards in the capital where most of the windfalls flow.

5.2.2. Corruption

Corruption is measured by the Transparency International Corruption Perception Index (CPI) which ranges from 0 (worst) to 10 (best). Unfortunately, figures for Mongolia are available only since 2004. In Figure 5.5 we can see that Mongolia scored very low in terms of corruption perception and the score even deteriorated over the selected period. Since 2011 there has been a solid increase in index values. However, these positive results are distorted due to change of methodology used to construct the CPI since 2012. Further information about corruption conditions in Mongolia, Control of Corruption index is also listed among The World Bank Worldwide Governance Indicators in the following part.

Figure 5.5 Mineral dependence and Corruption Perception Index



Source: National Statistical Office, 2014; Transparency International, 2014

5.2.3. Institutional quality

To measure the quality of institutions in Mongolia The World Bank Worldwide Governance Indicators (WGI) are used. These vary from -2,5 (worst) to 2,5 (best) (The World Bank, 2010). These indicators are divided into three groups, each consisting of two indicators:

1) The process by which governments are selected, monitored and replaced (Voice and Accountability; Political Stability and Absence of Violence/Terrorism).

2) The capacity of government to effectively formulate and implement sound policies (Government effectiveness; Regulatory Quality).

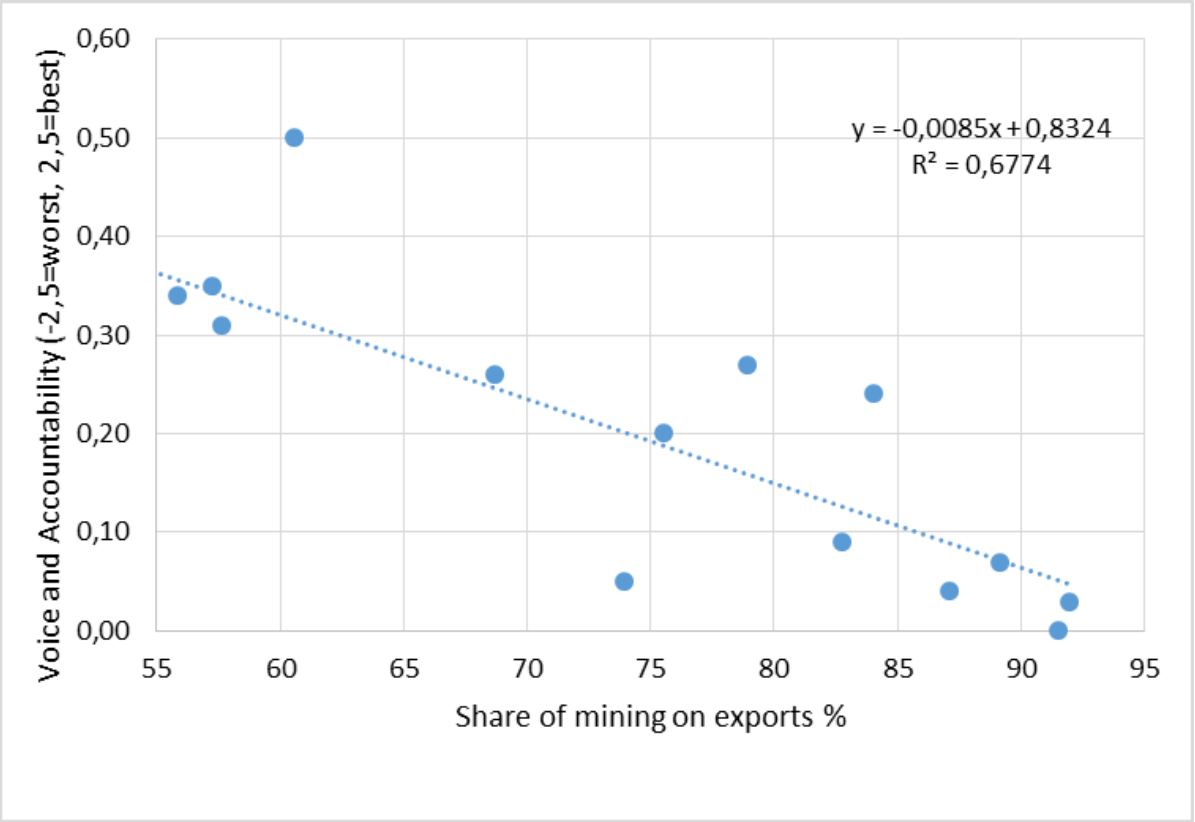
3) The respect of citizens and the state for the institutions that govern economic and social interactions (Rule of Law; Control of Corruption).

Voice and Accountability

Captures perception of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association and a free media. From Figure 5.6 we can clearly observe that with increasing dependence on mining exports,

this index decreased significantly. This is implied by relatively high, negative correlation index (R = -0,823), indicating worsening conditions for Mongolian citizens in terms of influencing politics.

Figure 5.6 Mineral dependence and Voice and Accountability

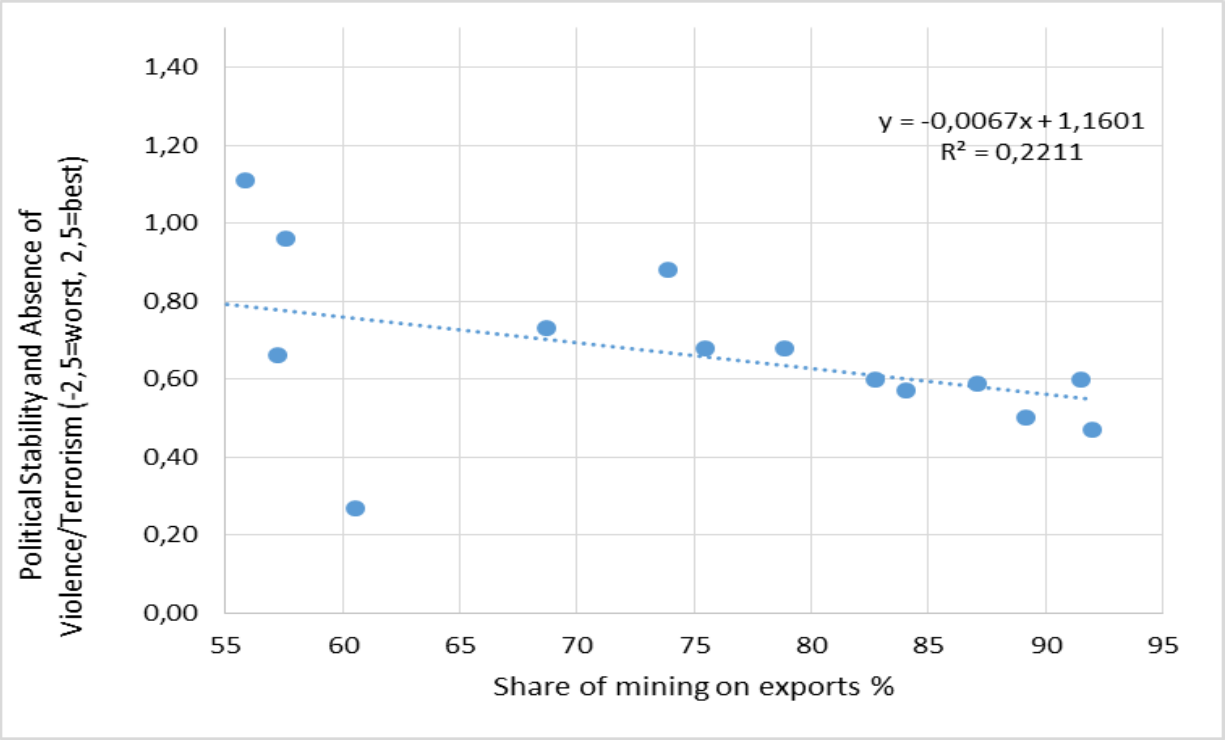


Source: National Statistical Office, 2014; The World Bank, 2014

Political Stability and Absence of Violence/Terrorism

Captures the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means. Mongolia scored relatively high in terms of political stability. Also this index experienced decrease with increasing share of mining exports, however, not so significant.

Figure 5.7 Mineral dependence and Political Stability and Absence of Violence/Terrorism



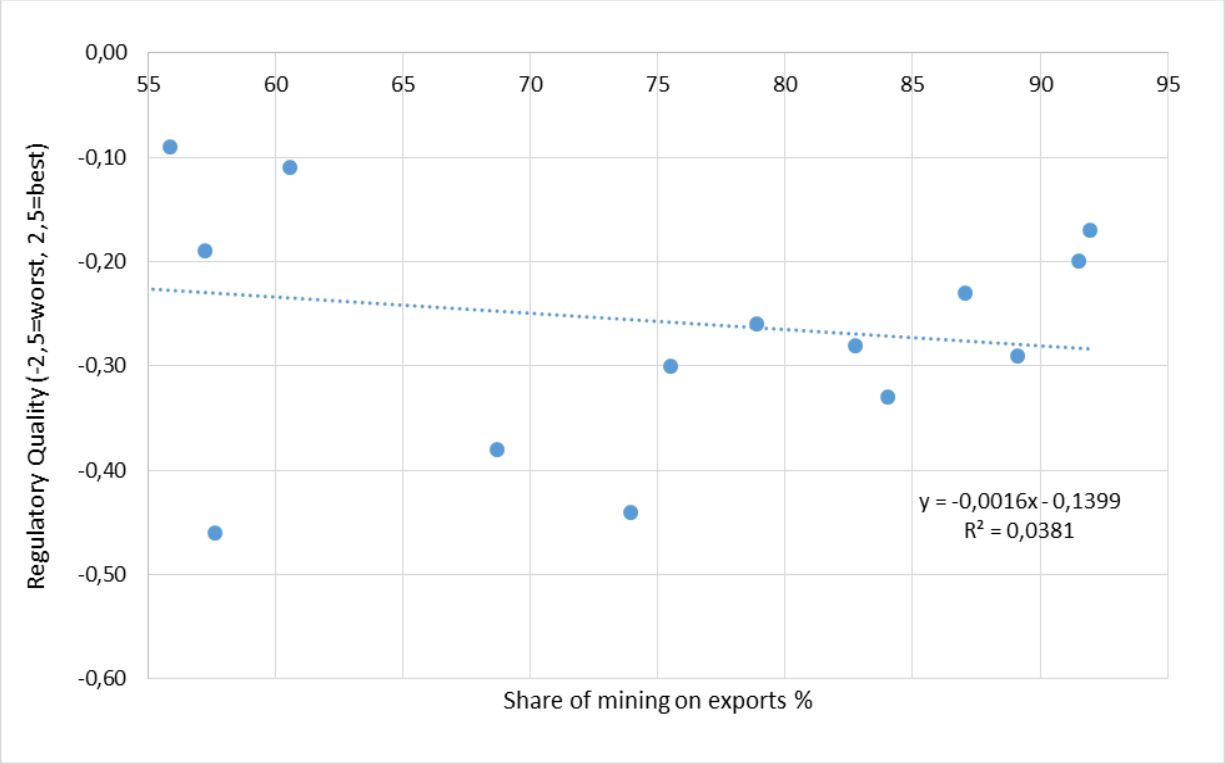
Source: National Statistical Office, 2014; The World Bank, 2014

Regulatory quality

Captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.

Mongolia positioned itself in the negative numbers even before the examined period. Nevertheless, its score slightly deteriorated with increasing dependence on minerals.

Figure 5.8 Mineral dependence and Regulatory Quality



Source: National Statistical Office, 2014; The World Bank, 2014

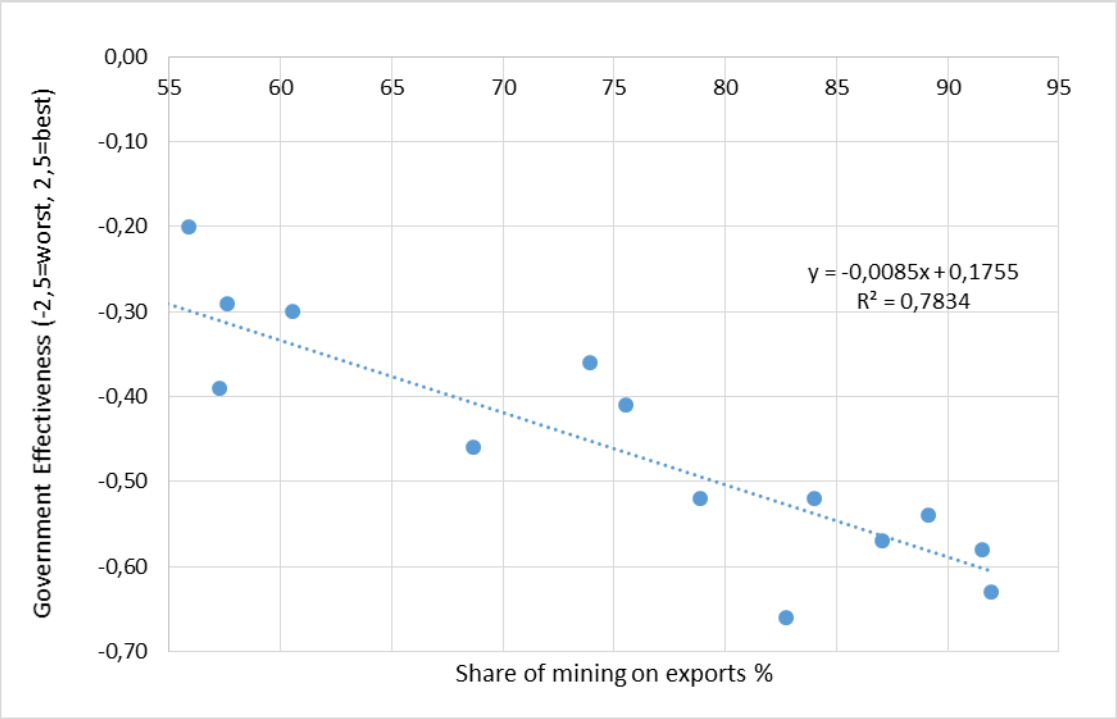
Government Effectiveness

Captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of government policies, their implementation and commitment.

Relying on external income sources, governments have less motivation to develop effective bureaucracies to raise revenue. And since their revenues are mostly independent of the performance of the economy they have less need to engage in activities that support the economy (Humphreys, Sachs and Stiglitz, 2007). Governments also often use populist solutions, financed by resource windfalls, to win votes, instead of implementing effective policies.

Mongolia, scoring negative even before the mining boom, substantially worsened its score over the examined period. Correlation index R= -0,885 indicates strong negative correlation between these two variables.

Figure 5.9 Mineral dependence and Government Effectiveness



Source: National Statistical Office, 2014; The World Bank, 2014

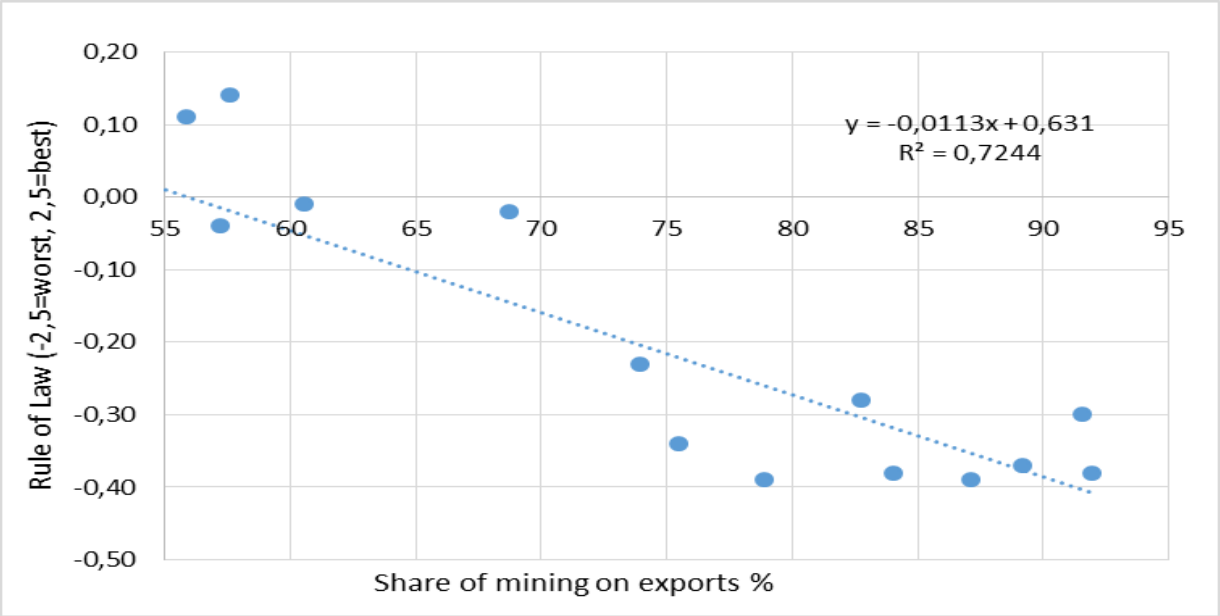
Rule of Law

Captures perceptions of the extent to which subjects have confidence in and obey the rules of society. In particular the quality of contract enforcement, property rights and the police and the courts, as well as likelihood of crime and violence. Mongolia scored in positive numbers before the mining boom, however, this index again experienced significant decrease over the examined period which is illustrated by relatively high correlation index R= -0,8511.

Rule of Law and the following indicator (Control of Corruption) are no less than critical for Mongolia's future development. Mongolia's Small & Medium Enterprises (SME) that suffered noticeably in the last decade, are dependent on solid institutional foundations.

In next chapter, I will mention some of the diversification policies that are pursued by Mongolian government. Diversification is one of the key conditions to escape resource curse and SME are key to diversification. Without proper legal environment however, development of SME sector is bound to fail.

Figure 5.10 Mineral dependence and Rule of Law

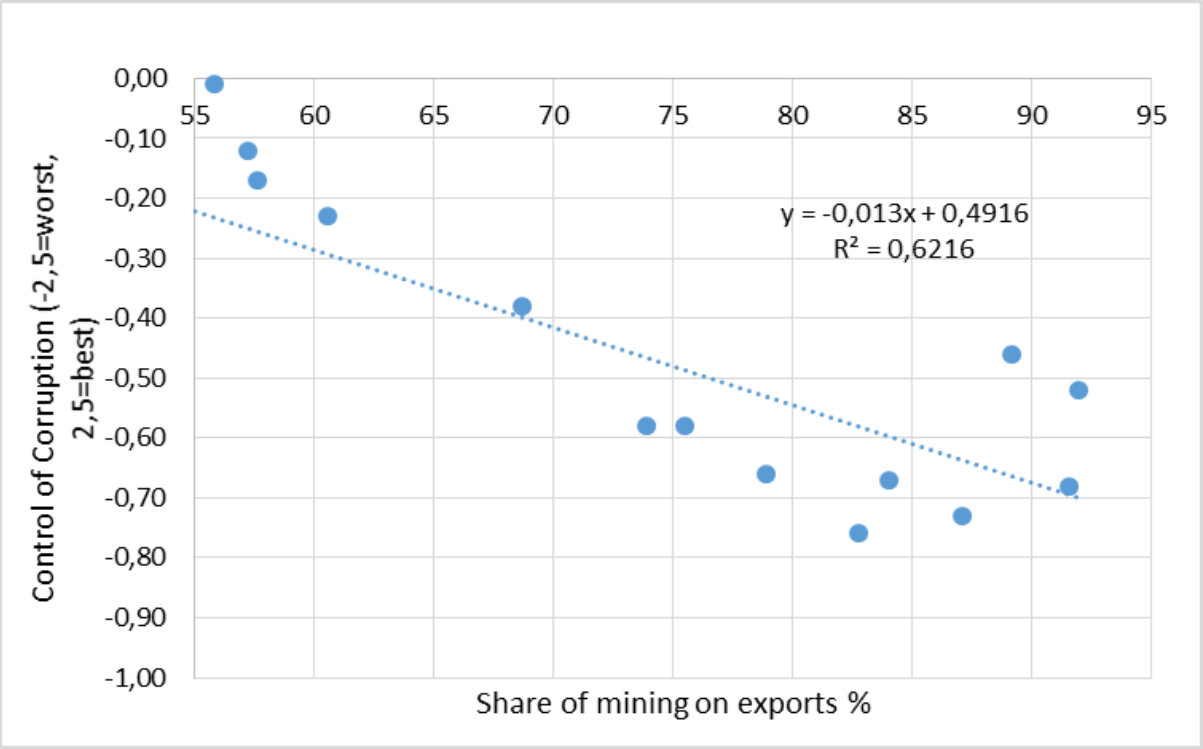


Source: National Statistical Office, 2014; The World Bank, 2014

Control of Corruption

Captures perception of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption. Mongolia, a country where corruption has strong roots within the society, experienced a serious setback in terms of corruption over the examined period. With rising dependence on mining exports, the Control of Corruption index dropped significantly which is indicated by relatively high correlation index R= -0,7884.

Figure 5.11 Mineral dependence and Control of Corruption



Source: National Statistical Office, 2014; The World Bank, 2014

Institutional Quality/Social Capital test provided very interesting results regarding current development in Mongolia. Unfortunately, most of the indicators that are extremely important when dealing with large resource windfalls (e.g. Rule of Law, Corruption and Government Effectiveness) deteriorated significantly. In overall, my hypothesis implying that natural abundance has negative effects on Social capital and Institutional quality appears to be valid in case of Mongolia.

Mongolia is thus in great danger to become one of the countries where institutional quality deteriorated under the pressure of commodity rents. While Mongolia enjoys a multi-party democracy, free press and a large network of non-governmental organisations (Isakova, Plekhanov, Zettelmeyer, 2012), the WGI has considerably decreased over the examined period. This has been particularly due to deterioration in the Control of Corruption, Rule of Law and Government Effectiveness indices. These institutional attributes are critical for avoiding the resource curse.

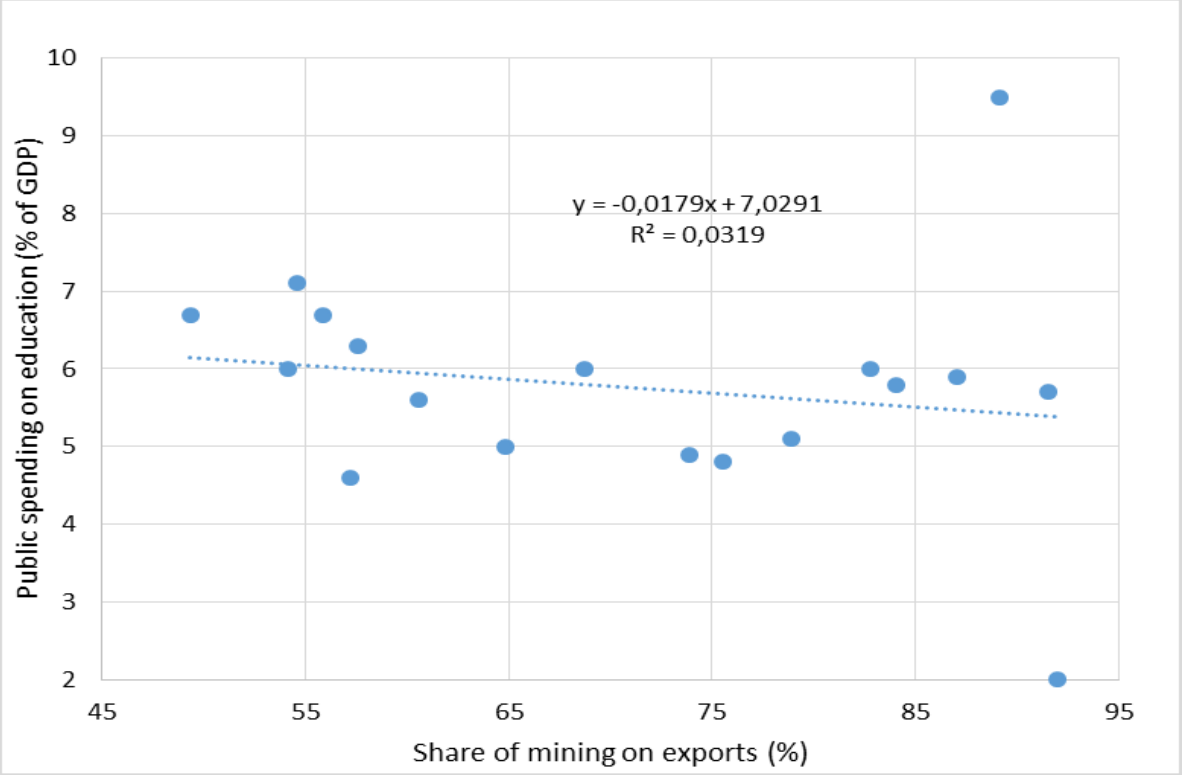
Hypothesis that ‘Abundance of natural resources has negative effects on social capital and quality of institutions’ has been confirmed in case of Mongolia.

5.3. Channel III: Human capital and welfare

Human Capital is measured by three variables: Public spending on education, health care and social security and welfare in terms of share on GDP. Hypothesis is: "Natural resource abundance decreases government initiative to invest in human capital".

5.3.1. Education

Figure 5.12 Mineral dependence and public spending on education



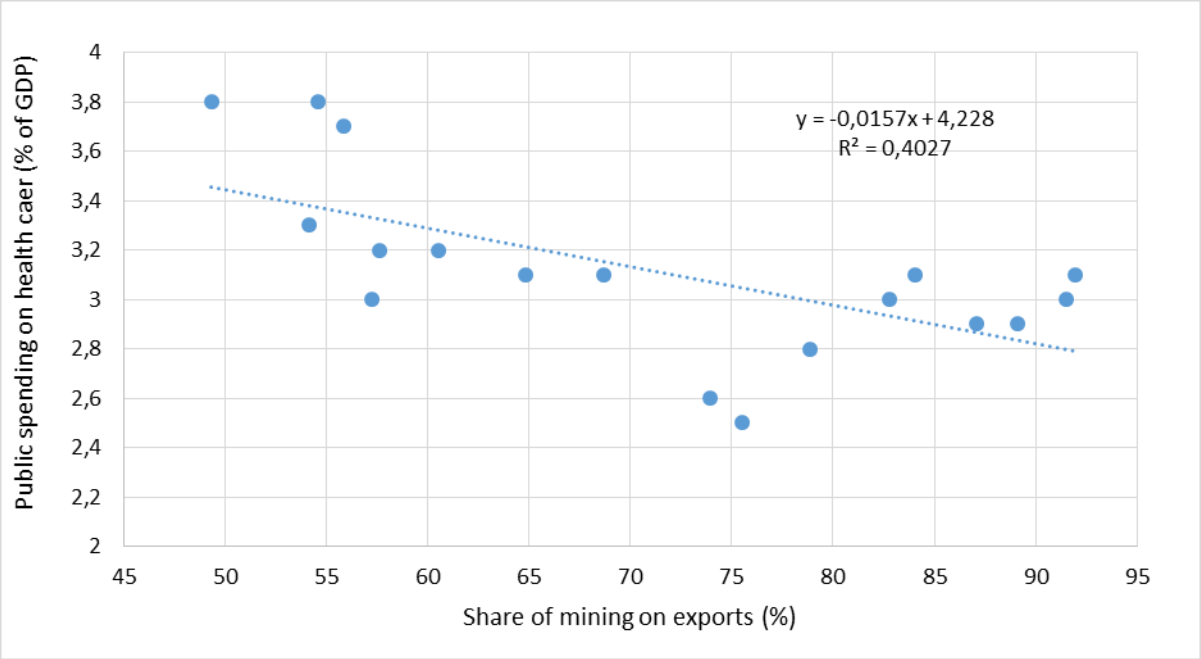
Source: National Statistical Office, 2014; The World Bank, 2014

Sachs and Warner (2001) argue that resource-rich countries have less initiative to invest in education than resource-poor countries. As they gain their revenues through primary production, investment into human capital become less necessary.

Education spending in terms of GDP share slightly decreased with rising share of mining on exports.

5.3.2. Health care

Figure 5.13 Mineral dependence and public spending on health care

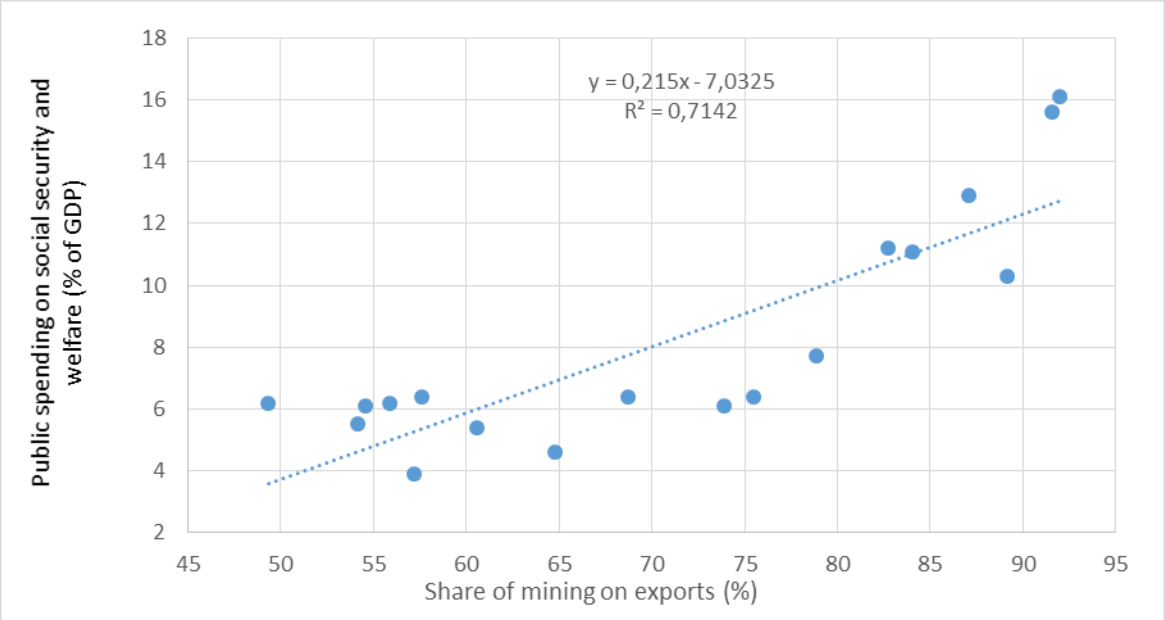


Source: National Statistical Office, 2014; The World Bank, 2014

Public spending on health care in terms of GDP share experienced a solid decrease with rising share of mining on exports.

5.3.3. Social security and welfare

Figure 5.11 Mineral dependence and public spending on social security and welfare



Source: National Statistical Office, 2014; The World Bank, 2014

Public spending on social security and welfare in terms of GDP share was the only indicator in the Human capital group that increased with rising share of mining on exports. Correlation index R= 0,845 indicates strong correlation between these two variables.

Although Mongolia decreased its poverty rate, as mentioned in previous part of my thesis, there is still lots of space for improvements as more than 27 percent of population lives below the national poverty line. Mongolia also struggles with more than 10 percent unemployment rate which lays further pressure on the social sector.

As it seems Mongolia's government is addressing this issue with increased investments into social care and welfare. Cash handouts to citizens from OT pre-payments also played their role in this increase.

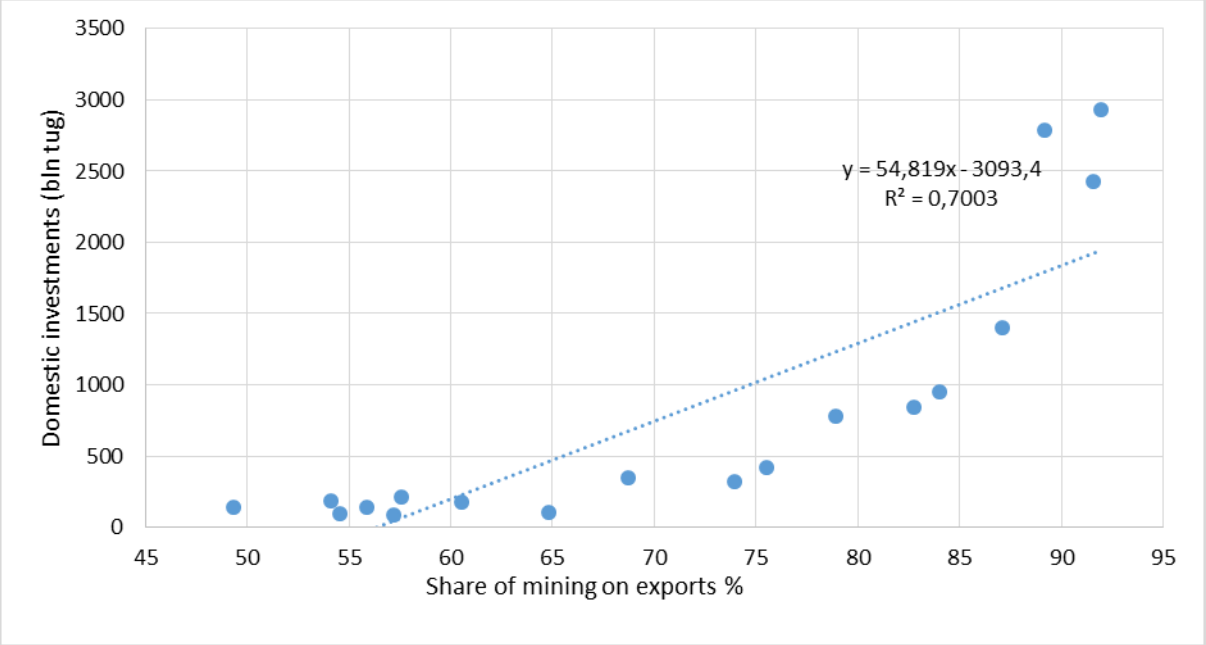
However, for a developing country dealing with large financial inflows, educated population is extremely important (Humphreys, Sachs and Stiglitz, 2007). In the long run, failure to invest in education has negative effects on growth since a skilled workforce is a condition for a diverse economy.

Negative impact of natural resource abundance is not so clear in this case. Decrease in educational and health care spending in relative terms has been accompanied by significant increase in Social care and welfare spending. My hypothesis thus cannot be confirmed or rejected.

5.4. Channel IV: Investment

An abundance of natural resources could also have negative effect on private and public pressure to save and invest. Natural capital creates a false sense of security as it provides wealth gained differently than by accumulation of physical capital (Philippot, 2010). Hypothesis is: "Natural resource abundance causes the domestic investments to decrease".

Figure 5.15 Mineral dependence and domestic investments



Source: National Statistical Office, 2014; Mongolian Statistical Office, 2014

As is clear from Figure 5.15, hypothesis that resource abundance causes decrease in domestic investments is not valid in this case. Domestic investments grew steadily with increasing share of mining on exports. This is also confirmed by high correlation index R= 0,837. However, as literature shows, investment capital is often transferred to uncompetitive activities. With almost non-existent competitive sectors, this can also be the case of Mongolia.

5.5. Channel V: Overall health of the economy

An abundance of natural resources could also have negative effects on financial capital and health of the economy as a whole. Gylfason (2004) argues that countries with an abundance of natural resources indeed have high external debt rates and high inflation.

In this thesis the Overall health of the economy is measured by three variables: inflation rate, external debt and unemployment rate. Hypothesis is: "Natural resource abundance increases inflation rate, unemployment rate and external debt".

5.5.1. Inflation

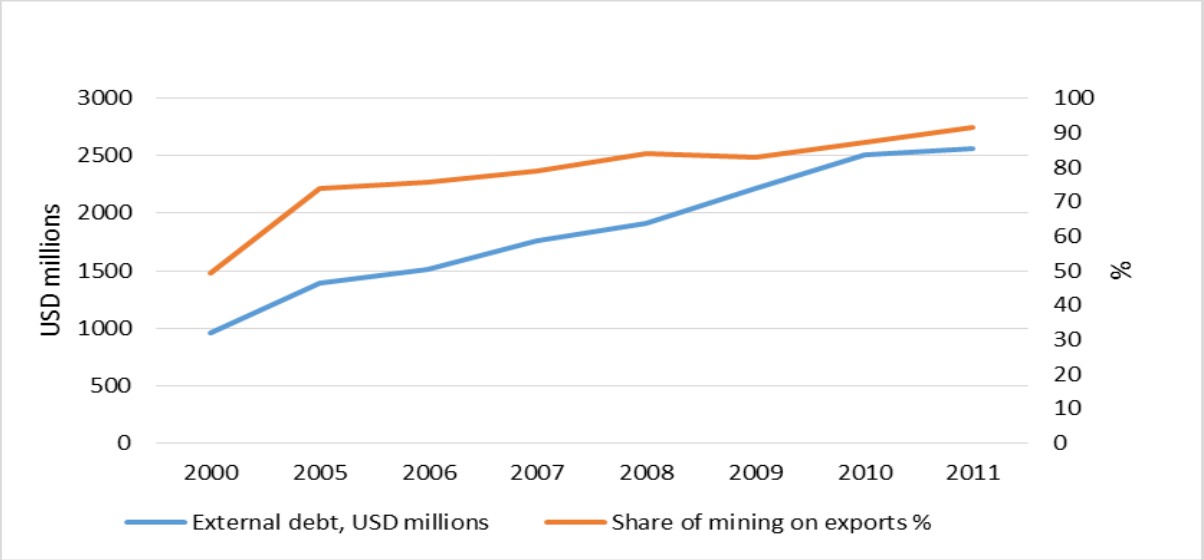
Figure 5.16 Mineral dependence and inflation

Source: National Statistical Office, 2014; The World Bank, 2014

Inflation in Mongolia has been relatively high during the examined period and extremely unstable as it varied from -1,9 percent in 1998 to 21,4 percent in 2008. It has increased slightly with rising share of mining on exports, however, this increase has been marginal. High inflation rates are caused mainly by dynamic development of Mongolia's economy combined by expansionary fiscal government policies.

5.5.2. External debt

Figure 5.17 Mineral dependence and external debt

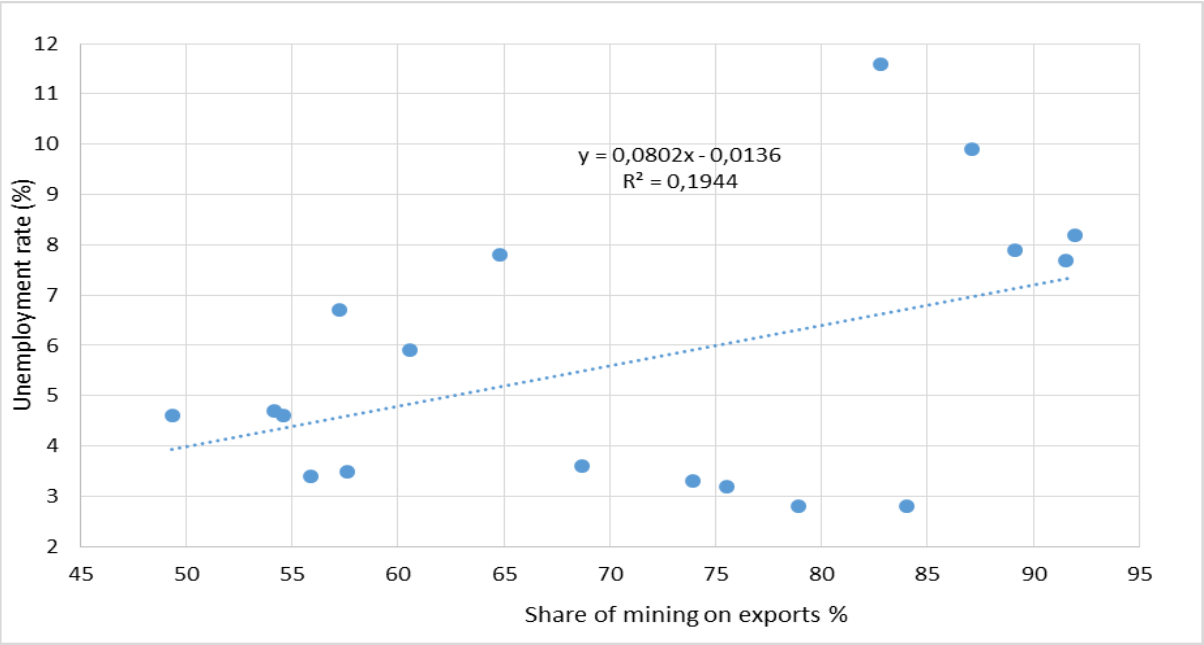


Source: National Statistical Office, 2014; The World Bank, 2014

From Figure 5.17, we can see a constant increase in External debt which correlates with Share of mining on exports.

5.5.3. Unemployment

Figure 5.18 Mineral dependence and unemployment



Source: National Statistical Office, 2014; The World Bank, 2014

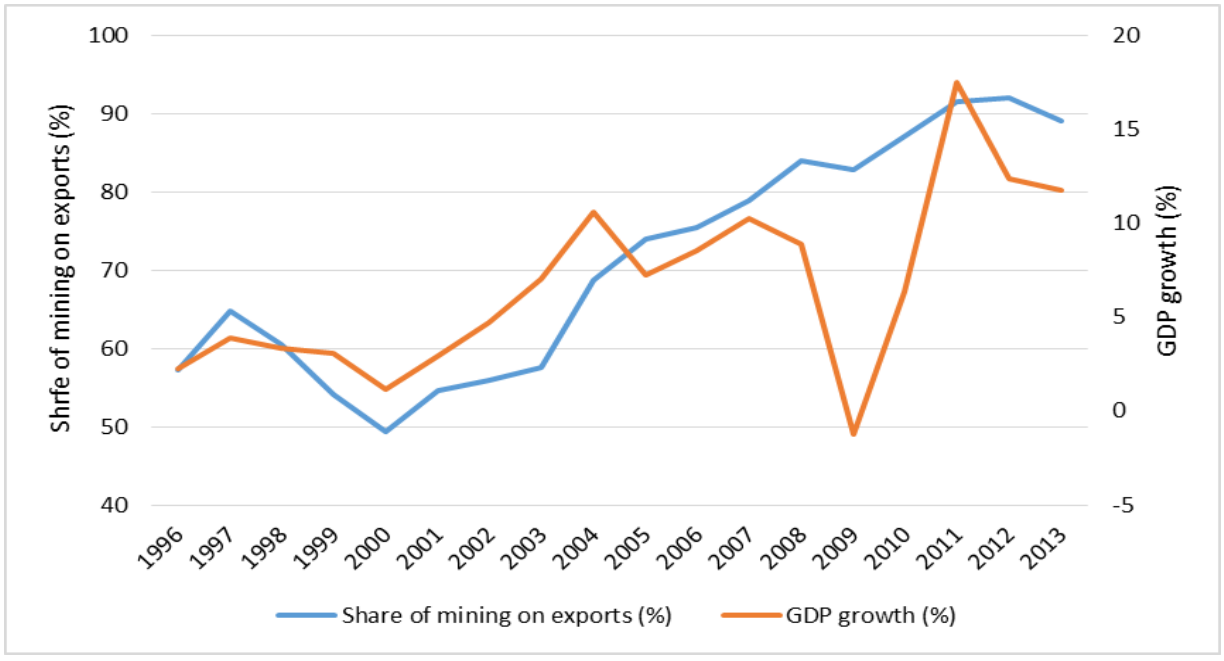
Unemployment experienced very dynamic development during the examined period, strong imbalances, external volatilities or seasonal conditions distorting the economy caused unemployment rates to vary from as low as 2,8 percent in 2008 to 11,6 percent in 2009. Link between Unemployment rate and Share of mining on exports is not significant.

Hypothesis that natural resource abundance increases Inflation rate, External debt and Unemployment rate can be accepted in case of Mongolia. While inflation and unemployment rates are most likely caused by both domestic and external imbalances, rising External debt strongly correlates with rising share of mining on exports.

5.6. Channel VI: GDP growth

There is strong evidence for negative influence of natural resource abundance on GDP growth rates in the resource curse literature (Sachs and Warner, 1999; Gylfason, 2004). To conclude the story I suggest a hypothesis: "Resource abundance has negative effects on GDP growth rates".

Figure 5.19 Mineral dependence and GDP growth



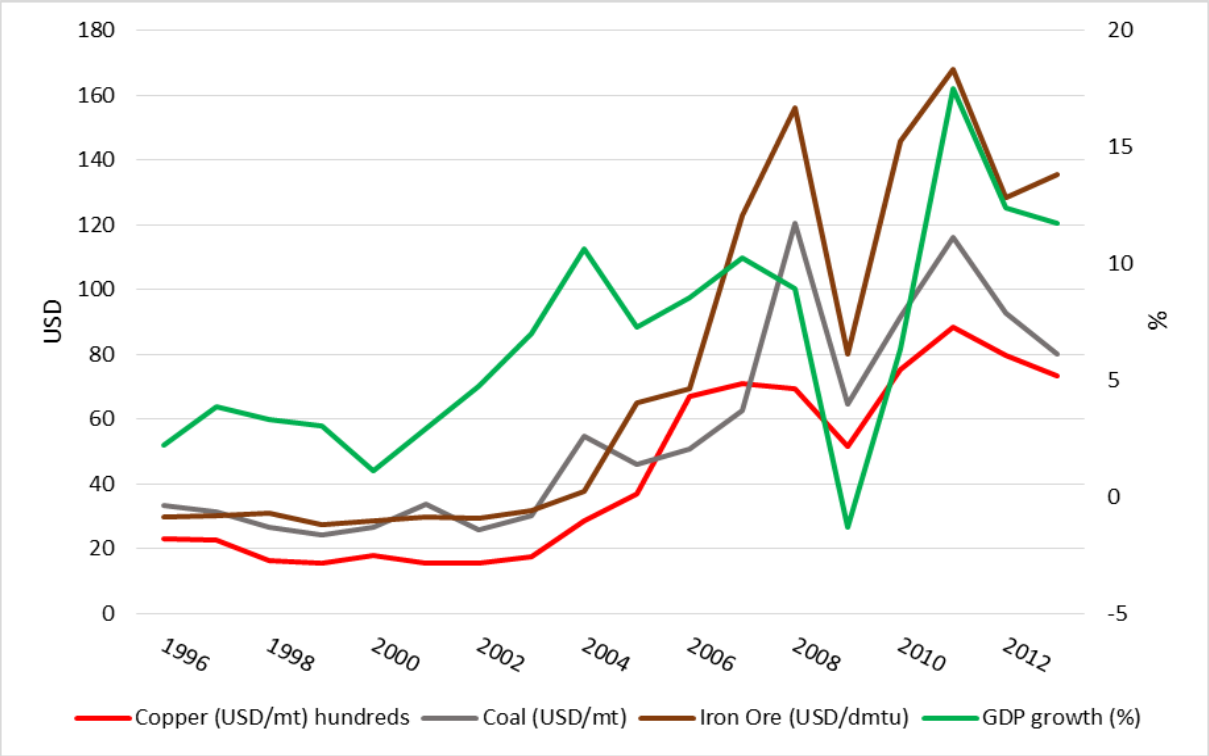
Source: National Statistical Office, 2014; The World Bank, 2014

From Figure 5.19, we can clearly see that GDP growth rates has been increasing with rising Share of mining on exports. Global financial crisis had a strong impact on Mongolia's GDP growth in 2009, mainly due to weak commodity markets and a drop in demand from China. Otherwise, GDP growth rates grew rather steadily. Hypothesis is thus invalid in this case.

5.7. Channel VII: Volatility

Apart from the channels analysed above, this thesis examines dependence of GDP growth on mineral prices which comprises almost 90 percent of Mongolia's export value. The aim is to illustrate to what extent is Mongolia's performance related to external volatilities – in this case, mineral prices. Hypothesis thus says: "GDP growth of Mongolia is determined by global mineral prices".

Figure 5.20 Mineral dependence and volatility



Source: National Statistical Office, 2014; International Monetary Fund, 2014

Figure 5.20 shows that very strong link between the commodity prices and GDP growth exists in Mongolia, as the growth rate basically follows the trend of increasing or decreasing prices. These results illustrate how vulnerable to external volatilities Mongolia is thanks to its resource abundance. Hypothesis: 'GDP growth of Mongolia is determined by global mineral prices' is confirmed.

5.8. Summary of the test results

From the previous part of this thesis, we can conclude that following tests have confirmed their hypothesis: Social capital and institutional quality; Overall health of the economy; Volatility. On the other hand, following tests proved my hypothesis to be invalid: Investment; GDP Growth; Dutch disease. Thanks to variable results 'Human capital and welfare' test has not been proved as either valid or invalid.

When examining the results, interesting fact arises. Three results that disproved my hypotheses are based on hard parameters, such as foreign and domestic investments, exports, GDP growth rates or value added of individual sectors. These indicators are all connected to the recent economic performance of Mongolia. Relatively high prices on commodity markets and strong demand from China supported the increase in exports and inflow of investments, and finally, facilitated booming GDP growth. On the other hand, results supporting my hypothesis are rather soft parameters that have a long-term characteristic and changing those is a complicated and lasting process (Institutional quality).

Table 5.1 Summary of the test results

Test	Result
Dutch disease	Hypothesis disproved
Investment	Hypothesis disproved
GDP growth	Hypothesis disproved
Volatility	Hypothesis confirmed
Overall health of the economy	Hypothesis confirmed
Social capital and institutional quality	Hypothesis confirmed
Human capital and welfare	Hypothesis neither confirmed nor disproved

5.9. Policy recommendations

The results presented in this thesis clearly indicates that several problems linked to the resource dependence are already showing signs in Mongolia. The central problem of Mongolia is that its economic growth is solely based on mineral revenues, moreover, strongly volatile revenues. Although these mineral revenues were the basis for its amazing growth performance during the last decade, diverse economic development is essential to create a sustainable economy.

Improved institutional quality is another prerequisite for successful socioeconomic development.

Stabilizing the economy

One of the great challenges is to manage the impact of mining production on macroeconomic environment and smoothen the volatility effects that are connected to mining booms. Results of this thesis clearly show to what extent is Mongolia vulnerable to external volatilities. Especially the Volatility test clearly illustrates the extent of cohesion between mineral prices and economic growth. Thanks to relatively high commodity prices in the last decade, Mongolia experienced a solid economic growth, however, future price drops can have devastating effects on the economy. To avoid destabilizing effect of resource booms, in June 2010 the Mongolian Parliament adopted the Fiscal Stability Law which creates a ceiling for public debt, structural deficit and annual expenditure growth (Isakova, Plekhanov, Zettelmeyer, 2012). The law also strengthen the role of medium and long-term budgeting. It also provides the establishment of the Fiscal Stabilisation Fund which could accumulate the excess commodity revenues during periods of high commodity prices. This is a critical framework to combat the resource curse. However, it has not been used effectively so far. Mongolia needs to improve utilisation of such framework to mitigate the high vulnerability to external factors and thus create a suitable environment for economic development.

Social development

To counter rising inequality and improve redistribution of the mining boom benefits, the Human Development Fund (HDF) has been set up in 2009 after completion of OT negotiations (Isakova, Plekhanov, Zettelmeyer, 2012). It was inspired by the Alaska Permanent Fund, Norway's sovereign wealth fund and Chile's way of using copper windfalls for development (Brookings, 2012). The fund should include cash handouts, payment of tuition fees and financing other social benefits. Utilisation of this fund is again quite controversial, nevertheless, it has a lot of development potential.

Diversification strategies

Diversification is of upmost importance in Mongolia. Government need to create business environment where new business, SME in particular, can flourish and thus start the economic development in the long term.

Government is investing heavily into light industry (Oxford Business Group, 2014). Largest investments went to the cashmere sector which is often described as a great opportunity for Mongolia's diversification. The government recognises the need to bring light industry back if it is going to fight off the Dutch disease. The authorities also believes that the lack of locally produced goods contributes to inflation. Mongolian government recognises the fact that much of the value of its resources is going overseas. To improve this condition, heavy industry related to resources is seen as the future. It is a concern of upmost importance to effectively diversify Mongolia's economy. Mongolia needs to translate mineral revenues into economic development and decrease its dependence on resources, thus increasing global competitiveness.

Institutions and transparency

From the results of this thesis, it is clear that improving institutional quality along with diversification are the most important challenges for Mongolia's officials. Uprooting corruption and inefficient government practices are the basis for a development of the SME sector which is fundamental for diversification. Reforms of institutions and legal system are needed as well as policies increasing the engagement of citizens in business and politics.

A great challenge is to protect and improve quality of Mongolia's institutions. This requires making the management and distribution of windfalls transparent and accountable. To increase the transparency of natural resource management, in 2006 Mongolia signed up to the Extractive Industries Transparency Initiative[3] and in 2010 it became the fourth country to reach full compliance status, together with Ghana, Azerbaijan, Liberia and Timor-Leste (EITI, 2014).

Infrastructure

Mongolia also needs to improve country's obsolete infrastructure. In 2011 it has established state-owned development bank with a mandate to finance development projects. Although these are important steps forward, they don't address Mongolia's vast volume of infrastructure investment required to support development of mining and related manufacturing – primarily railways, roads, power plants and water supply.

[3] EITI is Oslo-based voluntary nongovernmental organization supported by most OECD states. Its principle is that investors in mining industry publish all payments they make in any given country and host government publish all payments they receive

6. Discussion

Based on quantitative research in this thesis, natural resource abundance seems to have a negative impact on several socio-economic conditions. Results of this thesis will be further discussed and analysed in this chapter in order to find out if the resource curse hypothesis applies to Mongolia. Limits of this thesis will also be presented as well as recommendations for future research.

Results of the Dutch Disease channel clearly show that Mongolia does not suffer from declining terms of trade, however, with major increases in exports, danger of currency appreciation which can have adverse effects on terms of trade looms over Mongolia.

Second part of this hypothesis has shown that two out of three non-mining sectors are experiencing decline in relative terms. However, the term 'relative' is crucial to better understand the recent development. There can't be any doubt about a decrease in the agriculture output which has been on a decline since the democratic revolution. Manufacturing, on the other hand, declined only slightly in relative terms. With the economy growing extremely fast thanks to the mineral boom it is hard for manufacturing to keep up with this growth. Manufacturing has been growing steadily with rising share of mining on exports, however, as a share of GDP it is declining. With government heavily investing into diversification strategies focused mainly on manufacturing there is a good chance that its share on GDP could rise in the near future. Similar development of non-mining sectors (decrease in agriculture and manufacturing, and increase in services) can be historically observed in most of the resource-rich developing countries, as is shown in chapter three.

Institutional quality (especially corruption) is without any question the top concern regarding the future of Mongolia. Corruption Perception Index has been positioned on 2,7 points for three consecutive years, which is a weak score. Since 2011 Mongolia's score is increasing, however, this is caused by adjusted methodology of this report, improvement in corruption perception is not guaranteed. Control of Corruption, one of the World Governance Indicators, has shown, on the other hand, a continuous decrease. And quite significant that is. In overall, all of the World Governance Indicators experienced a decrease and some of them quite strong one (Voice and Accountability, Government Effectiveness, Rule of Law, Control of Corruption), unfortunately these are the most important for avoiding the resource curse in Mongolia. Question, however, is if the institutional quality deteriorates under the pressure of resource revenues or if it is natural development within the Mongolian society. It is a young democracy with 70 years history of

socialist rule. Post-communist countries generally share bad institutional quality with corruption rooted in the society. On the other hand, Mongolia could be one of the countries so often mentioned in resource curse literature. Countries with low initial institutional quality which further worsen under the pressure of the windfalls. In any case, investments into education and policies assuring higher engagement of citizens in politics are necessary actions to avoid the institutional resource curse.

Public spending on education and health care has decreased over the examined period. This decrease is, however, again in relative terms to GDP. As GDP has been growing steeply, even a considerable growth of public spending can appear as a decrease in relative terms.

There are certain limitations to accuracy of this research. Greatest one is without a question the horizon of time. Mining boom in Mongolia is still very recent. It is basically happening as this thesis is being written. Mongolia has enjoyed relatively high growth rates for almost a decade now, however, the beginning of the mining boom is attributed mainly to production from the OT mine which has shipped its first shipment of copper concentrate only last year (2013). Although Mongolia's mineral exports are bringing massive windfalls into the country, the 'best' is yet to come when OT will be fully operational (as mentioned before, it is expected to account for one third of Mongolia's GDP). It is thus quite soon to speak about possible resource curse, although even now we can see deteriorating institutional quality. It will be interesting and very important to research how such massive increase in mining revenues will influence socio-economic development in the near future. My recommendations for future research are thus to follow development in mining sector and compare future socio-economic development with results from this thesis, after further increase in revenues takes place.

7. Conclusions

This thesis has aimed to determine if natural resource abundance is harmful for Mongolia, to what extent is Mongolia vulnerable to the resource curse and how the government is trying to fight it. Several negative socio-economic trends has occurred that have been associated with the resource curse phenomenon in the literature. Growing dependence on mineral exports shows that competitive diverse economy is, despite government's investments, merely a blueprint.

In general, the term resource curse is used to explain the negative effects of natural resource abundance in terms of economic, social and political outcomes. There is a large empirical evidence supporting this debate. Along with such debate, number of country studies have been conducted, emphasizing socio-economic circumstances that caused the resource curse or help to overcome it. Nigeria is the most used example of a resource cursed country. Botswana and Chile, on the other hand, are countries often praised for their success to overcome the resource curse and utilise resource windfalls to spark socio-economic development. Botswana's key to success were its solid institutions that developed over time as well as policy favouring education investment. Chile, on the other hand, managed to stabilize the economy which has led to successful diversification. Cases of Chile and Botswana clearly show that not only resource curse is not deterministic, they also illustrate that policies matter to a great extent when overcoming the resource curse.

Abundance of natural resources provided an opportunity for Mongolia to skip the gradual economic development and achieved economic growth. Currently, with over 90 percent of exports being minerals, the economy is strongly skewed. FDI is the basis on which the economy could be developed and diversified. Thanks to the initial condition of the economy when resources are basically the only product that Mongolia can offer, almost all of the FDI flows into extractive sectors. Consequently, the economy fails to diversify. Since the business environment is not very favourable, as is shown by numerous indicators throughout this thesis, diversifying through SME might prove to be quite problematic.

Within the resource curse literature, several specific socio-economic circumstances are claimed to be affected negatively by an abundance of natural resources. Most notorious of these are examined in this thesis on the case of Mongolia. Hypothesis that 'Natural resource abundance has negative influence on socioeconomic development in Mongolia' has been tested in the 'Results' chapter. To determine the influence of natural resource abundance, correlation between the 'Share of mining on exports (%)' and indicators of individual resource curse

channels has been tested. These can be summarized into following separate channels with specific indicators: Dutch disease and foreign capital (Exports, FDI inflows and value added of agriculture, manufacturing and service sectors); Social capital and institutional quality (GINI coefficient, Corruption Perception Index, Worldwide Governance Indicators); Human capital and welfare (Public spending on education, health care and welfare); Investment (Domestic investment); Overall health of the economy (external debt, inflation, unemployment); GDP growth; Volatility (prices of minerals and GDP growth).

The following tests have confirmed my hypothesis: Social capital and institutional quality; Overall health of the economy and Volatility. On the other hand, following tests proved my hypothesis to be invalid: Investment; GDP Growth and Dutch disease. Thanks to variable results, Human capital and welfare test has proved my hypothesis neither valid nor invalid.

According to my findings, increasing dependence on mineral exports has been followed by a major decrease of the agricultural sector, deteriorating quality of institutions, rising inflation, unemployment and external debt. Mongolia also shows signs of strong vulnerability to external volatilities. On the other hand, increasing dependence on mineral exports has been followed by an increase in exports, domestic and foreign investment, and service sector, public spending on social care and welfare, and GDP growth rates. Public spending on education and health care, and manufacturing sector has been increasing, however, in relative terms to Mongolia's growing GDP, they experienced a decrease.

Policy recommendations concern much needed improvement of institutional quality through legal reforms. Second major recommendations is diversification of the economy through manufacturing sector. Development of heavy industry connected to resources is also recommended in order to assume better position in global commodity chains. Mongolian government seems fully aware of measures that it has to undertake to overcome the resource curse. However, not much of its efforts has materialized yet. The share of mining on total exports has been growing continuously over the examined period indicating that any noteworthy diversification has not took place yet. FDI is flowing almost solely into the extractive industry, thus increasing this dependence. Also Mongolia's sovereign resource funds have not been utilised effectively so far. Only about two percent of GDP has been saved into fiscal stabilisation fund which is not enough to serve fund's purpose – stabilising the economy in case of mineral price fluctuations. Human Development Fund on the other hand, has so far been used mostly for populist spending.

In overall, Mongolia is not yet facing the resource curse. Specifically, resource abundance has not contributed to low growth rates in Mongolia, as much of the literature would suggest. However, such argument is valid in short-term only. The resource curse phenomenon must be comprehended in broader terms than just economic growth as it is in great share of the literature. Economic development, in form of diversification is fundamental. Becoming competitive on global scale through industries that attract FDI in various sectors, seems to be the vital dynamic that triggers economic development. To avoid the resource curse, economic growth itself is not sufficient.

Whether natural resource abundance in Mongolia will remain a blessing for economic growth or will eventually transform into a resource curse remains to be seen. It eventually depends on policies adopted by the government. Regardless of current performance of the economy, sustainable economic development must be preferred over short-term economic growth.

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9. List of figures and tables