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Assessment of Export Promotion Policies

Final Report

ULAANBAATAR

2018

“Assessment of Export Promotion Policies”

Final Report

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
EU	European Union
FIFTA	Foreign Investment and Foreign Trade Agency
GIZ	German agency
GoM	Government of Mongolia
JICA	Japanese International Cooperation agency
MFA	Ministry of Foreign Affairs
MFALI	Minister of Food, Agriculture, and Light Industry
MNCCI	Mongolian National Chamber of Commerce and Industry
MoF	Ministry of Finance
NSO	National Statistical Office
PRC	People's Republic of China
SDC	Swiss Agency for Development and Cooperation
USAID	United States Agency for International Development
VAT	Value Added Tax
WITS	World Integrated Trade Solution
WTO	World Trade Organization

1. INTRODUCTION

Mongolia is a landlocked, small open economy with a large part of its GDP linked to foreign trade. In 2016, exports and imports constituted 85.9 percent of annual GDP making it highly dependent on trade and its two neighboring countries in particular. Imports and exports more than doubled during 2009–2015, with exports increasing from about USD1.9 billion to USD4.7 billion, and imports from about USD1.1 billion to USD3.8 billion.

However, like many other developing countries, Mongolia lags behind in terms of export diversification. Mongolia's exports are concentrated in coal, gold, copper and other minerals. In 2016, the share of non-mineral exports amounts to a mere 13.6 percent of total exports. Within non-mineral exports, other homogeneous commodities like agricultural raw materials amount to 12.2 percent of total exports, leaving the share of differentiated products to only 1.4 percent.

Recent discovery and exploitation of large mineral deposits bring vast economic opportunities for the country. However, mineral wealth also creates several issues, high dependence on these resources being one of the main problems. In light of these developments, policy making has been concerned with the need to diversify the economy. Given the low market capacity of the domestic economy – small population combined with relatively low income – export promotion is naturally seen as the prime way to economic diversification. Tapping into bigger foreign markets can also help to utilize more efficiently other vast no-mineral resources as well as better realize the economies of scale.

Since its transition from the centrally planned economy and accession to the WTO in 1997, Mongolia pursued liberal trade policies continually resisting protectionist pressures. Export promotion policies are a relatively new phenomenon in Mongolia. Unlike most developing countries – especially in East Asia in the 1970-1980s and more recently in Latin America – trade policy in general and export promotion in particular was not a special industrialization policy in Mongolia. Approval of the "Export Promotion Program" in 2013 was the first comprehensive government program to attempt to support export sectors in the country. Export promotion initiatives were undertaken on ad hoc basis in some other government programs such as those supporting the development of small and medium businesses and sectoral development programs. However, they are not coordinated and are highly fragmented.

This study aims to analyze the policy efforts undertaken by the Government of Mongolia and other non-governmental organizations in the country. We analyze policies both in terms of institutional set-up and policy instruments. In analyzing the policies, we apply differing institutional models of export-promotion policies: hierarchical, decentralized, pluralistic, and private. Furthermore, we analyze the operation of policy institutions within political, economic, and administrative context. The analysis of the impact of export-promotion policies is conducted at different levels – the sector level and national level.

At the sector level, using the 'revealed comparative advantage' methodology by Béla Balassa, we identify those sectors which constitute a comparative advantage for Mongolia. They are textiles and leather production. In addition, using the export volume, capital and labor intensity factors, we further identify several other export sectors, which contribute to a greater degree to the employment and the economy in general. In total, we focus on six specific export sectors by providing more detailed information in terms of production, export destination, sector specific policies, and the like. These sectors include textiles, leather, basic metals, plants, machinery and equipment, and agriculture.

We include a separate chapter attempting to evaluate the proposed Government Action Plan 2016-2020 and Mongol Export Program 2018 which is being currently discussed. In particular we propose some minor changes in terms of the goals and actions proposed in the program and program evaluation criteria.

At the macroeconomic level, we use an augmented gravity model to account for the geography and developments in our trade partners. In particular, we rely on 'the Gravity with Gravitas model' developed by Anderson and Wincoop (2003).

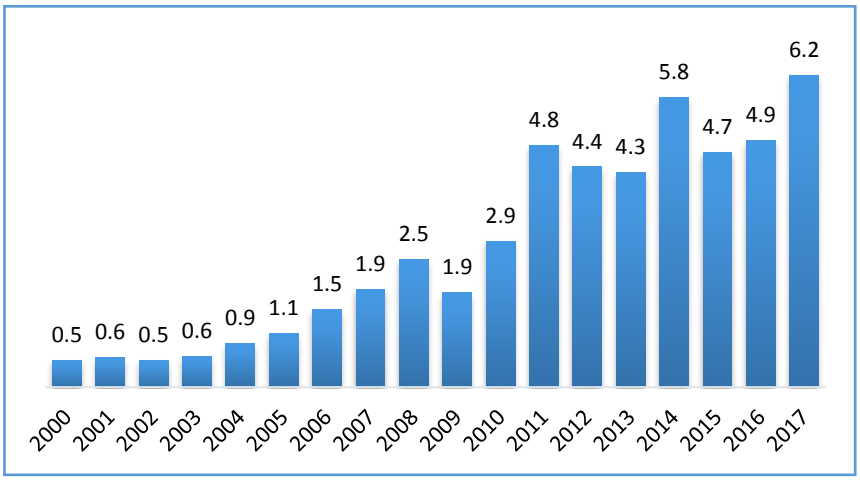
The study is organized as follows. In Section 2 we present the basic trade statistics and overview of export-promotion policies pursued in the last decade. Section 3 is devoted to the description of the empirical methodology and the data used in the study. In Section 4 we conduct sectoral analysis of the exports. Section 5 offers some suggestions on the proposed Mongol Export Program 2018. Section 6 explains the total export dynamics by developing and applying a gravity model. We conclude with summary of main findings and some policy recommendations.

2. EXPORT SECTOR OVERVIEW

2.1 Export Performance

Despite some fluctuations, the Mongolian export has generally been growing in the last two decades. In 2000, the export stood at half a billion USD, peaking at USD6.2 billion in 2017 (see Figure 1). Exports declined sharply in 2009 due to the global financial crisis but rebound within a year due to quick recovery in the global mineral commodity prices.

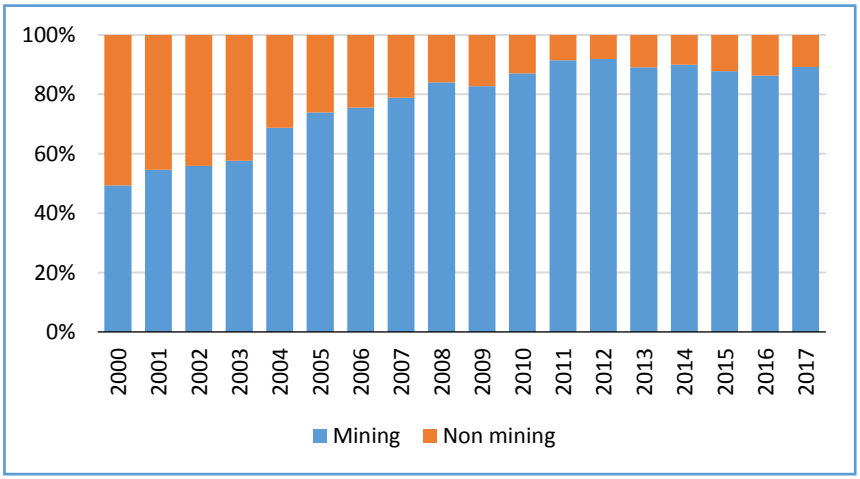
Figure 1. Exports, billion USD



Source: NSO and Customs General Administration

In recent years, the Mongolian economy faced a full cycle (and more) of mining boom and bust caused by oscillations in the mineral commodity prices. These fluctuations influenced the share of the mining sector in the total exports. The following figure reveals how its share has changed in the last decade and a half.

Figure 2. Shares of mining and non-mining sectors in total exports

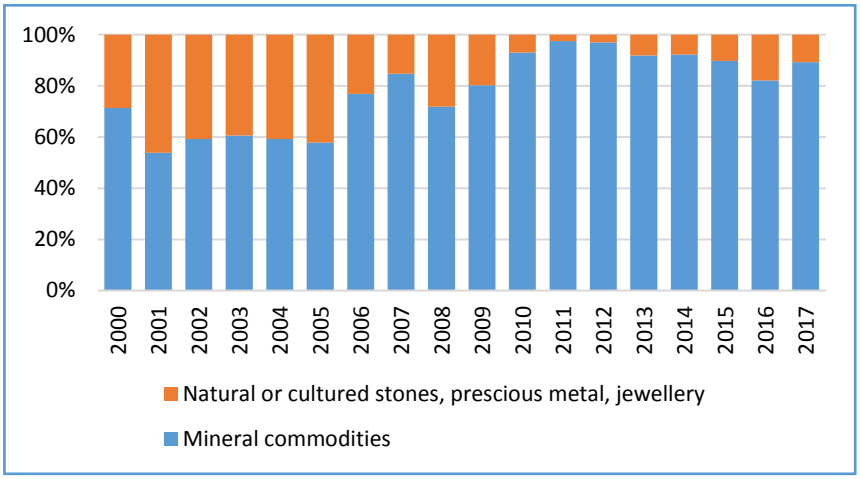


Source: NSO and Customs General Administration

The share of the mining sector in the total exports, in spite of some mild fluctuations in recent years, grew consistently since 2000, leading to increased dependency. The highest share of the mining sector in the export was 91.9 percent, which occurred in the mining boom years of 2011 and 2012, when the international mineral commodity prices were highest. Since then, the prices have continuously been declining, resulting in decreased share in the total export. In 2017, the share stood to 89.2 percent, which is still very high.

Following the classification of the National Statistics Office (NSO), in this study we define the mining sector to consist of two sub-sectors: (i) mineral commodities and (ii) natural or cultured stones, precious metal, and jewelry. The following figure shows how the relative shares of the two sub-sectors have changed since 2000. Specifically, share of natural or cultured stones, precious metal, and jewelry in the mining sector export decreased in 2009-2012 but rebounding since 2012. Nonetheless, its share became insignificant compared to the early 2000s because of a rapid growth in exports of mineral commodities.

Figure 3. Shares of 'mineral commodities' and 'natural or cultured stones, precious metal, jewelry' in the mining sector exports

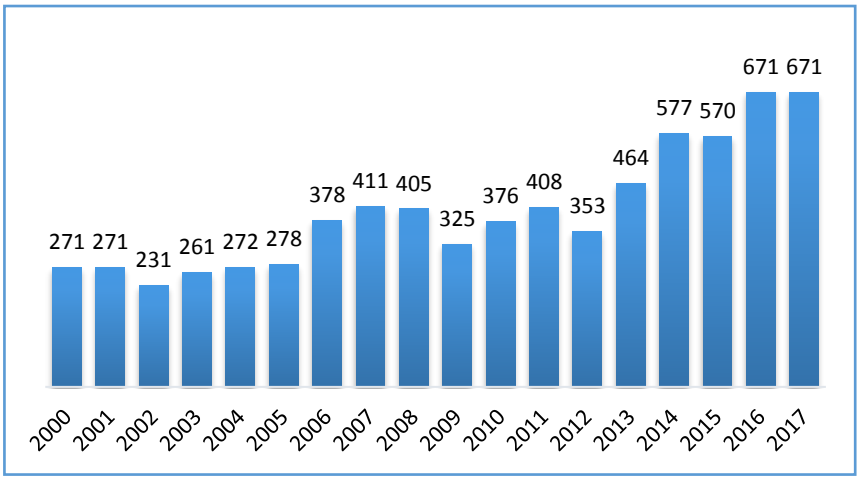


Source: NSO and Customs General Administration

In this study we focus on the non-mining sector as it is of greater interest both in terms of research as well as policymaking. The emerging government policies should target these sectors in order to diversify the exports sector and reduce the dependency on mineral products. Non-mining exports have generally been growing in the past decade or so, although at a much slower rate compared to the minerals sector. The following figure shows the volume of non-mining exports since 2000 (

Figure 4).

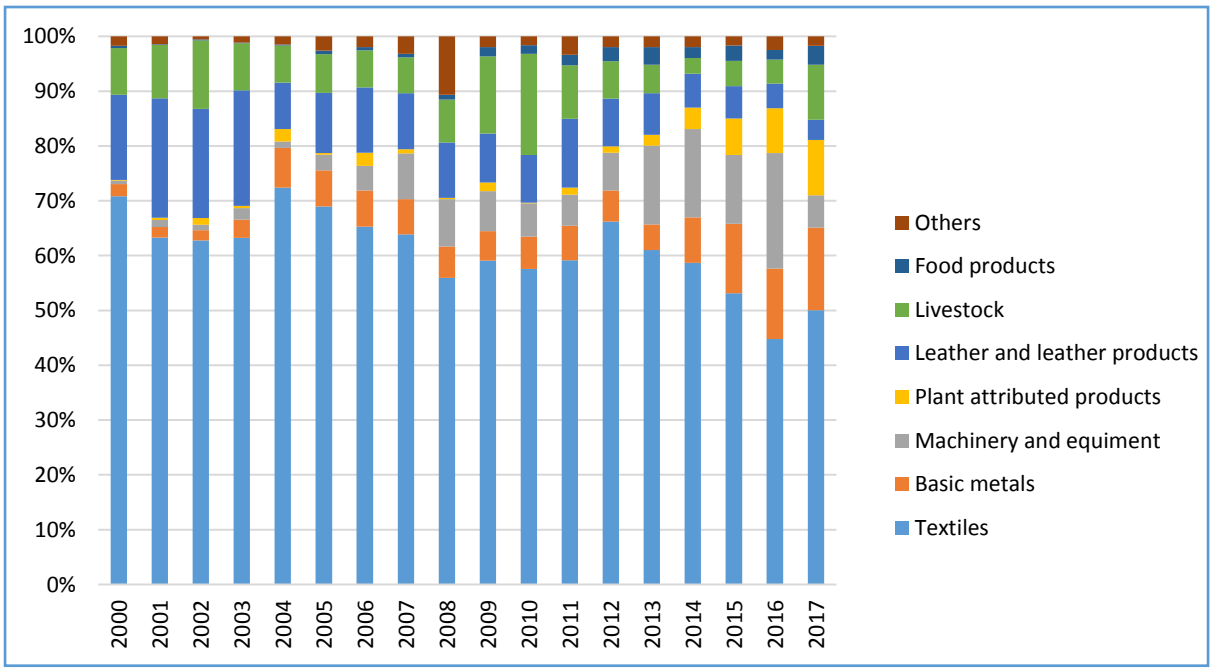
Figure 4. The non-mining exports, million USD



Source: NSO and Customs General Administration

We identify eight products which play a key role in explaining the changes and fluctuations in export of the non-mining sector. These products are textiles, basic metals, machinery and equipment, plant attributed products, leather and leather products, livestock products, food products, and rubber and plastic products. They constituted around 98.2 percent of non-mining exports in 2017 (Figure 5 below).

Figure 5. Share of main non-mining export products in total non-mining exports



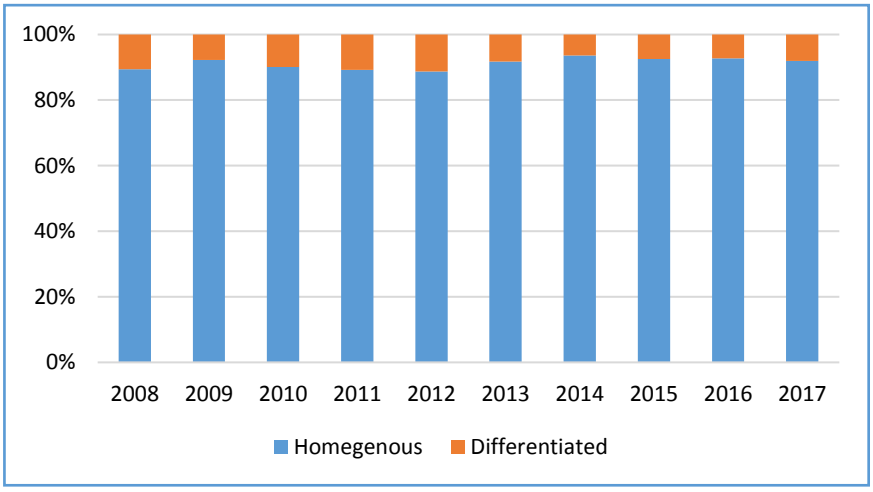
Source: NSO and Customs General Administration

Among the non-mining products, we further distinguish between homogenous and differentiated products. Homogenous products have essentially the same physical characteristics and quality as similar products from other suppliers, so can easily be substituted for the other. These include minerals, agricultural products like grain and sugar. Differentiated products, on the other hand, have attributes that are significantly different from each other, which makes it difficult to substitute one product for another. There are mostly manufactured goods and services. Therefore, export promotion policies for the two types of products should address different problems.

Developing countries in general specialize in export of primary products. For instance, Volte Martincus and Carballo (2010) estimated that the share of differentiated products in Latin American economies' total exports (excluding Mexico) was just 21.7 percent in 2007 compared to 62.3 percent in the case of developed countries. The authors argue that diversifying into these more complex goods represents an important challenge for firms in these countries. Differentiated goods are heterogeneous both in terms of their characteristics and their quality. Due to this, the signaling function of prices which works well for homogeneous products, becomes much weaker making it difficult to trade them in organized exchanges. Therefore, the information asymmetry problem about the quality and characteristics of differentiated products is more severe compared to trading of more homogeneous goods (*ibid*). Hence, the export promotion activities should focus on ameliorating information issues.

The Asian Development Bank (ADB) trade and industry sector assessment revealed that during 2004–2015, manufacturing value-added in Mongolia grew at a considerably lower average annual rate than real GDP with its share falling from 10.0 percent of GDP in 2003 to 5.7 percent in 2015. Likewise, the share of manufactured goods in merchandise exports dropped from 37.9 percent to 5.6 percent during 2003–2013. The following figure demonstrates the relative shares of 'homogeneous' and 'differentiated' products in the non-mining export sector in Mongolia.

Figure 6. Shares of 'homogeneous' and 'differentiated' in the non-mining sector exports



Source: NSO and Customs General Administration

From 2008 to 2017, homogeneous products amounted to 91.1 percent of the non-mining exports. In the last years, its share slightly increased, and as of 2017, it was 91.9 percent. Exports of wide-ranging differentiated products will make a country more competitive on the international market. Unfortunately, Mongolia's export products are mainly classified as homogeneous. There are only few types of differentiated products[1] among Mongolia's export items. These numbers are lower compared to other developing countries.

Some countries made impressive progress in the recent decade in shifting the export structure towards manufacturing (e.g., Artopoulos et al 2007). We will look into the experiences of these countries in this study and their relevance for the Mongolian exporters.

Due to the geographical situation, Mongolia trades mostly with its two neighbors – the Russian Federation and the People's Republic of China (PRC). As of 2017, China accounted for 64 percent of the country's total trade turnover (exports plus imports), while Russia's share stood at 12 percent, followed by the European Union (11 percent), Japan (4 percent), South Korea (2 percent) and the USA (2 percent). The relative importance of China has been increasing since the early 2000s, as it became the prime destination of mineral exports.

Table 1. Total exports by country of destination, percent

	2010	2011	2012	2013	2014	2016	2017
China, People's Republic of	**84.4**	**91.4**	**91.9**	**86.7**	**87.8**	**82.0**	**85.0**
European Union	**4.7**	**2.5**	**1.8**	**7.0**	**9.7**	**14.7**	**11.8**
United Kingdom	2.3	0.4	0.3	4.7	6.9	7.9	10.7
Switzerland	0.1	0.4	0.2	0.1	0.5	4.9	0.0
Germany	0.8	0.3	0.4	0.4	0.3	0.9	0.2
Italy	1.1	1.0	0.7	1.2	0.9	0.7	0.7
Others	0.4	0.3	0.2	0.5	1.2	0.3	0.2
Americas	**5.1**	**2.0**	**2.8**	**3.3**	**0.3**	**0.3**	**0.2**
USA	4.9	1.9	2.7	3.2	0.0	0.1	0.1
Others	0.2	0.2	0.1	0.1	0.3	0.2	0.0
Asia (excl. China)	**2.6**	**2.0**	**1.5**	**1.1**	**1.2**	**1.6**	**1.7**
Russian Federation	**2.7**	**2.0**	**1.8**	**1.4**	**1.1**	**1.2**	**1.1**
Other countries	**0.4**	**0.1**	**0.2**	**0.5**	**0.0**	**0.2**	**0.3**
TOTAL	**100**	**100**	**100**	**100**	**100**	**100**	**100**

[1] We classified the following products as differentiated products: 'wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles thereof', 'carpets and other textile floor coverings', 'articles of apparel and clothing accessories, knitted or crocheted', 'articles of apparel and clothing accessories, not knitted or crocheted', 'other made-up textile articles, worn clothing and textile articles', 'articles of leather; saddlery and harness; travel goods, handbags and similar containers', 'fur skins and artificial fur, manufactures thereof, 'products of animal origin, not elsewhere specified or included'. All other non-mining products are classified as homogeneous.

Source: International Trade Center and Customs General Administration

Until very recently, the destination of Mongolia's non-mining exports was more diverse compared to the mining commodities. China's share in non-mineral exports has been growing in recent years. The European Union (Germany, Italy and the UK until recently) remains an important destination for non-mining traders. Collectively they accounted for 20.4 percent of total non-mining exports in 2010, while its share dropped to 13.0 percent as of 2016.

Table 2. Non-mineral exports by country of destination, percent

	2010	2011	2012	2013	2014	2015	2016
China, People's Republic of	**55.0**	**56.6**	**66.0**	**59.0**	**63.5**	**60.8**	**71.8**
European Union	**23.4**	**23.6**	**20.0**	**25.7**	**21.7**	**15.2**	**14.9**
Germany	5.8	3.5	4.5	3.9	2.5	1.9	6.5
Italy	8.5	12.2	9.0	11.1	8.9	7.6	5.0
United Kingdom	6.1	4.1	3.4	5.2	3.3	2.7	1.5
France	1.0	1.9	1.0	1.8	1.6	1.3	1.0
Others	1.9	2.0	2.1	3.6	5.4	1.8	1.0
Asia (excl. China)	**9.7**	**10.7**	**7.6**	**7.1**	**7.3**	**15.0**	**8.9**
Japan	0.7	1.0	1.5	2.3	2.0	2.2	2.1
Korea, Republic of	0.7	0.9	1.5	0.8	0.9	9.5	1.2
Taipei, Chinese	0.0	0.0	0.0	0.2	0.0	0.2	1.2
Singapore	0.7	0.8	1.2	1.7	2.0	1.2	1.1
Others	7.6	7.9	3.4	2.2	2.3	2.0	3.3
Americas	**0.9**	**1.2**	**1.1**	**1.3**	**2.1**	**3.2**	**1.7**
USA	0.7	0.8	0.5	0.8	1.8	2.9	1.0
Middle East	**2.6**	**1.1**	**2.2**	**2.4**	**3.6**	**2.7**	**1.1**
Russian Federation	**8.1**	**6.5**	**2.7**	**2.3**	**1.6**	**2.5**	**1.3**
Africa	**0.1**	**0.1**	**0.5**	**0.6**	**0.2**	**0.0**	**0.1**
Australia and Oceania	**0.1**	**0.1**	**0.2**	**1.8**	**0.2**	**0.5**	**0.2**
TOTAL	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: International Trade Center and Customs General Administration

2.2 Export-Promotion Policies

Export promotion policies played a major role in the industrialization of the so-called newly industrialized economies, especially in East Asia, many of which now became advanced economies. Most notably Japan, South Korea, Taiwan and Singapore adopted export-promotion policies early on and mobilized powerful national planning infrastructure and centralized resources to aggressively promote exports. For instance, the Korean government developed five-year development plans and established state specialized banks (e.g., the Korea Development Bank) to disperse large amounts of medium and long-term investment financing

to export-oriented national enterprises with favorable terms and conditions. The banks were financed through cheap government and external sources (see Kang 2003).

In contrast, numerous studies point out the failures associated with import-substitution polices pursued by others, most notably some counties in Latin America in the 1960s. Since then, some of them successfully turned the trade policies around becoming avid exporters in the region. More recently, some Eastern and Central European countries successfully shifted their trade orientation after the collapse of the Eastern trading bloc COMECON and became strong exporters of manufactured goods.

Since its accession to the World Trade Organization in 1997, Mongolia has been actively promoting liberal terms of trade. For instance, the government has committed to maintain a 5 percent single import duty rate across most products. Some exports have been exempted from excise duties and value-added tax.

Mongolia with its limited domestic market capacity and vast natural and other resources naturally should turn to international markets for sustaining adequate levels of growth and addressing long-term development issues. The problem became more apparent with the surge of the mining sector, extremely high dependence on mineral exports and the associated volatility in foreign trade. There is a growing realization that more aggressive export promotion is needed, especially in the non-mining sectors. As a consequence, the government recently proclaimed export-led growth to be the development priority in the forthcoming years and took some first steps toward national export-promotion policies.

2.2.1 National Export Promotion Programs

The first export-promotion policy attempt was carried out by the government in 1998. The government initiative "Support for Export Production" (decree No. 158) aimed at promoting mineral and agricultural exports and tourism. The decree foresaw that program implementation would be supervised by the National (Export) Council. However, the council was never created and the decision was canceled in 2002. It could be argued that this government initiative did not have a noticeable impact on the external trade, as very limited resources were devoted to the program implementation. Generally, we saw sharp increase in the mineral sector exports due to global forces and discovery of new mining sites. However, things have not changed much in other sectors.

The Comprehensive National Development Strategy for 2007-2021 based on Mongolia's Millennium development goals adopted in 2008 by the Parliament of Mongolia declared export-led growth to be a government priority. In particular, the document points out the *second* national priority to "intensively develop *export-oriented*, private sector-led, high technology-driven manufacturing and services with particular focus on information, communication development, promoting bio and nanotechnology, transit transportation, logistics, financial mediation services, deeper processing of agricultural products, and create a sustainable, knowledge- based economy" (Chapter 3).

The role of the mining sector is now seen as a stepping block in building up the capital accumulation and financial resources necessary for establishing a knowledge-based economy. Furthermore, mineral revenue could be used to build the infrastructure required for expanding other export sectors, such as regional energy system and transportation to efficiently connect with the two neighbors and trade beyond them with Europe and the rest of Asia.

The first more or less comprehensive national policy to promote exports was adopted in 2013 with the government approval of the "Export Promotion Program" to be implemented in 2013-2018 (Government Decree No. 239, July 6th 2013). Prior to this, the bulk of government actions to support exporters were conducted through separate industry policies such as those promoting light industry, animal husbandry, agriculture, infrastructure development, and development of small and medium enterprises. These will be discussed in more detail in the next section on sectoral analysis.

The program aims at supporting exporters with necessary credits, credit guarantee, trade financing and insurance facilities; strengthen export base by helping to penetrate new foreign markets, abolish supply constraints and improve export competitiveness; and reduce red tape by introducing the "single window service" system making it easy for traders to comply with government regulations. The program aims to boost exports, promotes export diversification and supports non-mineral sector exports to be accounted for at least 1/3 of total exports in the medium term.

Box 1. Key elements of the Export Promotion Policy 2013

Goal:

To increase Mongolia's export revenues, ensure the development of a suitable structure for foreign trade, support the domestic production of substitutes for export and import products, ensure the effective financing of exports, and to develop a system of leasing services for exports and export supporting imports.

Objectives:

1. To increase exports by providing market research, marketing advises, and creating a system of import licensing to supports exports and help establish exporters in new markets.
2. To create an effective system of domestic and foreign financing for the manufacturing of export and import substitutes.
3. To create an infrastructure environment to reduce the cost of export financing and other expenses.
4. To implement the "One Window" policy through supporting leadership and private sector initiatives.
5. To improve the efficiency of the current export transportation system, develop non-tariff regulation methods, and ensure the efficient and timely clearance of border customs.

Financial resources:

- Financial resources will include investment from the state budget, international banks, donor countries, international organizations, domestic and international private sectors, and short-term loan sources in line with the policy outlined by the Bank of Mongolia.

Outcomes:

- No balance of trade deficient, domestic savings and foreign currency reserves will increase.
- Increased diversity of export products and the composition of non-mineral exports has tripled over five years to a minimum of 21% of total exports.
- Introduction of new technologies that meet the requirements of international standards. Increased adoption rate of new technologies and improved conditions to produce internationally competitive, high quality final products into the world market.
- Reach a new threshold of export activities, implemented under the "One Window" policy.
- Greater financial strength and rise-taking capacity of domestic enterprises producing export products.

In 2016 the government approved another "National Export Promotion Program" (Government Decree No. 211, April 18th 2016) based on the "Concepts of Mongolia's Sustainable Development 2030" adopted by the Mongolian parliament in February 2016. The new program is a revised version of the previous program and to be implemented in 2016-2020. The program aims at promoting non-mining exports in the long run. The prime objective of the program is diversifying exports, improving the competitiveness by introducing innovation and higher technology into production of exports goods.

No official evaluation of the program implementation has been done. Some media sites such as Bloomberg Mongolia mentioned that the targets of previous program have been met only at 18 percent, but no official data has been procured. The practice of adopting new programs without proper evaluation of the previous ones is a common practice in Mongolia. Unfortunately, no such scrutiny has been conducted in this case.

Box 2. Key elements of the National Export Promotion Policy 2016

Goal:

Support the long-term sustainable growth of the Mongolian economy through enhanced competitiveness and diversification through innovation, technological advancement, and technology based export products.

Objectives:

1. To improve the legal environment to increase export revenues and promote the diversification of export products.
2. To implement the "single window" policy to support exports, develop infrastructure and logistics.
3. To create an efficient financing system to support export oriented domestic manufacturers and producers.
4. To develop and implement a policy to improve the competitive capabilities of enterprises and to assist when penetrating into new export markets.
5. To diversify exports by introducing environmentally friendly, economically efficient technologies into manufacturing processes, promoting innovation and supporting non-mining production clusters.

Financial resources:

- State budget, Development Bank funding, donor countries, international banks, financial institutions, and private sector investment.

Outcomes:

- Diversifying exports, increasing the export of non-mining sectors to 30 percent of total export
- Increase the share of manufactured products as a part of total exports to 15 percent.
- Increase the full processing of leather, wool, cashmere and other agricultural commodities to 60 percent and increase the export income of the food, agriculture and light industry sectors to USD1 billion per year.
- Completely implement and manage exports through the "single window" policy.

Prior to adopting a general export promotion program in 2013, the government support targeted the production and export of leather and leather products, cashmere and wool products. The new program aims at promoting the light industry in general, food and agricultural production becoming one of the priority sectors.

2.2.2 Export Promotion Organizations – an institutional portrait

In a country, there could be different types of export promotion organizations: public, private, or mixed; broadly oriented at promoting foreign trade or narrowly concentrated on a territory or specific sector/product. Furthermore, these organizations can be configured in alternative ways, inducing scholars to identify different 'models' of organizational configurations. Jordana et al (2010) propose four such models: hierarchical public, decentralized public, pluralistic, and private.

In a *hierarchical public model*, there is a single public organization which leads the export promotion policy in the country, while other organizations play a secondary role. In a *decentralized public model* there are several public (or semi-public) organizations and no one dominates. They do not compete directly with each other because their territorial and functional spaces are clearly delimited. Therefore, there is substantial room for cooperation and coordination. In the case of a *pluralistic model*, there exists a variety of export promotion organizations of public and private nature, which are active along different functional lines. They are fragmented but also specialize, hence they can be both competitors and cooperators. The *private* model corresponds to a case of predominance of a private export promotion organization, where policy initiatives come from private actors and public entities, if any, play only a secondary role.

Jordana et al (2010) claim that the degree of success can be extremely heterogeneous across organizational configurations. Moreover, actual configurations may be the result of complex country-specific institutional developments over several decades. This is especially the case in Latin America with its long history of trade promotion efforts. The effectiveness of export promotion efforts depends on the context in which the export promotion organizations are operating, staffing and budgeting, presence in the country and abroad, and the type of services that are provided by these organizations.

In Mongolia, we observe the decentralized public model of export promotion policymaking. The foreign trade policy landscape in Mongolia consists of several institutional players which include government agencies, non-government organizations, and bilateral and multilateral financial organizations. The international trade promotion function of the government shifted to different ministerial portfolios in the past decade.

Table 3. Foreign trade function of the government

	Foreign trade function	Export promotion initiatives
2004-2008	Ministry of Industry and Commerce	Foreign Investment and Foreign Trade Agency Ministry of Food and Agriculture Ministry of Foreign Affairs
2008-2012	Ministry of Foreign Affairs	Ministry of Food, Agriculture and Light Industry National Development and Innovation Committee
2012-2014	Ministry of Foreign Affairs and Economic Cooperation	Ministry of Labor (SME Development Fund) Ministry of Economic Development Ministry of Industry and Agriculture
2014-2016	Ministry of Industry	Ministry of Food and Agriculture Ministry of Foreign Affairs
Since 2016	Ministry of Foreign Affairs	Ministry of Food, Agriculture and Light Industry National Development Agency

Source: Various laws and parliamentary orders on the government composition

In 2004-2008, the function rested with the Ministry of Industry and Trade, which also oversaw Foreign Investment and Foreign Trade Agency (FIFTA). The activities of the FIFTA were mostly focused on foreign investment. The export promotion leg of the agency was understaffed and lacked funds (Gotz-Debnicka & Baigalmaa, 2014). The agency was dismantled in 2008 and its remnants were moved to a new portfolio with the Ministry of Foreign Affairs and the National Development and Innovation Committee. Since then, the government trade promotion responsibility rested with differing ministries and agencies as a result of mergers and separations of various ministerial portfolios (see Table 3 above).

In the current cabinet configuration, the Ministry of Foreign Affairs (MFA) is the prime government agent responsible for overall foreign trade policy. The MFA portfolio – namely its Department of International Trade and Economic Cooperation – is responsible for the oversight of trade policies in general and export promotion in particular. Diplomatic missions abroad also have responsibilities for economic matters and are subordinated to the MFA, but they have not been effectively used for Mongolian export promotion. Thus far the role of these missions in trade promotion has been limited to helping Mongolian companies to participate in fairs and exhibitions. Some of them gather information on foreign markets. Economic tasks are a relatively new function for the diplomatic missions. However, its importance is increasing, especially with the move of trade portfolio to the MFA.

Export policy initiatives undertaken before 2013 were more sector specific. The bulk of export promotion measures were targeted at specific sectors and financial and other support was conducted through such funds as Small and Medium Enterprise Development Fund (SME Development Fund), Animal Protection Fund, Crop Development Fund etc. These funds were managed by government ministries in charge of agriculture, light industry, and labor. The portfolios of these ministries have changed multiple times in the last decade or so. For instance, the SME Development Fund was initially established at the Ministry of Food and Agriculture, later moving to the Ministry of Industry and Trade, Ministry of Labor, then Ministry of Industry, and finally settling (currently) back within the portfolio of Minister of Food, Agriculture, and Light Industry (MFALI). The industrial policy function was split in 2016 into heavy industry (Ministry of Mining and Heavy Industry) and light industry. The latter was combined with the food and agriculture policies within the portfolio of the MFALI. With this restructuring, the most of export promotion initiatives rest within this ministry. The more recent programs on export promotion are attempting to centralize the export promotion policies. The newest National Export Promotion Program of 2016 promulgates the Ministry of Foreign Affairs (responsible for foreign trade) to oversee the implementation of the entire program.

Several non-government agencies engage in export-promotion efforts. The most important one among the NGOs is the Mongolian National Chamber of Commerce and Industry (MNCCI). The Chamber has over 3000 members and provides export related services, such as training programs, information on foreign trade documents and business contacts. The Chamber has 12 regional branches at rural areas and 30 representatives in foreign countries, including several representations in China, Russia and the US. The Chamber has received technical assistance from a number of foreign chambers of commerce.

There are several industry associations, including Mongolian Wool and Cashmere Association, Mongolian Textile Producers Association, Meat Association and the like. Their goal is to determine sector problems and to solve it by organizing seminars, conferences, training programs and to act as lobbyists, representing their members in their relations with the Government. However, their efforts in export promotion are rather limited, if existent at all. Few of them support sector producers in participating in international trade fairs. The Mongolian Wool and Cashmere Association and the Mongolian Leather Producers Association explicitly mentioned export promotion as one of their priority activities. The latter is currently implementing “Revival of the Leather Industry Project 2012-2020” in collaboration with the ADB, Ministry of Finance, and (the former) Ministry of Industry and Agriculture.

A number of trade related projects are financed by international financial organizations. ABD financed projects on agriculture and rural development, providing concessional loans to small producers in the agriculture and light industry sectors. For instance, the “Agriculture and Rural Development Project” aims at improving the quality and standards of potential export products in the agriculture sector, helping agribusiness enterprises to develop supply value chains with the purpose of delivering premium products that command high prices in international niche markets.

In 2017, the World Bank and the Ministry of Finance (MoF) launched the "Export Development Project" with the main objective to support small entrepreneurs by strengthening their export capabilities and expanding their access to foreign markets. The project diverges in three directions: (i) developing new line of export finance products through strengthening the Agricultural Reinsurance Joint Stock Company, (ii) boosting competitiveness of exporters (and potential exporters) through training programs and matching funds, and (iii) providing various export-related services.

Bilateral agencies also provide some input in promoting non-mining exports. The most notable players include German agency GIZ (formerly GTZ), the Japanese International Cooperation agency (JICA), USAID and few others. The engagement of these agencies is sporadic and decentralized. The GIZ and JICA projects focused on SME development in general. The JICA implemented the two-stage loan project to support small- and medium-sized entreprises. Through Mongolia's commercial banks, the projects issued low interest-rate loans to SME in the total amount of 8 and 5 billions yen for the two stages, respectively.

Within broader small business development initiatives in certain selected sectors – namely wood processing, construction, leather and fur, printing, wool and cashmere, and eco-tourism – the GIZ spent some resources on SME export policy and technical assistance on some export issues, such as meat export to European Union (EU) and export potential of cashmere. These included extensive training programs and facilitation of participation in international trade fairs and exhibitions.

The Economic Policy Reform and Competitiveness Project funded by the USAID aims at helping to create an improved enabling environment for private sector growth and more competitive industries and sectors. The project is focused on cashmere, tourism, meat and leather industries. The USAID and GTZ projects have helped to establish Mongolian cashmere distribution center in Berlin, financed by the Mongolian cashmere companies and Mongolian commercial bank. The project provides the market intelligence for selected sectors and publishes manuals for companies, for example how to present themselves at the foreign fairs.

The sum up, Mongolia's foreign trade policy oversight and export promotion actions rest with various institutional players. The policy control moved among several ministries resulting from varying portfolio configurations, which may have negatively affected the policy continuity and consistency. International experiences show the importance of consistent application of sound export promotion strategies. As Jordana et al (2010) notice, "sudden and radical institutional changes and, in particular, sharp strategy discontinuities as those observed in some countries over the 1990s appear are likely to have significant negative impacts on policy effectiveness." (97). We observe some institutional discontinuity and changes in the strategies in Mongolia. Especially, the shifting of the trade function between different ministerial portfolio is bound to have disruptions in the policy consistency and potential loss of trained personnel and expertise. There are no private players in the field. Other non-government public agencies are few and lenient. Presence abroad of various players is minimal with the possible exclusion of the Chamber of Commerce and Industry. Diplomatic missions

still play a minor role in promotion of exports. Financial and human resources seem to be scarce and the scope of activities is limited.

International players provide some critical financial and technical assistance in the form of access to cheaper finance and capacity building. However, these efforts are more directed to the small business sector in general rather than export sectors. Specific support to exporters is focused on few sectors and seem to be ad hoc.

2.2.3 Export Promotion Policy Instruments

Export promotion policy instruments include financial and non-financial measures. The more traditional export promotion policies generally consisted of fiscal incentives, special credit packages, and direct support to exporting firms. These were widely practiced in Latin America and East Asia. However, most of these policies have proved ineffectual and lead to bureaucratic and non-operative organizations. This is especially true in Latin America where the export promotion policies initiated in the 1950s and 1960s collapsed in almost every country in the region (Jordana et al 2010). Many of these countries in region reintroduced export promotion policies since the mid-1990s. The conceptual basis for these policies is rather different. They allegedly aim at the potential market failure associated with imperfect information. Information failure could be of two types: (i) high transaction costs on domestic exporter side associated with successful searches of business opportunities abroad, and (ii) similar lack of information and high search costs of potential buyers in a foreign country about the quality and specifications of (our) export products. Therefore, "these policies emphasize the support to companies to overcome informational barriers and downplay the role of direct fiscal and credit instruments." (*ibid*). The problem is more acute with differentiated products which require higher search and other transaction costs.

The Mongolian government's policies so far largely follow the traditional development paradigm. They consisted mostly of financial incentives. These included provision of concessional loans to exporters, VAT exemption on certain export products, monetary compensation to herder families which supplied quality raw materials to exporters, and government guarantees for exporters to mitigate the risk on international markets. These measures were financed directly from the state budget as well as the Development Bank of Mongolia, a government-run bank which provides concessional loans for public and private projects.

The following passage describes some of the financial export promotion activities by sectors.

Textile sector

- Since 2011: Cash intensives are paid to herders and citizens with livestock who provide national producers with raw sheep and camel wool.
- From 2011 to 2014: GoM provided a loan to support the national cashmere and wool producers.

- In 2013 and 2015: GoM provided loans to support textile industry within the objective to increase export and import substitution products.
- Since 2015: The VAT for export of several types of wool and cashmere products has been nullified.
- GoM has made 100 billion MNT of guarantees to avoid foreign market risk for cashmere production within the objective of export promotion and support of cashmere production.

Leather and leather products

- From 2012 to 2014: GoM provided a loan to support national producers of deep processed skins and finished leather products.
- Since 2012: Cash intensives are paid to herders and citizens with livestock who sell raw skin and hide to national producers.
- Since 2015: The VAT for export of several types of leather products has been nullified.

Basic metals

- In 2015, GoM provided loans to support metallurgical plant to promote the production of export and import substitution products.

Machinery and equipment

- In 2015, GoM provided loans to support metal refinery and machine production to promote the production of export and import substitution products.

Livestock sector:

- In 2015, GoM provided loans to support production of milk and dairy products within the objective of export promotion and import substitution products.
- Since 2016, GoM implemented national 'Meat' program and one purpose of its is support export of meat production. But GoM has not lend money to this type of production yet.

Food products

- In 2013, GoM provided loans to build greenhouse farming within the objective of manufacture promotion.

Rubber and plastic products

- In 2015, GoM provided loans to support recycling and package production with the objective to promote exports and import substitution products.

The bulk of the above measures has taken place in 2012-2015 when the national economy was depicting high growth due to hike in the international prices of mineral commodities and China's economic expansion. The ample budget resources were supplemented with the infusion of bond money. Some of the proceeds from the USD1.5 billion Chinggis bond were

spent in the form of soft loans to selected sectors through the Development Bank, allegedly without proper scrutiny of individual projects.

The non-financial policy measures included "single window service" and establishment of agricultural exchange to provide easy access to agricultural raw materials for both suppliers and buyers-exporters. However, these measures have not been effective.

Although announced since 2007 and some progress has been achieved, for instance, in the adoption of a customs automated information system, which allows online submission of customs declarations, the "single window service" project has not been fully implemented. Studies have shown that the cost of trade in Mongolia remains high, in large part because of complex, cumbersome and nontransparent trade procedures. The 2016 World Bank Doing Business Report ranks Mongolia 102nd out of 189 countries on the ease of trading across borders. The rank worsened to 103 in 2017 and 110 in 2018. The Logistics Performance Index ranks Mongolia 135th out of 160 countries in 2014 and 108th in 2016. Mongolia has one of the lowest scores for customs clearance and border crossing, which are the cause of major delays. Excessive physical inspections represent a major source of delay and impose heavy costs on traders due to storage costs for securing goods while in transit (ADB Sector Assessment: Industry and Trade 2016).

Geography, poor infrastructure, low utilization of information and communication technology, and inefficient international trade procedures all contribute to high transaction costs and low trade volume in the country. The government's efforts to deal with infrastructure bottlenecks through such initiatives as Transit Mongolia Program and regional collaboration with neighboring countries will require some time before giving real fruits. In the meantime, some steps have been taken to improve the situation by expanding trade and investment cooperation in the region and negotiating free trade agreements with some trading partners. For instance, Mongolia has successfully concluded its accession to the Asia–Pacific Trade Agreement in 2013, and signed a Free Trade Agreement with Japan in February 2015, which entered into force in June 2016.

Another way to promote exports is through services such as training programs and capacity building among the existing and potential exporters. The usual array of services include: "training on export business; information on foreign markets (either general or specialized based on substantive analysis); counseling and coaching to develop and execute tailored export plans; support to participation in promotional activities abroad (and at home) such as missions and fairs, and to specifically set up meetings with potential customers; coordination of consortia of small exporters; and other specialized assistance such as programs helping firms upgrade the quality of their products" (Jordana et al 2010).

Some of these services are provided to Mongolian exporters and potential exporters. They are predominantly supplied by NGOs and international aid agencies. For instance, the Chamber of Commerce and Industry provides the following services to exporters:

- Certificates of origin

- Registration of patents and trademarks
- Arbitration court
- Information on foreign trade documentation
- Organization of foreign fairs and exhibitions
- Providing business contacts
- Training programs on foreign trade managements
- SMEs advisory services.

Training programs have been carried out by ADB, World Bank, GIZ, the Swiss Agency for Development and Cooperation (SDC).

Overall, the government resorted to sector-specific financial measures in 2011-2015 when the budget and other financing sources were available. These programs largely dried up since 2016 when the economy took a dip. The government also undertook partial measures to ease the trade procedures. However, no substantial improvement has been depicted thus far. Some limited nonfinancial support in the form of training and basic services is provided by non-government agencies. The effect of these efforts seems to be limited.

3. EMPIRICAL METHODOLOGY

In this section we provide an overview of our research methodology. Our main aim is to study non-mining export in depth, and we employ two kinds of methodology. The first methodology based on a comparative advantage which is regularly used when studying changes in commodity pattern of trade in a country. We use this methodology in conducting sectoral analysis. The second methodology is a 'gravity model', the workhorse tool for studying the foreign trade. This model is most commonly used in the study of trade. We will give more detail about the methodology in the corresponding sections of this study.

The comparative advantage has a significant role for a foreign trade because a government needs to focus on developing trading sector with comparative advantages compared to other countries. To identify products with the comparative advantage, we employ the 'revealed comparative advantage' index first introduced in 1965 by Béla Balassa. The index is based on David Ricardo's theory of comparative advantage, the most useful theory when studying foreign trade. Since then, the method has been commonly used. Even though the standard formula was augmented by imports, net exports, GNP, and production, we use the standard version (Donges & Riedel, 1977; Bowen, 1983; Vollrath, 1991) because their results are not disparate.

Balassa & Noland (1989) calculated the revealed comparative advantage index for Japan and the US using the data derived for 57 primary and 167 manufactured product categories. They discovered that there is a relation between the revealed comparative advantage index and changes in composition of exporting products of both countries. As a result, both nations increased their comparative advantage and the volume of trade in high technology products, which illustrated that comparative advantage could affect the foreign trade and policies imposed by a government. Muendler (2007) tested whether there is a relationship between comparative advantage and trade-related variables using data of the Brazilian agriculture, mining and manufacturing sectors between 1986 and 2001. This research was based on the standard formula developed by Béla Balassa. Muendler's linear regression result revealed that Brazil's revealed comparative advantage is not statistically significantly related to tariffs, and is associated with other trade-related variables at common significance levels. Thus, the revealed comparative advantage index is a useful tool which could be used for designing better policies in promoting exports.

The second analytical tool we are using the gravity model. The basic gravity model emerged in the 1960s as an empirical specification with hand-waving theoretical underpinnings, and based on the Newton's theory of gravity. The model was frequently criticized for being inconsistent with economic theory, as the model considers foreign trade to depend on home and trade partner's economic size and a distance between the two countries. In other words, other trade variables, such as tariffs, geographic characteristics, types of transportation, relative prices, exchange rate, and so forth, do not have effect on the trade.

Researchers improved and developed the basic gravity model by economic theories. In most cases, the augmented gravity model is named as 'the Gravity with Gravitas model' firstly introduced in Anderson & Wincoop (2003). Estimated standard gravity model suffers from omitted variables bias (*ibid*). The study applied the developed model to solve the border puzzle, and found that national borders reduce trade between industrialized countries by moderate amount of 20 to 50 percent. Furthermore, Raballand (2003) estimated the negative of impact of being landlocked on trade for a panel database using the Gravity with Gravitas model. It concluded that being landlocked will reduce trade by more than 80 percent when measured by a dummy variable. The number of border-crossings, which implies a transport cost burden, can explain a major part of the extra cost of overland transport in comparison with maritime transport (Raballand, 2003). The Gravity with Gravitas model was applied in the case of Mongolia. Vorshilov & Ulzii-Ochir (2016) analyzed the current state of Mongolia's trade pattern and tried to determine the trade cost incurred by Mongolia using the model. Unfortunately, the most chosen variables do not have an effect on the Mongolian trade flows at common significance levels. In addition, the research focused on the total export instead of classifying it as mining and non-mining.

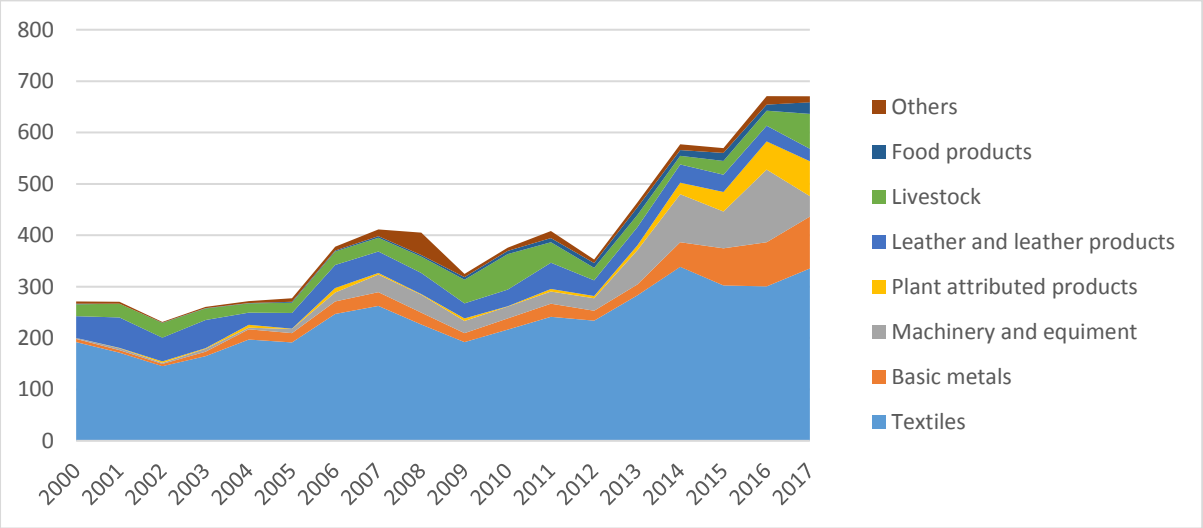
Depending on the analytical approaches, we propose to use different data and data sources. Our calculations of the revealed comparative advantage by sectors and industries are based on historical data and information. It will be extracted from the data portal World Integrated Trade Solution (WITS) and Trade Map maintained by the WB and International Trade Center, respectively. Furthermore, data published by official organizations, such as the Bank of Mongolia, the NSO, and the Mongolian Customs General Administration will also be utilized in our analysis.

4. IMPACT OF EXPORT PROMOTION POLICIES ON SECTORS

The sectoral analysis aims to make detailed analysis on each of the priority sectors which play a considerable role and those with potential to become one of the major export sectors in the near future. The following figure shows the shares of some products in the non-mining exports. Export of textiles accounts for over half of non-mining exports. Another significant export item is machinery and equipment which experienced rapid expansion since 2012.

We based our selection of the major sectors on the calculation of comparative advantages of various sectors, share of labor in production, and support provided by the government and other non-government organizations.

Figure 7. Non-mining exports by sectors, million USD



Source: NSO and Customs General Administration

We measure comparative advantages by the major sectors using Béla Balassa's "Revealed Comparative Advantage (RCA)". The following formula is used when estimating the index (XRCA) which has been defined as the ratio of a particular commodity category in a country's export to its share in world market:

$$XRCA = \frac{X_{ije}}{\sum_i X_{ij}} \div \frac{\sum_i X_{iw}}{\sum_i \sum_w X_{iw}}$$

where X stands for exports, and subscripts *i*, *j*, and *w* refer to product, country and world, respectively. If *XRCA* is a greater than 1, country *j* has the comparative advantage in production of *i* compared to the world (Balassa B. , 1965).

The network structure is given by the country-product adjacency matrix $\widehat{M}$ defined as

$$M = \begin{cases} 1 \; if \; XRCA > 1 \\ 0 \; if \; XRCA < 1 \end{cases}$$

where M≥1 tells us that country *j* is a competitive exporter of the product *i*.

The following table reveals their comparative advantages, and for two sectors – textiles, and leather and leather products – Mongolia had a comparative advantage until 2017.

Table 4. Export Revealed Comparative Advantage (*XRCA*) by the priority sectors

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Textiles	2.20	2.25	1.77	1.20	1.32	1.57	1.33	1.38	1.29	0.92
Leather and leather products	3.01	2.73	1.89	1.76	1.13	1.24	0.93	1.03	0.91	0.34
Basic metals	0.11	0.13	0.10	0.07	0.07	0.08	0.12	0.23	0.28	0.28
Machinery and equipment	0.04	0.04	0.02	0.01	0.02	0.05	0.05	0.04	0.08	0.01
Plant attributed products	0.02	0.11	0.01	0.04	0.04	0.08	0.15	0.29	0.39	0.81
Livestock	0.75	1.24	1.33	0.46	0.31	0.30	0.14	0.29	0.29	0.55
Food products	0.05	0.09	0.07	0.06	0.07	0.11	0.06	0.10	0.07	0.06
Rubber and plastic products	0.02	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.03	0.02

Source: Authors' estimation

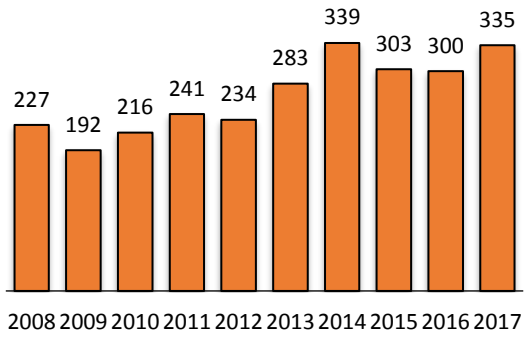
We include the two sectors with comparative advantage – textiles, and leather and leather products – and plant attributed products which do not have comparative advantage, but its comparative advantage index has been continuously improving. In addition to the three sectors, the research team selected basic metals, machinery equipment, and livestock using other criteria. Firstly, the share of basic metals and machinery has been increasing sharply in the total non-mining exports in the recent years. Secondly, the livestock sector is labor-intensive and contributes substantially to the employment. Many believe that the nomadic lifestyle and nomadic culture combined with vast territory with different geography and nature have a potential to attract tourists.

4.1. Textiles sector

In the last two decades, export of textiles increased threefold. There is a positive relation between the economic growth and its export: when economic growth is relatively higher, the sector's export grows as well. Export of textiles stood at USD339 million in 2014, whereas in 2016 it decreased to USD300 million. The sector's main exporting product is 'wool, fine or coarse animal hair; horsehair yarn and woven fabric'[2] which accounts for around 90 percent of the total export. In addition, 'articles of apparel and clothing accessories, not knitted or crocheted' account for the remaining 10 percent

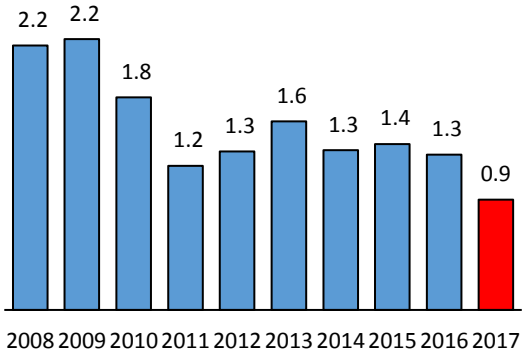
[2] The main products are 'fine or coarse animal hair, neither carded nor combed' and 'wool and fine or coarse animal hair, carded or combed' prevail export of '.

Figure 8. Textile sector's export, mln USD



Source: NSO and Mongolian Customs General Administration

Figure 9. Textile sector's XRCA index



Source: The research team's calculation

The Government of Mongolia (GoM) has been undertaking projects and policies to support exports of textiles. In 2011, the GoM started to provide concessional loans to support national cashmere and wool producers and spent 273 billion MNT in total. However, these loans stopped in 2014. In addition, GoM has been paying cash incentives to herders who supply sheep and camel wool for national production since 2011, and the government has spent 50 billion MNT in total. Due to these support programs, exports of textiles and comparative advantage of the sector increased over the period of 2011-2014. The most rapid and considerable growth occurred in 2013 and 2014, with exports reaching USD283 million and USD 339 million, respectively.

Within the overall objective of export promotion and domestic production of import substituting products in 2013 and 2015, the government provided the textiles sector substantial amount of loans, and total spent was 5.3 billion MNT, respectively. In these years, the government was able to provide loans because of the ample financial resources raised by issuing sovereign bonds, such as the Chinggis Bond. Some parts of the bonds were managed to finance these loans through the Development Bank of Mongolia. We argue that the loans supported not only the exports of textiles, but also sector's comparative advantage in 2013. In order to further encourage exports of textiles, the government annulled the VAT for export of several types of wool and cashmere products in 2015. Although export of textiles declined in 2015, the sector's comparative advantage grew to 1.4 from 1.3. We observe sharp decline in the revealed comparative advantage index of 2017, which is mostly attributable to the increase in the mining exports.

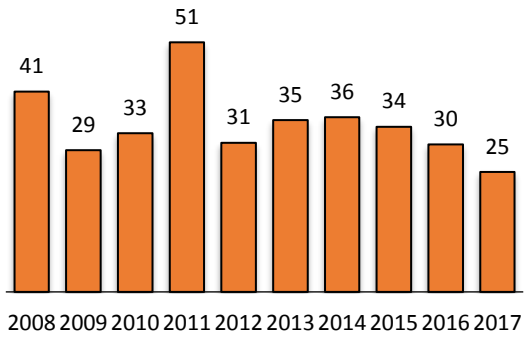
4.2. Leather and leather products

The main factor influencing export of leather and leather products is the *dzud* (severe winter blizzard) and drought. After the occurrence of the *dzud* and drought in Mongolia, when a lot

of animals die, the sector's export grows significantly. For example, following the a severe dzud and drought that hit the Mongolian livestock sector in 2010, leather exports peaked at USD51 million in 2011.

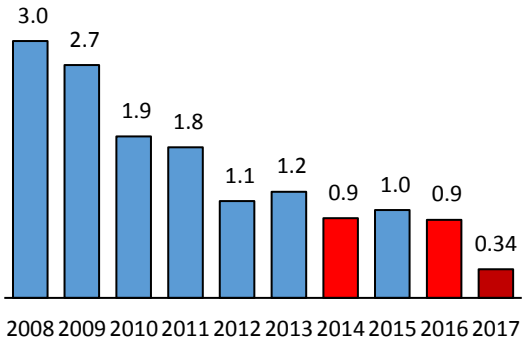
'Raw hides and skins (other than furskins) and leather' accounts for around 99 percent of the sector's export. In 2016, export of the 'raw hides and skins (other than furskins) and leather' declined by 26 percent, resulting in the decrease in a share in export of leather and leather products, while an 'articles of leather; saddlery and harness; travel goods, handbags and similar containers' exported more, which increased its share to 20 percent from 3 percent.

Figure 10. Exports of leather and related products, mln USD



Source: NSO and Customs General Administration

Figure 11. Manufacture of leather and related products' XRCA index



Source: Authors' calculation

Leather and leather products are one of Mongolia's two non-mining products with a comparative advantage. The Mongolian government started to promote the sector in 2012. The GoM provided a loan to support national producers of deep processed skins and finished products during the period 2012-2014 spending a total of MNT64.37 billion. Although these loans increased the exports of leather and leather products, their size was not sufficient to increase the sector's comparative advantage. For instance, the sector's export was USD31 million in 2012, in 2014 in reached USD36 million due to the loan provided by the government.

However, the loan's impact on the sector's export is relatively smaller compared to *dzud* and drought. Furthermore, the government has been paying cash incentives to herders who supply the national leather producers with raw materials since 2012. The government has spent 20.2 billion MNT during 2013-2015. In 2015, the government also nullified the VAT for export of several types of leather products. However, this could not substantially support the sector's export.

Even though the government has been implementing some policies and projects, the sector's comparative advantage has constantly been declining since 2008. For example, in 2008, the revealed comparative advantage was 3.0, whereas it equalled to 0.9 in 2016, lower by over 2 points. The sector's comparative advantage rapidly reduced during the period 2008-2012. With

the government's promotion policies, the sector's comparative advantage stabilized around the threshold. However, last two years show that the sector lost its comparative advantage.

4.3. Other export sectors

This section will give an overview of exports basic metals, machinery and equipment, plant attributed products, livestock, and arts and tourism. Exports in these sectors have been growing for the past decade. For example, exports of basic metals and machinery and equipment increased fourfold. The revealed comparative advantages estimated are lower than the threshold, which means that these sectors do not have the advantage (see Table 1).

The exports of basic metals generally grew in the last years, reaching USD86 million in 2016. Over 90 percent of exports of basic metals is accounted for 'copper and articles thereof. The main products of the copper and articles thereof are copper mattes; cement copper "precipitated copper". The most rapid growth happened in 2014 thanks to starting operation of Achit Ikht LLC which produces and exports cathode copper.

Figure 12. Exports of basic metals, mln USD

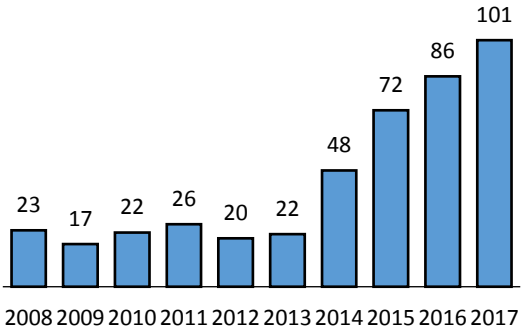
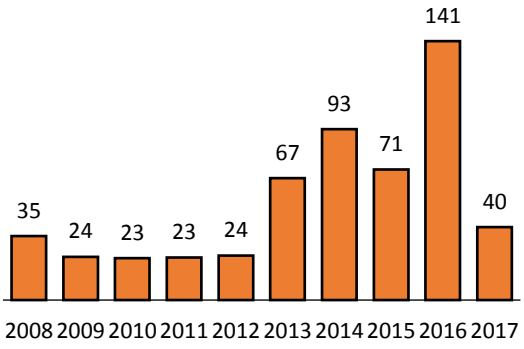


Figure 13. Exports of machinery and equipment, mln USD



Source: NSO and Mongolian Customs General Administration

Compared to 2008, exports of machinery and equipment grew five times. Since 2013, the exports started to rapidly grow, resulting in USD141 million of exports in 2016. 'Machinery, mechanical appliances, nuclear reactors, boilers, parts thereof'[3] and 'vehicles other than railway or tramway rolling stock, and parts and accessories thereof' accounted for 85-90 percent of the sector's exports. However, sharp decline in the sector exports in 2017 reveal that at least some of the items under this sector may have been re-export of machinery that have been imported few years ago during the mining and infrastructure sector boom.

[3] The main products are 'parts suitable for use solely or principally with the machinery of heading 8425 to 8430' and 'self-propelled bulldozers, angle dozers, graders, levelers, scrapers, mechanical shovels, excavators'.

Since 2013, export of plant attributed products started to rapidly grow, resulting in achieving USD68 million in 2017. 'Edible fruit and nuts; peel of citrus fruit or melons'[4] and 'oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medicinal'[5] account for about 90 percent of the sector's exports.

Figure 14. Exports of plant attributed products, mln USD

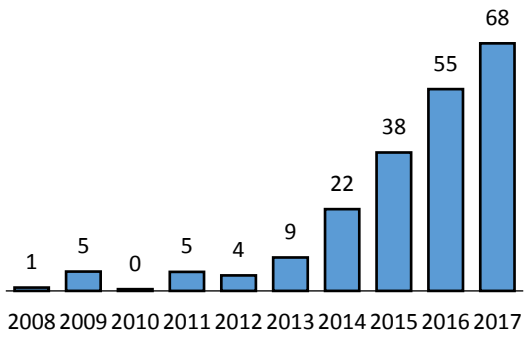
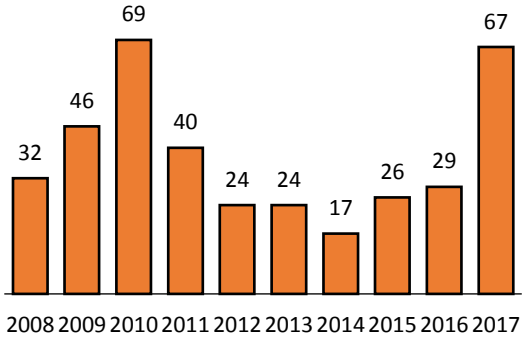


Figure 15. Exports of meat and other livestock products, mln USD



Source: NSO and Mongolian Customs General Administration

In 2010, export of livestock sector reached USD69 million while it dropped to USD17 million in 2014. The exports gained momentum again in 2017 reaching USD67 million. The main products of this sector are 'meat and edible meat offal[6]' and 'products of animal origin, not elsewhere specified or included[7]'. As of 2010, 78.5 percent of exports of livestock sector is accounted for a 'meat and edible meat offal' while it reached 81.4 percent of exports of livestock sector in 2017.

[4] The main products are 'other nuts, fresh or dried'.

[5] The main products are 'Rape or colza seeds'.

[6] The main product is meat of horse, asses, mules or hinnies, fresh, chilled or frozen.

[7] The main product is guts, bladders and stomachs of animals (other than fish), whole and pieces thereof, fresh.

5. EVALUATING THE EFFECT OF PROPOSED GOVERNMENT POLICIES

After the national elections of June 2016, the newly formed government developed its action program. The Government Action Plan 2016-2020 along with its accompanying comprehensive schedule consists of detailed measures to overcome economic difficulties and ensure sustainable economic growth. In the action plan, most measures related to export promotion policies are included as a part of general industrialization promotion measures rather than as a separate specific export promotion measures. According to the action plan, general industrialization promotion activities will increase the competitiveness of Mongolian products, boosting exports in turn.

For instance, of the 18 measures selected by the research team as being related to export promotion policies, less than half were specifically targeted towards export promotion. Of these, most measures were targeted towards decreasing the cost associated with export products by reducing barriers to trade and streamlining the customs and border inspection requirements. Some measures were also concerned with import substitution rather than export promotion.

While some policies highlighted in the action plan contained proposed budgets and clear tasks to implement, most export promotion measures did not have a stated financial source. The few measures that did have specified financial sources stated are to be funded from the state budget.

The main implementing organization of non-mining export promotion policies are the Ministry of Food, Agriculture and Light Industries and the Ministry of Finance. The Ministry of Finance is in charge of implementing tax breaks and providing concessional loans to export producers while the Ministry of Food, Agriculture and Light Industries is tasked with implementing the overwhelming majority of export promotion policies.

As part of its efforts to advance export-oriented policies, in 2018 the government proposed the Mongol Export program, which is being currently discussed by the relevant government agencies and the broader public.

5.1 Goals of the Mongol Export Program 2018

The Mongol Export Program aims at “taking step by step measures to achieve the following objectives: the creation of a favorable legal, investment, financial, and tax environment for Mongolian exports, increased access to market information and research, the international promotion of Mongolian exports, increased innovation and technology-based production and processing, improved competitiveness of Mongolian products on the international market, improved infrastructure, decreased barriers to trade, the creation of jobs, diversification of the Mongolian economy, and increased cash flow into the economy from exports.”

To achieve the objectives of this program, the following four goals are proposed. We suggest to amend the goals as follows:

Table 5. Suggested changes in the goals of the Mongol Export Program 2018

Current document	Suggested change
1. Creation of a favorable legal, tax, and financial environment for the production and marketing of export goods;	1. Creation of a favorable legal, tax, and financial environment for the production and marketing of export goods;
2. Increased production and processing of non-mining sector goods, and introduction of new advanced technologies;	2. Formulation and oversight of trade facilitation policy;
3. Diversification of non-mining sector exports, increased production of value-added products;	3. Improvement of government services to promote exports;
4. Facilitation of trade and expansion and penetration into new markets.	4. Coordination of export promotion efforts of various stakeholders and facilitation of non-government services to exporters.

Source: Mongol Export Program and authors' suggestions

Some of the goals, especially 2 and 3, could be included in the broader objectives of the program defined above. Each of the goals is followed by a list of actions to be undertaken by the government and other parties. For full list of measures to be undertaken under each of the above goals, please refer to Appendix 5 at the end of this report.

In our opinion, the measures specified under the four items above will contribute to multiple goals rather than only one specified goal. We propose to re-arrange the measures into the following categories:

Table 6. Measures to be undertaken in the Mongol Export Program 2018 (re-arranged)

Measures to implement (and parties responsible)
I. LEGAL CHANGES - **Parliament, Ministry of Justice, Ministry of Foreign Affairs**
3.1.2. Propose amendments to the "Law on Competition", "Customs Tariff and Duties Law", "Law on Investment", "Law on Agricultural Products and Commodity Exchange", "Law on Licensing" and other existing laws related to export promotion.
3.1.5. Develop a draft amendment to the Law on Licensing for the purpose of establishing private and public wool and cashmere primary processing quality control
3.1.6 Add amendments to the Value-Added Tax Law that support the domestic cooperation of factory processes and increase the processing level of factories

3.4.10. Conduct research on and create the necessary legal environment to introduce e-commerce for export goods
II. FINANCIAL MEASURES - **Ministry of Finance, Tax Authority, Ministry of Food, Agriculture, and Light Industry**
3.1.7. To provide tax breaks and exemptions to support producers who manufacture value-added products for export purposes in order for them to purchase raw materials, auxiliary materials and equipment
3.1.8. Provide tax breaks to producers who manufacture higher technology export products
3.1.9. Coordinate the activities of the Production Development Fund with sector development policies, establish legal arrangements for the creation of export oriented funding
3.1.12. Establish animal disease-free zones region in provinces, support foreign direct investment and concessional loans given to establish meat factories and meat laboratories in those zones
III. TRADE FACILICATION POLICY - **Ministry of Foreign Affairs, Embassies and Missions**
3.1.1. To develop and approve a comprehensive "Foreign Trade Policy" aimed at supporting production-trade-investment, that integrates the activities of government agencies, ministries, foreign trade and export intensive sectors.
3.1.15. Fully utilize the opportunities to reduce non-tariff barriers to trade as discussed in the WTO's "Agreements on technical barriers to trade" and improve quarantine inspections
3.1.17. Establish a transportation logistics organization for export goods in line with intergovernmental "Land Port" agreements.
3.4.1. Promote and organize training workshops to fully utilize the privileges under the WTO's "Trade Facilitation Agreement"
3.4.3. In accordance with the Mongolian-Russian-Chinese economic corridor program, encourage trade facilitation and implement transit transportation measures to simplify customs and quarantine inspections
3.4.4. Work with JICA to implement the Mongolian-Japanese Economic partnership agreement, conduct research on the import standards required for Japan and increase the diversity of goods exported to Japan,
3.4.8. Get conformity assessments of export goods approved by trading countries by establishing bilateral and multilateral agreements, implement trade facilitating measures
3.4.11. Promote and advertise Mongolian exports goods through embassies and diplomatic missions abroad.

3.4.12. Coordinate the activities of international development organizations, take into account export promoting measures in their projects and programs, and to jointly ensure their implementation
IV. GOVERNMENT SERVICES - **Border Control, Customs, Specialized Inspection**
3.1.10. Create an online database for legal documents required for foreign trade and foreign trade information
3.1.11. Create a manual and disseminate information on the legal environment related to the "Mongol Export" program to exporting producers
3.1.13. Coordinate the activities of border inspection agencies, propose and implement measures to reduce overlaps and increase efficiency
3.2.5. Establish and implement a Single Window service center for foreign trade
3.2.6. Improve the planning, implementation, and quality of services of veterinary preventive measures. Reduce the incidences of and stop the spread of infectious animal diseases. Improve supervision and inspection measures.
3.2.7. Support the capacity building of laboratories testing export-oriented products.
3.3.4. Support wool, cashmere and food produce testing laboratories, support capacity building to ensure they operate according to international standards, construct a new laboratory, support the conformity certification issuing process at all levels
3.4.6. Research and introduce the implementation of an online one window service center based on the EU's experience
V. NON-GOVERNMENT SERVICES - **NGO's, public and private entities (mixed)**
3.1.4. Develop new financial products and tools for production and export promotion
3.1.14. Establish an export insurance and credit guarantee system to protect exporters from foreign trade risks
3.1.16. Include laboratories that conduct testing for meat, meat products, sea buckthorn, honey, wool, cashmere and leather products in capacity building programs organized by international metrology and accreditation organizations.
3.1.18 Give awards to export goods, create a special day for exporters
3.2.3. Organize and support the participation of producers and exporters in international fairs, expos and business forums in Russia, China, the European Union, Japan, South Korea, and the US.
3.2.4. Develop and improve the activities of the agricultural exchange in line with international standards in order to prepare and supply raw materials to export production factories

3.2.8. Finance research studies that look into increasing competitiveness, decreasing production costs, increasing innovation and technology-based exports
3.3.3. Create and implement a plan to organize training workshops and seminars for export product producers
3.3.6. Develop and promote national brands and geographical indication products to international markets
3.4.5. Conduct consumer demand and market research, increase measures to penetrate the EU, US, Canadian and Russian markets
3.4.7. Conduct research into equalizing Mongolian-Russian-Chinese standards for agricultural products, facilitate the cooperation of standardization agencies from these countries
3.4.2. Conduct research on the advantages, disadvantages and experiences of establishing a Eurasian economic free trade agreement to increase Mongolian export volumes.
3.3.1. Conduct research focused on new export sectors opportunities and the development value added products to introduce to international markets
3.4.9. Develop a proposal to establish a center for advertisement in Berlin to promote and advertise Mongolia, investing in Mongolia, the business environment, and products to the European public and business sectors
VI. PRIVATE SECTOR ACTIONS - **Private enterprises and exporters**
3.1.3. Build and provide financing and investment for new food and light industry export factories under the “Industrialization 21:100 Program”
3.2.1 Support and increase the standards of meat, meat products, sea buckthorn, honey, wool, leather, and textiles to European and International standards
3.2.2. Increase the number of students and specialists of wool, cashmere, and leather production technology and design who are studying and training in Italy, Japan and other leading countries
3.3.2. Implement step by step measures to produce new value-added export products
3.3.5. Develop and support the production of software and hardware for export purposes

Source: The Mongol Export Program 2018

We suggest to delete the actions which are specified under the private sector in the above table.

5.2 Key evaluation indicators

The program proposes the following indicators to measure the progress of the program (base year indicators for 2017 are in the first column with the numbers marked with *). We suggest some changes in the table (see column two marked with **).

Table 7. Key export indicators proposed in the Mongol Export Program 2018

No.	Indicator	Measurement unit	Base year*	Base year**	Target year	Source of information
			2017	2017	2021	
1	Share of agricultural processed products in total exports	Percent	9.0	8.1	15.0	Customs General Administration
2	Number of non-mining export items in number exports	Number	150	495/78	225	Customs General Administration
3	Export earnings of light, food and agricultural industry	USD (million)	6,212.4	610.5	9,000.0	Customs General Administration
4	*Time to export: Documentary compliance* indicator of the World Bank "Doing Business" survey	Hours	168	168	140	World Bank Doing Business
5	*Cost to export: Border compliance* indicator of the World Bank "Doing Business" survey	USD	191	191		World Bank Doing Business
6	Number of agreements with trading partner countries on reducing tariff and non-tariff barriers	Number	1	?	2	Ministry of Foreign Affairs

Source: Draft Mongol Export Program 2018
Note: Base year* - Base year figures proposed in the program
Base year** - Base year figures estimated by the research team

Below we provide an explanation of the data provided in the second column (base year**) of Table 7

1. Share of agricultural processed products in total exports

The following products were included in the agricultural processed products group:

- Livestock, animals, and their byproducts (products coded 02-05 according to the 2-digit classification)
- Plant based products (products coded 06-11 according to the 2-digit classification)
- Livestock, animal and plant-based oils (products coded 15 according to the 2-digit classification)
- Ready-made food products (products coded 16, 19, 23, 24 according to the 2-digit classification)
- Leather raw materials as well as articles made from processed leather, animal skin and hides (products coded 41-43 according to the 2-digit classification)
- Wood and wooden articles (products coded 44 according to the 2-digit classification)
- Textile materials and textile products (products coded 51, 56, 57, 2561 and 63 according to the 2-digit classification)
- Shoes, hats and other miscellaneous items (products coded 64 according to the 2-digit classification)

The total exports of these products equaled 503.4 million USD and their share of total exports in 2017 was 8.1 percent.

The following difficulties were identified when classifying agricultural processed products.

- Agricultural processed products as well as other processed products were not separated in the 2-digit and 4-digit classifications, making it difficult to sort. The production inputs for many products were unclear. In some cases, the input of agricultural processed products was very low, almost negligible, while on others, imported agricultural processed products were used instead.
- After sorting agricultural products, sorting processed products from within the agricultural products was difficult as it was unclear what level of processing should be used as the threshold when defining processed products.

2. Number of non-mining export items in number exports

Mining outputs with codes 25-27, 71 were eliminated from total exports. The remaining non-mining export items with export volume greater than zero in the year of 2017 were included in the calculation of this indicator. In the 2-digit economic classification there were 78 products while there were 495 products in the 4-digit classification.

3. Export earnings of light, food industry and agriculture

The following products were included in the Food, Agriculture and Light Industry product group. In order to isolated the light industry sector products, the products under the light industry sector of the Ministry of Food, Agriculture and Light Industry were separated.

- Livestock, animals, and their byproducts (products coded 01-05 according to the 2-digit classification)
- Plant based products (products coded 06-14 according to the 2-digit classification)
- Livestock, animal and plant-based oils (products coded 15 according to the 2-digit classification)
- Ready-made food products (products coded 16-24 according to the 2-digit classification)
- Plastic, plastic-based products, rubber and rubber-based products (products coded 39-40 according to the 2-digit classification)
- Leather raw materials as well as articles made from processed leather, animal skin and hides (products coded 41-43 according to the 2-digit classification)
- Wood and wooden articles (products coded 44-46 according to the 2-digit classification)
- Textile materials and textile products (products coded 50-63 according to the 2-digit classification, the entire garment industry is included in this group)
- Shoes, hats and other miscellaneous items (products coded 64-67 according to the 2-digit classification)
- Various industrial products (products coded 94-96 according to the 2-digit classification)
- All types of mining products, metallurgical products, machinery, equipment, chemical industry products, mineral byproducts (cement, chalk, glass, glass byproducts), visual art and photography products, measurement and inspection instruments (medical equipment, wristwatches, musical instruments etc.), all types of weaponry, and all artworks were not included.

4. "Time to export: Documentary compliance" indicator of the World Bank "Doing Business" survey

Mongolia ranked 110th in Trading across Borders indicator of the World Bank's Doing Business 2018 survey, with 168 hours required for documentary compliance and 62 hours required for border compliance. The time spent on documentary compliance is especially high vis-à-vis the regional average of 68 hours and 2.4 hours of the high-income countries. Time required for border compliance is also high but more or less comparable with the regional numbers (see Table 5 below). The Mongol Export Program suggests to use the documentary compliance hours as their measure of progress and program evaluation and it seems to be a relevant measure.

Table 8. Doing Business 2018 Mongolia: Trading across Borders

Indicator	Mongolia	East Asia & Pacific	OECD high income	Overall Best Performer
Time to export: Border compliance (hours)	62	55.9	12.7	0 (17 Economies)
Cost to export: Border compliance (USD)	191	387.5	149.9	0.00 (19 Economies)
Time to export: Documentary compliance (hours)	168	68.2	2.4	1.0 (25 Economies)
Cost to export: Documentary compliance (USD)	64	112.1	35.4	0.00 (19 Economies)
Time to import: Border compliance (hours)	48	70.5	8.7	0.00 (21 Economies)
Cost to import: Border compliance (USD)	210	431.0	111.6	0.00 (27 Economies)
Time to import: Documentary compliance (hours)	115	65.6	3.5	1.0 (30 Economies)
Cost to import: Documentary compliance (USD)	83	111.4	25.6	0.00 (30 Economies)

Source: World Bank Doing Business Report 2018 Mongolia

5. "Cost to export: Border compliance indicator" of the World Bank "Doing Business" survey

Direct costs paid by the Mongolian exporters (with the exclusion of tariffs) are relatively lower compared to the East Asia and Pacific averages, but higher than those in high-income OECD countries. The government should strive to reduce the direct costs of exporting but indirect costs in the form of time spent seem to be much higher in regional comparison. Therefore, we suggest the use of time spent both on border compliance and documentary compliance to be appropriate measures of progress in making trading across borders easier.

6. Number of agreements with trading partner countries on reducing tariff and non-tariff barriers

The current program indicated only one agreement – the Economic Partnership Agreement with Japan – as the current level achieved. However, these types of full-scale comprehensive agreements require longer period of time and substantial efforts on both sides. Hence, they are not a good measurement of the efforts to be made by the Ministry of Foreign Affairs in easing trade barriers. Other, relatively lower-level bilateral and multilateral negotiations and agreements may also contribute to the promotion of exports. Therefore, we suggest using these lower-level actions – mid-term economic cooperation programs and other economic agreements – as a more useful indicator to measure effort and progress in export promotion.

Table 9 below summarizes the points outlined above.

Table 9. Suggestions on the use of indicators in the Mongol Export Program 2018

	Indicator	Proposal
1	Share of agricultural processed products in total exports	Use share of manufacturing in total exports
2	Number of non-mining export items in number exports	Use 4-digit level of output classification (instead of 2 digits)
3	Export earnings of light, food and agricultural industry	Use export earnings of non-mining sector
4	*Time to export: Documentary compliance* indicator of the World Bank "Doing Business" survey	Choose one from the three below: • Use all 4 indicators • Use time and cost of documentary compliance • Use time of documentary and border compliance We recommend to use time to export (both documentary and border compliance)
5	*Cost to export: Border compliance* indicator of the World Bank "Doing Business" survey	
6	Number of agreements with trading partner countries on reducing tariff and non-tariff barriers	Use not only the free-trade agreement (e.g. EPA with Japan) but other regional and bilateral initiatives to reduce trade barriers

6. TOTAL EXPORTS ANALYSIS – GRAVITY MODEL

The gravity model is an effective tool that is used extensively in a wide range of empirical fields. It first emerged in the 1960s as an empirical specification with hand-waving theoretical underpinnings. In the early 2000s, the model was developed further and made economically robust. It is regularly used to estimate the impact of trade agreements, exchange rate volatility, currency unions, the 'border effect', and other factors of trade.

The estimation method varies depending on the research objective, whether there is a lack of data, as well as other situational factors. In this study, we will estimate the following gravity equation with gravitas based on Anderson and Wincoop's theoretical model (Anderson & Wincoop, 2003):

$$\ln(non\_m\_exp_{jt}) = \beta_0 + \beta_1 \ln(Y_{jt}) + + \beta_2 \ln d_j + \beta_3\, pol_{jt} + \beta_4(border * RTA) + \beta_5 * year_t + \epsilon_j$$

Where:

$\boldsymbol{non\_m\_exp_{jt}}$	*The Mongolian non-mining exports to country j by years*
$\boldsymbol{\beta_0}$	*Common intercept*
$\boldsymbol{Y_{jt}}$	*Importer's GDP*
$\boldsymbol{d_j}$	*The distance in miles/km between Mongolia and country j*
$\boldsymbol{pol_{jt}}$	*The dummy variable takes one value when the GoM implemented export supporting policies and projects for non-mining exports to country j*
$\boldsymbol{border_j * RTA_j}$	*It is interaction dummy variable which takes one value when Mongolia and trading partner share the same border and are members of the same regional trade agreement.*
$border_j$	*It is equal to one when Mongolia and country j share a border.*
RTA	*The dummy variable takes one value when both Mongolia and an importer have been in the same regional trade agreement*
$\boldsymbol{year\_*}$	*It consists of dummy variables of 7 years (2010-2016), and reveal the global effects on the Mongolian exports*

The research team augmented the standard gravity model by adding policy and dummy variables, revealing time-variant and time-invariant effects related to Mongolia and its trading partners. Without the addition of these variables, the estimation is inconsistent due to the presence of unobserved heterogeneity.

Prior to our estimation, we expect the following correlations:

- An importer's GDP encourages exports according to the gravity theory;
- The distance in miles/km between Mongolia and an importer has a negative effect on exports;
- The interaction variable consisting of border and RTA variables is likely to increase the export volume due to geographical closeness;
- The policy variables take a value of 1 when the GoM supported exports through financial measures, export tax exemption and commercial loan at lower-interest rate. We expect it to have a positive effect on exports.

Our main purpose is to estimate the impact of policies the GoM imposed in the past using panel data[8] from 35 trading partner countries over a period of 7 years. First, the research team included two dummy variables to represent the export tax exemption and commercial loan at a lower-interest rate. Our estimation results confirmed our previous hypothesis that the export tax exemption is unlikely to encourage or discourage non-mining exports, so the tax exemption dummy variable was dropped from the model. The following figure demonstrates the estimation results

Figure 16. Estimation results

[8] The fixed and random effect regressions use the panel data. In order to choose an appropriate method, the Hausman test is used. The results are attached in Appendix 6.

```
Random-effects GLS regression                   Number of obs     =         244
Group variable: imp_id                          Number of groups  =          40

R-sq:                                           Obs per group:
     within  = 0.0884                                         min =           1
     between = 0.4817                                         avg =         6.1
     overall = 0.4068                                         max =           7

                                                Wald chi2(10)     =       52.81
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =      0.0000
```

ln_exp	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inter_1	4.235099	1.903769	2.22	0.026	.5037795	7.966419
ln_dist	-1.372313	.8284837	-1.66	0.098	-2.996111	.2514853
ln_impGDP	.9310976	.3108724	3.00	0.003	.321799	1.540396
policy_l	.9013183	.2595478	3.47	0.001	.392614	1.410023
year						
2011	-.6728396	.3270699	-2.06	0.040	-1.313885	-.0317944
2012	-.7003513	.3461169	-2.02	0.043	-1.378728	-.0219746
2013	-.2298161	.3410615	-0.67	0.500	-.8982845	.4386522
2014	-.0885684	.3406565	-0.26	0.795	-.7562428	.579106
2015	-.3239908	.3409698	-0.95	0.342	-.9922793	.3442978
2016	.1434296	.3000306	0.48	0.633	-.4446196	.7314788
_cons	7.788046	7.46036	1.04	0.297	-6.833991	22.41008
sigma_u	1.9726904					
sigma_e	1.1505643					
rho	.74617054	(fraction of variance due to u_i)				

Source: Authors' estimation

The main reasons influencing non-mining exports can be ordered and explained as follows:

- If the trading partner is a member of the same regional trade agreement and shares a border with Mongolia, exports will increase by 4.2 percent, the highest impact compared to other variables. This is closely related to the fact that Mongolia mainly exports to its neighbor countries, China and Russia, and is a landlocked.
- A 1 percent increase in the distance between Mongolia and its trading partners reduces exports by 1.4 percent.
- If an importer's GDP increases by 1 percent, Mongolian exports grow by 0.93 percent, revealing that there is a positive correlation between these variables. This result is consistent with the Gravity theory.
- If the GoM gives sectors a commercial loan at a lower interest rate, a financial approach, exports increase by 0.9 percent. However, this is a rough estimation as it is based on a dummy variable. In order to improve the accuracy and estimation fit, using actual commercial loan data would yield better results.

In addition to the factors above, Mongolian exports are affected by global factors which are represented by the dummy variables of years. After estimation, the research team checked

whether these time variables actually affected non-mining exports using a test of time-fixed effects.

Figure 17. Testing for time-fixed effects

```
. testparm i.year

 ( 1)  2011.year = 0
 ( 2)  2012.year = 0
 ( 3)  2013.year = 0
 ( 4)  2014.year = 0
 ( 5)  2015.year = 0
 ( 6)  2016.year = 0

           chi2(  6) =   13.55
         Prob > chi2 =    0.0352
```

Source: Authors' estimation

The figure rejects the null hypothesis that the coefficients for all years are jointly equal to zero. Therefore, time-fixed effects are needed in this case. Compared to the base year of 2010, the global effect on exports has consistently been negative. This means that in the base year of 2010, Mongolia's non-mining export commodities were more competitive in the international market. It means that our export structure has not diversified since 2010. As mentioned before, the share of differentiated products being exported as a fraction of Mongolia's total exports is negligible. This may be a possible reason as to why global factors have a negative effect on Mongolian exports.

7. MAIN FINDINGS AND POLICY RECOMMENDATIONS

Mongolia is a small open economy highly dependent on foreign trade. The Mongolian export sector is not diversified. Only a few key non-mining sector products – coal, gold and copper, to name the major ones - are exported. The dependence on the mining sector makes the national economy highly vulnerable to global price fluctuations. This dependence is aggravated by the fact that almost all of mining export goes to China. Although the Chinese economy has been stable in the recent years, there are signs that the traditional high demand for metals and coal will be reduced in the coming years as a result of policy shift in China. Moreover, dependence on a single market for the major export items should be a source of concern for any country.

Non-mining exports amount to less than 15 percent of total export revenue. Its share declined steadily since 2000. Few types of products – textiles, leather, basic metals, meat and livestock, food, and plant attributed products – contribute well over 90 percent on non-mining export revenue. Of these few items, only two products (textiles and leather) had a comparative advantage. The situation has worsened in the last two years, leather losing its comparative advantage due to the sharply increased revenue from mining exports. The share of differentiated products is very low and stood only at 10 percent at most in the recent years. The destination of non-mining exports has been narrowing, with increase of share of goods exported to China amounting to 72 percent of total non-mining revenue in 2016, 16.8 percentage point increase compared to 2010. Meanwhile, the share of the Russian Federation and European Union has declined proportionately.

Given the undiversified nature of the exports and the declining share of the non-mining sectors, the government has become increasingly concerned with the situation. Successive government policy documents – including the Comprehensive National Development Strategy for 2007-2021 – declared export-led growth to be a government priority. This idea was further elaborated in the Export Promotion Program 2013, the National Export Promotion Program 2016 and the Government Action Plan 2016-2020. The current government has proposed an updated Mongol Export Program 2018, which is being discussed right now. The awareness about the necessity and commitment at the top government to more aggressive, more focused export promotion policies seem be apparent.

Export promotion efforts thus far have been fragmented. We identify the current institutional configuration of various players in the field as a "decentralized public model" of export promotion. The main foreign trade function shifted from one ministerial portfolio to another in the past decade or so. At the same time, multiplicity of export promotion initiatives – from soft loans to training programs – has been carried out by differing government agencies, the Development Bank, SME Development Fund and international organizations, such as the World Bank, and bilateral agencies. These actions have largely been organized on an ad hoc

basis, without much coordination. Since the export promotion organizations are few and sparse, there has been neither any major overlap in their activities nor competition among them.

The main government efforts thus far were largely focused on the financial instruments, such as concessional loans, VAT breaks and subsidies to herders who supply raw materials to national exporters. The bulk of budget and bond sources were devoted to support cashmere and leather industry. However, we observe at the best mixed results in these sectors in terms of comparative advantage and export revenue. We argue that the fiscal measures have at least partially been ineffectual in boosting the exports. At the same time, the government efforts in employing non-financial instruments – e.g., improving the services – has been limited. The World Bank's Doing Business survey ranks Mongolia 110th out of 190 countries in the trading across border indicator. Especially, the time spent on documentary and border compliance seem to be incomparably high vis-à-vis other countries in the region. For instance, the Single Window initiative which started several years ago, is still in progress. Other services for exporters, such as fairs and exhibitions, insurance, certificates or origin, training and information sessions and the like are sporadically organized by NGOs (the Chamber of Commerce and Industry) and international agencies.

We believe the benefits of improving government and non-government services has a wider reach for all exporters and potential exporters. They do not require significant fiscal resources compared to tax breaks and soft loans; they are less prone to political influence and are more effective in terms of overcoming the information asymmetry issue, the main obstacle in exporting differentiated products. The newly proposed Mongol Export Program is more comprehensive in terms of policy instruments and actions. Namely, it pays a great deal of attention to non-financial policy instruments.

The gravity model we estimated used the various trade, economic and policy data for 2010-2016 and 35 main trade partner countries. Our estimations revealed that a shared border and being a part of a regional trade agreement is positively correlated with exports (more effective than other variables). The distance between two countries is negatively correlated with export. An importer's GDP is positively correlated with exports. We used concessional loans offered by the government as a policy variable. Unfortunately, we could not find reliable data on the actual amount of loans dispersed and used dummy variable instead. We found that loans are positively correlated with exports and statistically significant.

Based on our findings, we propose the following recommendations:

- Studies show the importance of a cohesive national foreign trade (and export) policy. Therefore, the Ministry of Foreign Affairs (or the main government agency in charge of international trade) should to formulate and oversee this policy. This point is reflected in the Mongol Export Program and should be pursued promptly.
- Shifting of the international trade function from one portfolio to another resulted in policy fragmentation and discontinuity. Moreover, it contributed to loss of expertise and human

resources. Therefore, it is necessary to stabilize the oversight and implementation of a consolidated export promotion policy within one portfolio.

- The national cohesive policy formulation and its successful implementation require not only a champion but also multi-stakeholder participation. Two decades ago (1998), a National Export Council was proposed to oversee the export policies, but the idea was dismissed a few years later before being realized. Since the proposed policy requires cooperation of lawmakers, government agencies and the private sector, an overarching organizational structure (e.g., a board) may be a good idea.

- The current decentralized public model may continue to exist, with the Ministry of Foreign Affairs taking the lead among the various organizations involved in export promotion. The board (and/or the MFA) should operate as a coordinator of various organizations and various initiatives. Some (limited) centralization of the policy may be beneficial, with largely decentralized agents continuing to play their part. Experiences of other countries have shown that too much centralization may lead to a bureaucratic and unresponsive system, while too much fragmentation and ad hoc nature of the policies is also not desirable.

- Both financial and non-financial policy instruments should be used to promote export and facilitate trade. It should be noted that oftentimes, financial incentives create negative effect on the efficiency and usually have fiscal implications in terms of sources of cheap credit and reduced budget revenue. The latter is especially difficult under the current conditions of fiscal crunch. Therefore, dispersing concessional loans and providing subsidies and tax breaks should be done with care and proper scrutiny of those who are eligible to receive these privileges. After all, these policies identify the "winners" and they have to be the "right winners" for the policy to be effective. The government's efforts thus far may have lacked this scrutiny, discrediting these policy instruments.

- We stress the importance of non-financial policy instruments. These are beneficial not only for current exporters but potential exporters and general economic environment as well. Improving the general legal environment to boost exports will be of benefit to all.

- Of particular importance seems to be the improvement of government services. Again, these will be beneficial not only for exporters but businesses in general. They include, to name a few:

    - Customs (documentation and border inspection) – single window service and online documentation
    - Specialized inspection
    - Standardization and quality assurance
    - Information and database, research

- There are other services which can be provided by non-government organizations and the private sector. Government can provide public financing, as it is done in many other countries, especially at the initial stages of program roll-out. Another source of financing

these services is service fees. High level of cooperation and coordination is needed in supporting and providing these services:

- Market information
- Advertising and marketing
- Insurance
- Training and workshops
- Export-related research
- Trade fairs and exhibitions
- Supply chain initiatives
- Research and information

- We provided several points earlier with regard to the overall objective and goals of the Mongol Export Program 2018. We propose to measure the impact of export promotion policies using simple and clear indicators, such as the share of manufacturing exports in total export and non-mining export earnings, among others. We also suggest using time to export (both documentation and border compliance) as a measure of progress in easing the trade across borders.

- Our gravity model revealed the expected results. We note a positive and statistically significant effect of policy support (concessional loans). However, it should be emphasized that this is a rough estimate which used a dummy variable for policy initiative. In order to further refine the results, more detailed data on the amount of loans actually dispersed is needed. We suggest that such data is made available and used in future research.

- We observe generally negative global effect on our exports. The dummies for years are consistently negative and statistically significant, meaning that global trade trends are against us. This is likely to be due to the dominance of non-differentiated and less value-added products in our export sector. This is further proven by the loss of comparative advantage of Mongolia's non-mining products. Therefore, we need to diversity and improve the composition of our export in order to gain more from foreign trade.

- In the process of conducting this study and evaluating the effect of various programs we encountered serious data constraints. The information about the government subsidies and actual amount of soft loans dispersed is hard to come by. We recommend that the Ministry of Foreign Affairs collects in a single place and makes readily available export sector data and information on the impact of export promotion policies. It is also imperative to collect reliable firm level data about the exporters, which should be done by surveys. This will be beneficial for formulating policies more accurately, properly evaluating the impact of the export promotion policies, and providing opportunities for more detailed research.

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APPENDICES

Appendix 1. Examples of the differentiated products, mln USD

As mentioned before, the differentiated products mean that there is an unique characteristic for these products compared to other suppliers' products. That's why, the differentiated products cannot easily be substituted for others, which makes a country more competitive in the international market in the long-term. When classifying the exporting products into the differentiated and homogenous, the research team based on their characteristics. The following table shows that what products are grouped to the differentiated.

Table A1. Differentiated and homogenous export products by 2-digit classification

HS-2 digits	2010	2011	2012	2013	2014	2015	2016	2017
61	20,835.6	25,177.3	22,905.5	22495.9	23,781.0	25,313.6	27,538.2	33047.0
05	10,998.0	13,810.5	11,952.5	12,995.7	9,150.6	12,412.6	10,224.2	12013.0
62	1,600.8	820.3	233.8	408.6	410.1	582.2	2,096.9	7105.0
57	2,182.7	2,985.2	3,159.9	1,021.8	2,268.9	2,018.5	1,964.5	1060.0
42	752.2	293.1	232.7	337.7	190.5	888.4	5,863.0	401.0
63	710.7	936.4	1,134.8	903.3	1,034.9	1,211.3	802.4	1922.0
43	27.9	25.0	36.2	5.8	31.6	134.9	191.0	345.0
56	21.9	12.4	20.8	34.3	63.1	72.8	25.0	16.0

Note: HS-05 is products of animal origin, not elsewhere specified or included; HS-42 is articles of leather; saddlery and harness; travel goods, handbags and similar containers; articles ; HS-43 is furskins and artificial fur; manufactures thereof; HS-56 is wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles thereof; HS-57 is carpets and other textile floor coverings; HS-61 is articles of apparel and clothing accessories, knitted or crocheted; HS-62 knitted clothes and clothes HS-63 Other made-up textile articles; sets; worn clothing and worn textile articles; rags.

Other products separated in the non-mining export are the homogenous, which means that these products can easily substituted by other products our competitors supplied. In the Mongolian case, its share in the non-mining export is relatively higher. In other words, Mongolia needs to focus on widening the type of exporting products and increasing the share of the differentiated products. The research team classified products the mining and agriculture sectors produce as homogenous because the products will be able to easily substituted and supplied by our competitors.

Appendix 2. Technical details of the 'Methods'

The revealed comparative advantage (RCA):

We presented some major RCA[9] indices reported in the literature. Its first formula was established by Balassa in 1965, which is named 'Standard Balassa's RCA index'.

$$RCA_{ij}^{1} = \frac{X_{ij}}{\sum_i X_{ij}} \div \frac{\sum_j X_{ij}}{\sum_i \sum_j X_{ij}}$$

where X_{ij} represents country i's export of product j. $RCA_{ij}^{1} > 1$ indicates country i has a comparative advantage in production of j. $RCA_{ij}^{1} < 1$ reveals that the country does not have a comparative advantage.

Another formula was suggested by Donges and Riedel (1977).

$$RCA_{ij}^{2} = \frac{X_{ij} - M_{ij}}{\sum_i (X_{ij} + M_{ij})} \div \frac{\sum_j X_{ij} - \sum_j M_{ij}}{\sum_i X_{ij} + \sum_j M_{ij}}$$

where $X_{ij}\ and\ M_{ij}$ represent country i's export and import of product j. Compared to the 'Standard Balassa's RCA index', RCA_{ij}^{2} considers the net export of the country rather than only export, and if it is greater than 1, the country has a comparative advantage in production of j.

In 1983, Bowen suggested a new formula to calculate RCA index.

$$RCA_{ij}^{3} = \frac{T_{ij}}{Y_i} \div \frac{\sum_i Q_{ij}}{Y_w}$$

where Q_{ij} and T_{ij} represent country i's production and net trade (i.e. production minus consumption) of product j while Y_i and Y_w represent country i's GNP and the world GNP, respectively. RCA_{ij}^{3}>0 indicates country i has a comparative advantage in production of j.

in 1991, Vollrath suggested the following formulas of RCA indices.

$$RCA_{ij}^{4} = \frac{X_{ij}/X_{ik}}{X_{nj}/X_{nk}} - \frac{M_{ij}/M_{ik}}{M_{nj}/M_{nk}}$$

$$RCA_{ij}^{5} = \ln\left(\frac{X_{ij}/X_{ik}}{X_{nj}/X_{nk}}\right)$$

$$RCA_{ij}^{6} = \ln\left(\frac{M_{ij}/M_{ik}}{M_{nj}/M_{nk}}\right)$$

[9] The 'revealed' is related to the fact that the comparative advantage has been estimated from the export structure of the country. In other words, that the country mainly exports a product j is caused by that the country has a comparative advantage.

where X_{ij} and X_{ik} represent country i's export of product j and its total export of other products, excluding j. M_{ij} and M represent country i's import of product j and the total import of other products, excluding j. A positive value shows a comparative advantage, whereas a negative value reveals a comparative disadvantage.

We can calculate the RCA index using disparate formulas, but these formulas will provide the same results in terms of country i's comparative advantage in production of j.

Application of a variation of RCA:

Balassa's standard RCA index measures the comparative advantage at a point in time of a product. In order to better understand changes in comparative advantage, a benchmark RCA index in which the product maintains its comparative advantage from time period *t* to *t+1* must be calculated and the compared with actual RCA index in order to accurately capture any changes.

When calculating the benchmark RCA, a country's comparative advantage between time *t* and *t+1* would not change if its market share ratios between 2 markets remain constant during the period as in the equation below.

$$\frac{\tilde{s}_{ij,t+1}}{\tilde{s}_{ik,t+1}} = \frac{s_{ij,t}}{s_{ik,t}}$$

where $\tilde{s}_{ij,t+1}$is the share of market *j* of country *i* at time *t+1* and $\tilde{s}_{ik,t+1}$ is the share in market *k* of country *i* at time *t+1* under no comparative advantage variations.

Additionally, there would also be no change in comparative advantage if country *i*'s share in every market grew at the same rate. Expanded for the total export of product *j*, the following equation is derived if the country experienced no comparative advantage variation between the time periods.

$$\tilde{E}_{ij,t+1} = \alpha s_{ij,t} E_{j,t+1}$$

where $\tilde{E}_{ij,t+1}$ is total export of product *j* of country *i* at time *t+1* with no comparative advantage variation and α is a positive constant.

Additionally, when country *i*'s specialization in the production *j* is substituted, the following equation representing country *i*'s constant-comparative-advantage benchmark export of product *j* is shown below.

$$\tilde{E}_{ij,t+1} = \tilde{c}_{ij,t} E_{j,t+1}$$

Substituting $\tilde{c}_{ij,t} = \frac{s_{ij,t}E_{j,t+1}}{\sum_{j_k} s_{ij_k,t}E_{j_k,t+1}}$, we get the following equation.

$$\tilde{E}_{ij,t+1} = \frac{s_{ij,t}E_{j,t+1}E_{i,t+1}}{\sum_{j_k} s_{ij_k,t}E_{j_k,t+1}}$$

As $\tilde{E}_{ij,t+1}$ represents the case with no comparative advantage variation, any deviation from the constant-comparative-advantage benchmark would measure the comparative advantage variation between time periods. The revealed comparative advantage variation (RCAV) is calculated as such in the equation below.

$$RCAV_{ij} = \frac{E_{ij,t+1}/E_{i,t+1}}{E_{j,t+1}/E_{t+1}} - \frac{\tilde{E}_{ij,t+1}/E_{i,t+1}}{E_{j,t+1}/E_{t+1}} = RCA_{ij,t+1} - \beta RCA_{ij,t}$$

where $\beta = \frac{1+g}{1+\sum_j c_{ij,t} g_j}$, $g_j = \left(E_{j,t+1} - E_{i,t}\right)/E_{j,t}$ represents the growth rate of world exports of product j between t and $t+1$, $g = (E_{t+1} - E_t)/E_t$ represents the growth rate of total world exports of all products

The RCA index can then be shown in terms of the RCAV as seen below.

$$RCAV_{ij} = \frac{S_{ij,t+1}}{S_{i,t+1}} - \frac{\tilde{S}_{ij,t+1}}{S_{i,t+1}} \; or \; RCAV_{ij} = \frac{C_{ij,t+1}}{C_{j,t+1}} - \frac{\tilde{C}_{ij,t+1}}{C_{j,t+1}}$$

A positive $RCAV_{ij}$ index means that country i's comparative advantage of product j has increased while a negative $RCAV_{ij}$ implies the opposite.

Appendix 3. Export promotion measures in the Government Action Plan 2016-2020

Goal	#	Measures to be implemented	Time	Source	Total Budget Mill. Tug	Target (amount and source of funds)								Implementing organization		
						2017		2018		2019		2020		Main	Partner	Participant
						Target	Budget	Target	Budget	Target	Budget	Target	Budget			
ONE. SPECIAL POLICY TO OVERCOME ECONOMIC DIFFICULTIES																
1.14. Support domestic investors by all means and create a legal environment to offer a tax discount or free them from tax until they recover the initial investment.	1	Support domestic investors who are producing import substitution goods based on economic sector categories /food production, clothing and woven products, construction materials, farming, agriculture/ Amend related laws.	2017-2018			Develop and approve at least 1 draft law		Implement the law		Implement the law		Implement the law		MoF		
1.23. Implement the "National Manufacturing" program and increase competitiveness of manufacturing, trade and service sectors	1	Develop and implement "Industrialization 21: 100 " program and "Small and medium enterprises development" program within the framework of boosting national manufacturing	2017-2020			Approve of program and begin implementation		Implement program		Implement program		Implement program		Ministry of Food, Agriculture and Light Industries		
TWO. POLICY TO ENSURE SUSTAINABLE ECONOMIC GROWTH																
2.2. Provide support through tax policy to domestic enterprises exporting more than 50 percent of non-mining products made in Mongolia.	1	Develop a draft amendment to the Value-Added Tax Law	2017-2018			Develop and approve at least 1 draft law		Implement the law		Implement the law		Implement the law		MoF		

2.5. Create conditions for companies, which are implementing mega projects, to have an extended loan period and lower interest rates.	1	Conduct research on the possibility of extending the loan period and lowering the interest rates for companies implementing mega projects and decide on an optimal solution	2018-2020					Implementation		Implementation		Implementation		MoF, Development Bank	Related Ministries	Commercial Enterprises
2.7. Revise laws and regulations on standardization and metrology in conformity with internationally recognized principles and implement the "National Quality Program".	4	Adapt and localize international and European standards to update the national standards of Mongolia's main export products	2017-2020			Localize 5 standards		Localize 5 standards		Localize 5 standards		Localize 5 standards		MASM	Ministry of Food, Agriculture and Light Industries	Related Ministries, Commercial Enterprises, Professional associations
2.8. Streamline mechanisms of accepting, using and applying standardization and assessment results in order to increase competitiveness of products and reduce non-tariff barriers to trade.	2	Create an organization specialized in conformity assessments for wool, cashmere, leather, construction materials, food products in line with international standards	2017			Create 1 new organization								MASM	Related Ministries, Commercial Enterprises, Professional associations	
2.10. Create an integrated system of production, transportation, processing and supply of livestock-originated raw materials.	1	Invest in and create value adding chain for leather, wool, cashmere and other animal byproducts	2017-2020	foreign and other sources	6000	Provide discounted loans to producers of export goods to renew equipment and as current assets		Increase production of export goods by 5%	2000	Increase production of export goods by 5%	1000	Increase production of export goods by 5%	3000	MoF, Ministry of Food, Agriculture and Light Industries		Commercial Enterprises
2.14. Implement one-stop shop policy on export and reduce red tape by providing customs, tax and specialized inspection services online or at one-stop service centers.	1	Digitalize and further develop "paperless clearance" for exporting goods in order to support and reduce the costs of foreign trade companies	2017-2018			Conduct research on best practices of other countries, calculate necessary calculations for		Create an online registration system						MoF		

						implementation									
Activities to be implemented in the food, agriculture and light industry sectors:															
2.19. Increase the competitiveness of the food production and create the opportunity to export value added products.	1	Establish quarantined plant protocols with importing countries in order provide the opportunity to export plant-based food products	2017-2019	State Budget	69	Negotiate protocols on plant quarantine requirements when exporting flour to China	29	Accredit at least 2 flour factories, begin flour exports	20	Accredit at least 2 flour factories, increase flour exports by 10% compared to previous year	20	Increase flour exports by 15% compared to previous year		Ministry of Food, Agriculture and Light Industries	MFA, General Agency for Specialized Investigation	Commercial Enterprises, Professional associations
	2	Study and determine the advantages of Mongolian meat and get certified by an internationally accredited laboratory. Increase the meat market size, find new markets, and create a long-term sustainable plan for meat exportation	2017-2020	State Budget	300	Conduct research to determine the special features of Mongolian meat	30	Increase the export of meat and meat products to 10 thousand tons	180	Increase the export of meat and meat products to 20 thousand tons	90	Increase the export of meat and meat products to 50 thousand tons		Ministry of Food, Agriculture and Light Industries	General Agency for Specialized Investigation, Commercial Enterprises	Professional associations
Livestock farming:															
2.27. Support the export of meat and meat products by developing an effective mix of pasture-based and intensive livestock farming, increase export to 50 thousand tons per year and raise herder household's income.	1	Develop technology to help raise cattle and sheep for better meat products and raise young cattle quickly. Provide financial support.	2017-2020	State budget, regional budget, foreign sources	4000	Introduce technology to help raise cattle and sheep for better meat products and raise young cattle quickly to at least 5 enterprises.	1000	Introduce technology to help raise cattle and sheep for better meat products and raise young cattle quickly to at least 5 enterprises.	1000	Introduce technology to help raise cattle and sheep for better meat products and raise young cattle quickly to	1000	Introduce technology to help raise cattle and sheep for better meat products and raise young cattle quickly to	1000	Ministry of Food, Agriculture and Light Industries	DVAB, MSUA, RIAH	All governor's offices, commercial enterprises

										at least 5 enterprises .		at least 5 enterprises .				
	2	Provide policy and financial assistance to companies in order to farm high yield cattle for meat production	2017-2020	State budget, regional budget	4000	Support no less than 10 enterprises actively farming cattle for meat and meat products.	1000	Support no less than 10 enterprises actively farming cattle for meat and meat products.	1000	Support no less than 10 enterprises actively farming cattle for meat and meat products.	1000	Support no less than 10 enterprises actively farming cattle for meat and meat products.	1000	Ministry of Food, Agriculture and Light Industries	DVAB, RIAH	All governor's offices, commercial enterprises
"Crop cultivation campaign-3":																
2.40. Supply the population with nutritious fruits and berries by increasing their varieties and production, establish a consolidated sea-buckthorn production chain and increase the export revenues.	1	Implement the "Fruit and Berry" program, introduce, experiment and localize fruit varieties that can grow in Mongolia, steadily export and create the "Mongolian Sea buckthorn" brand through increasing competiveness and creating a supply chain based on research on the farming, harvesting, storage, processing and sales quality of sea buckthorn.	2016-2020	foreign and other sources	40,000	Implement the UN Food and Agriculture Organization's "Fruit and Berry" program. Import apple and plum seedlings and increase the volume of fruit and berry farming to 6500 hectares, and their harvest to 4000 tons.	5000	Begin breeding cold resistant variants of apples and plums. Increase the volume of fruit farming to 7500 hectares, and their harvest to 6000 tons.	15,000	Increase the volume of fruit and berry farming to 8000 hectares, and their harvest to 10,000 tons.	10,000	Increase the volume of fruit and berry farming to 8000 hectares	10,000	Ministry of Food, Agriculture and Light Industries, MoF	All governor's offices, agricultural enterprises, NGOs	Research organizations, Commercial enterprises
"National Production" program:																

2.48. Implement the industrialization program "21:100" and create favorable taxation, legal and business environment for priority export-oriented sectors to substitute imports as well as for small and medium-size enterprises, cooperatives, trade and services and increase the share of the value-added products in the GDP.	1	Draft amendments to the Value Added Tax Law, Customs Law, Corporate Income Tax Law, and Law on procurement of goods, works and services with state and local funds. Submit to amendments to Parliament.	2017-2018			Amend and improve the customs tax laws, and improve the legal environment to better support and regulate trade.		Improve the legal environment to better support production and trade. Increase the production of value added products. Protect the domestic market and create the opportunity to increase domestic sales.		Improve the legal environment to better support production and trade. Increase the production of value added products. Protect the domestic market and create the opportunity to increase domestic sales.		Improve the legal environment to better support production and trade. Increase the production of value added products. Protect the domestic market and create the opportunity to increase domestic sales.		Ministry of Food, Agriculture and Light Industries, MoF	Related ministries	
	2	Draft a revision of the law on SME's and the law on Cooperatives and get the drafts approved.	2017-2020			Law to be approved by Parliament								Ministry of Food, Agriculture and Light Industries	MOJHA	MLSP
	3	Update the program on supporting SME's and support its implementation	2017-2020	State budget	1450	Develop the project draft	250	Build the capacity of SMEs	300	Create job openings and provide new products and services	400	Create job openings and provide new products and services	500	Ministry of Food, Agriculture and Light Industries	MOJHA	MLSP
	4	Support the implementation of a program to develop cooperatives	2018-2020	State budget	1500	Evaluate cooperatives	300	Develop and get project program approved	300	Establish a model cooperative	400	Create a cooperative sales network system	500	Ministry of Food, Agriculture and Light Industries	MOJHA	MLSP

	5	Create a favorable legal environment to introduce a credit risk insurance system to protect SMEs	2017-2020			Conduct research on creating a favorable legal environment		Create a favorable legal environment to establish a credit risk insurance system in order to protect SME's from credit risk					Ministry of Food, Agriculture and Light Industries	MoF	MOJHA
	6	Develop the “Industrialization 21: 100” program and get it approved	2016-2020			Conduct research to assess the current situation, develop an industrial map, and develop and approve a draft program		Implement the program		Implement the program		Implement the program		Ministry of Food, Agriculture and Light Industries	MoF, MMHI, MRTD, MCUD, MOSES, Ministry of Energy, NDA, province, capital Governor's offices	Related agencies
	7	Provide financial and legal support to establish a factory to produce 100 types of products in 21 provinces under the "Industrialization 21: 100" program	2016-2020	State budget, foreign sources, private investments	301,000	Create a production map based on a baseline study. Conduct a feasibility study based on local and regional resources	1000	Begin the construction of new plants, begin operations of completed plants, complete 25-30% of infrastructure development.	100,000	Begin operations of completed plants, make necessary adjustments, complete 45-60% of infrastructure development	100,000	Complete the implementation of the program. Create a favorable business, tax, and legal environment for the food and light industry sectors. Increase production levels to 10%	100,000	Ministry of Food, Agriculture and Light Industries	MoF, MMHI, MRTD, MCUD, MOSES, Ministry of Energy, NDA, province, capital Governor's offices	Related agencies

	8	Approve and implement the Law on Trade and the Law on Dumping	2016-2020			Develop and approve draft law		Develop and approve regulations related to the law		Implement the law		Implement the law		Ministry of Food, Agriculture and Light Industries, MFA, MOJHA		
	12	Develop "National Pride Products" in line with market demands	2017-2020	State budget	250	Conduct a competitive selection of “National Pride Products” that substitute imports and are geared towards exporting	70	Select and promote up to 10 types of products	60	Select 10-15 types of products, increase domestic production sales by 1.5%	70	Select 10-15 types of products, increase domestic production sales by 2%	50	Ministry of Food, Agriculture and Light Industries	Professional associations, Research organizations	Commercial enterprises
	13	Establish light industry research institutes, integrate center activities with production to create an optimal structure, and build the institute's capacity	2017-2019	Foreign source	250	Introduce research and development results to the industry and create a mutually cooperative approach to production	100	Build the institution's capacity, provide training and provide support to improve equipment	100	Build the institution's capacity, provide training and provide support to improve equipment	50	Improve the research institute’s results as capacity increases		Ministry of Food, Agriculture and Light Industries	MECSS	
	16	Organize activities to create a favorable business environment in Mongolia to export cement	2017-2020	based on concession agreement	100,000	Increase the potential for exporting construction materials based on increasing the production of exports and studying the legal environment		Begin to export cement produced in Mongolia	30,000	Create a favorable legal environment to export cement that is in line with the legal framework for exporting goods in Mongolia	40,000	Stabilize the export of cement produced in Mongolia	30,000	MoF, Customs General Administration, NDA	MCUD	Commercial enterprises

2.50. Implement flexible long-term investment and financial/loan policy for light industry, small and medium-size enterprises and cooperatives.	3	Provide financial support to export-oriented manufacturers. Establish the industrial development fund, and get approval related to choosing funding sources.	2017	State budget	5,000	Create a manufacture/ production development fund, and develop the necessary related legal documents		Find financial sources for the fund and develop the necessary related legal documents	2,000	Provide financial support to companies using and spreading the use of new technologies and exporting over 30% of their products abroad.	3,000	Provide financial support to companies using and spreading the use of new technologies and exporting over 30% of their products abroad.		Ministry of Food, Agriculture and Light Industries	MFA	
2.51. Create a system for stacking and transporting wool, cashmere and rawhide in order to secure a sustainable supply to national industries and set up a raw materials reserve.	1	Improve the processing and transportation of raw materials, create a sustainable supply chain for domestic production	2017-2020	State budget, foreign sources, private investments	3,400	Conduct research on the processing, transportation, and logistics of raw materials, work with private companies to organize the creation of a model site/center	1,200	Establish a model center for slaughtering and raw material processing, begin test operations, clarify the sources of raw materials, make farmers and processors focus on the quality of the raw materials	2,200	Increase the quality of raw materials and reduce transportation costs by processing and preparing raw materials locally, conduct quality control close to slaughtering and processing centers,		Reduce the local transportation costs of wool by 30%, reduce the mechanical damage when slaughtering raw materials for leather by 50%, conduct the first stage of processing according to fixed standards and keep quality standard high, increase the value of leather and reduce waste		Ministry of Food, Agriculture and Light Industries	province, capital Governor's offices	Commercial enterprises

	2	Establish a wool, cashmere, and leather raw materials fund and support working capital financing	2017-2020	State budget	590,000	Establish a cashmere, leather raw material fund. Draft the legal documents related to creating a mechanism to give working capital loans		Establish a model supply chain for processing raw materials and transportation logistics. Establish a fund to protect against the fall of prices of raw materials.	500,000	Draft the legal documents related to creating a cashmere, leather raw material fund and enable working capital loan lending.	60,000	Be able to provide a working capital loan for the quarterly production of total used raw materials annually	30,000	Ministry of Food, Agriculture and Light Industries	Raw Material Fund	Commercial enterprises
2.52. Promote the development of trade and manufacturing at both the international trade zones and the border port areas of the neighboring countries.	1	Explore opportunities for products produced in Mongolia to engage in international trade and e-commerce chains and introduce products	2017-2020	State budget	50	Explore opportunities for international trade and e-commerce chains for Mongolian products		Include Mongolian products in 1-2 trade chains	20	Include Mongolian products in 3 trade chains	20	Include Mongolian products in 4 trade chains and in 1 e-commerce chain	10	Ministry of Food, Agriculture and Light Industries	MFA, Embassies	Commercial enterprises
	2	Organize trade fairs and expos to export products made in Mongolia to the international market and to neighboring countries	2017-2020	State budget	3650	Organize a "Mongolian-Chinese Expo," conduct research on the feasibility of jointly organizing expos with other countries	150	Organize a joint expo with a country other than China	1000	Organize a "Mongolian-Chinese Expo" in Mongolia	2000	Organize a joint expo with a third country	500	Ministry of Food, Agriculture and Light Industries	MFA, Customs, Tax	Commercial Enterprises, Professional associations
	3	Introduce and promote Mongolian brand products worldwide	2017-2020	State budget, foreign source	900	Manufacture "Khaan Shirkhert" brand products, issue certificates, and make		Double the sales revenue of Mongolian brand products from the base year	300	Increase the sales revenue of Mongolian brand products by a factor of 8 from	300	Increase the sales revenue of Mongolian brand products by a factor of 15 from	300	Ministry of Food, Agriculture and Light Industries	MFA, Commercial Enterprises, Professional associations	

						sales reach 500 million				the base year		the base year				
2.55. Promote putting up "development model" factories in light industry, small and medium enterprises through franchising and adapting foreign industries with advanced technologies	1	Support the establishment of the "Development model" factory to increase the growth of export production	2016-2020	State budget, foreign source	1520	Research new technology and franchising factories. Connect manufacturers, provide training and information on business systems and methods. Support the building of a model factory/plant.	50	Provide support for manufacturers brining in new high-tech manufacturing plants and factories through franchising agreements. Assist them in making contracts and promote the transfer of new technology among manufacturers	1400	Build a highly productive localized model plant based on Japanese, Spanish, Korean model plants.	70	Localize new technology and create a favorable business legal environment to build a model plant.		Ministry of Food, Agriculture and Light Industries		
2.56. Strive to regularly host in Mongolia international exhibitions on leading and advanced techniques and technology in light industry and support manufactures' participation in exhibitions organized abroad on machinery, goods and products.	1	Study the manufacturing methods of highly developed countries, learn from their experiences and spread the information learned. Support participation in trade exhibitions.	2017-2020	State budget	1080	Increase the participation of producers and manufacturers in the Paris Fair and German Green Week and help them make trade and cooperation agreements.	80	Increase the participation of producers and manufacturers in the Paris Fair, German Green Week, and fairs organized in China, Japan, Taiwan, South Korea and Italy. Help them make trade	400	Increase the participation of producers and manufacturers in the Paris Fair, German Green Week, and fairs organized in China, Japan,	400	Increase the participation of producers and manufacturers in the Paris Fair, German Green Week, and fairs organized in China, Japan,	200	Ministry of Food, Agriculture and Light Industries, Embassies	MFA, Customs, Tax	Commercial Enterprises, Professional associations

								and cooperation agreements.		Taiwan, South Korea and Italy. Help them make trade and cooperation agreements.		Taiwan, South Korea and Italy. Help them make trade and cooperation agreements.			
	2	Regularly organize the "Made in Mongolia" trade exhibition, improve the competitiveness of production, trades and services.	2017-2020	State budget	110	Organize annual exhibitions of products produced in Mongolia to the public	30	Increase commercial enterprise's participation by 10%, increase the types of goods by 15%, and increase sales by 30% compared to last year.	30	Increase commercial enterprise's participation by 15%, increase the types of goods by 20%, and increase sales by 40% compared to last year.	30	Increase sales of products from the exhibition by 25% compared to last year.	20	Ministry of Food, Agriculture and Light Industries, Embassies		Commercial enterprises
	3	Promote, introduce and advertise traditional, regional and local food, production and services	2017-2020	State budget	70	Conduct and integrate national and regional food and beverage information and surveys		Create regional and local level food and drink brands. Introduce them to regional and local public services	10	Participate 2-3 times at national and international exhibitions and competitions	40	Participate 1-2 times at national and international exhibitions and competitions	20	Ministry of Food, Agriculture and Light Industries	Commercial Enterprises, Professional associations	

2.57. Render policy support by setting up a light industry park, promoting collaboration among the manufactures and registering clusters.	1	Establish a leather processing park, create conditions to develop factories by cluster, support the construction of a model factory	2016-2020	State budget, foreign sources, private investments	272,000			Invest in and begin constructing a waste treatment plant, technological and drinking water supply, and an engineering and road network within the park.	107,000	Invest in thermal plants, basic power supplies, flood water facilities and tanning machinery	72,000	Investments in and begin construction of Science, Technology, and Innovation centers, parks, logistics centers, and warehouses.	93,000	Ministry of Food, Agriculture and Light Industries	Governor's office of Ulaanbaatar	Professional associations
	2	Develop the infrastructure for the leather processing plant. Organize the construction of a wastewater treatment plant with modern technology to purify, disinfect, and reuse the water from the processing plant.	2017-2020	Foreign source	40,966	Conduct a feasibility study		Construct a high-tech treatment plant	20,000	Construct a high-tech treatment plant	20,000			Ministry of Food, Agriculture and Light Industries	MoF	

Appendix 4. Excerpt from the draft “Mongol Export Program” 2018

Two. Objectives and Goals

2.1. The objective of this program includes taking step by step measures to achieve the following goals: the creation of a favorable legal, investment, financial, and tax environment for Mongolian exports, increased access to market information and research, the international promotion of Mongolian exports, increased innovation and technology-based production and processing, improved competitiveness of Mongolian products on the international market, improved infrastructure, decreased barriers to trade, the creation of jobs, diversification of the Mongolian economy, and increased cash flow into the economy from exports.

2.2 To achieve the objective of this program, the following goals will be proposed and implemented:

2.2.1 The creation of a favorable legal, tax, and financial environment for the production and marketing of export goods

2.2.2. Increased production and processing of non-mining sector goods, and introduction of new advanced technologies

2.2.3. Diversification of non-mining sector exports, increased production of value-added products

2.2.4. Facilitation of trade and expansion and penetration into new markets.

Three. Measures to be implemented

3.1. With the goal of creating a favorable legal, tax, and financial environment for the production and marketing of export goods:

3.1.1. To develop and approve a comprehensive "Foreign trade policy" aimed at supporting production-trade-investment, that integrates the activities of government agencies, ministries, foreign trade and export intensive sectors.

3.1.2. Propose amendments to the “Law on Competition”, “Customs Tariff and Duties Law”, “Law on Investment”, “Law on Agricultural Products and Commodity Exchange”, “Law on Licensing” and other existing laws related to export promotion.

3.1.3. Build and provide financing and investment for new food and light industry export factories under the “Industrialization 21:100 Program”

3.1.4. Development new financial products and tools for production and export promotion

3.1.5. Develop a draft amendment to the Law on Licensing for the purpose of establishing private and public wool and cashmere primary processing quality control

3.1.6 Add amendments to the Value-Added Tax Law that support the domestic cooperation of factory processes and increase the processing level of factories

3.1.7. To provide tax breaks and exemptions to support producers who manufacture value-added products for export purposes in order for them to purchase raw materials, auxiliary materials and equipment

3.1.8. Provide tax breaks to producers who manufacture higher technology export products

3.1.9. Coordinate the activities of the Production Development Fund with sector development policies, establish legal arrangements for the creation of export oriented funding

3.1.10. Create an online database for legal documents required for foreign trade and foreign trade information

3.1.11. Create a manual and disseminate information on the legal environment related to the "Mongol Export" program to exporting producers

3.1.12. Establish animal disease-free zones region in provinces, support foreign direct investment and concessional loans given to establish meat factories and meat laboratories in those zones

3.1.13. Coordinate the activities of border inspection agencies, propose and implement measures to reduce overlaps and increase efficiency

3.1.14. Establish an export insurance and credit guarantee system to protect exporters from foreign trade risks

3.1.15. Fully utilize the opportunities to reduce non-tariff barriers to trade as discussed in the WTO's "Agreements on technical barriers to trade" and improve quarantine inspections

3.1.16. Include laboratories that conduct testing for meat, meat products, sea buckthorn, honey, wool, cashmere and leather products in capacity building programs organized by international metrology and accreditation organizations.

3.1.17. Establish a transportation logistics organization for export goods in line with intergovernmental "Land Port" agreements.

3.1.18 Give awards to export goods, create a special day for exporters

3.2. With the goal of increasing the production and processing of non-mining sector goods, and introducing new advanced technologies:

3.2.1 Support and increase the standards of meat, meat products, sea buckthorn, honey, wool, leather, and textiles to European and International standards

3.2.2. Increase the number of students and specialists of wool, cashmere, and leather production technology and design who are studying and training in Italy, Japan and other leading countries

3.2.3. Organize and support the participation of producers and exporters in international fairs, expos and business forums in Russia, China, the European Union, Japan, South Korea, and the US.

3.2.4. Develop and refine the activities of the agricultural exchange in line with international standards in order to prepare and supply raw materials to export production factories

3.2.5. Establish and implement a one window service center for foreign trade

3.2.6. Improve the planning, implementation, and quality of services of veterinary preventive measures. Reduce the incidences of and stop the spread of infectious animal diseases. Improve supervision and inspection measures.

3.2.7. Support the capacity building of laboratories testing export-oriented products.

3.2.8. Finance research studies that look into increasing competitiveness, decreasing production costs, increasing innovation and technology-based exports

3.3. Within the goal of diversifying non-mining sector exports and increasing the production of value-added products:

3.3.1. Conduct research focused on new export sectors opportunities and the development value added products to introduce to international markets

3.3.2. Implement step by step measures to produce new value-added export products

3.3.3. Create and implement a plan to organize training workshops and seminars for export product producers

3.3.4. Support wool, cashmere and food produce testing laboratories, support capacity building to ensure they operate according to international standards, construct a new laboratory, support the conformity certification issuing process at all levels

3.3.5. Develop and support the production of software and hardware for export purposes

3.3.6. Develop and promote national brands and geographical indication products to international markets

3.4. Within the goal of facilitating trade and expanding and penetrating into new markets:

3.4.1. Promote and organize training workshops to fully utilize the privileges under the WTO's "Trade Facilitation Agreement"

3.4.2. Conduct research on the advantages, disadvantages and experiences of establishing a Eurasian economic free trade agreement to increase Mongolian export volumes.

3.4.3. In accordance with the Mongolian-Russian-Chinese economic corridor program, encourage trade facilitation and implement transit transportation measures to simplify customs and quarantine inspections

3.4.4. Work with JICA to implement the Mongolian-Japanese Economic partnership agreement, conduct research on the import standards required for Japan and increase the diversity of goods exported to Japan,

3.4.5. Conduct consumer demand and market research, increase measures to penetrate the EU, US, Canadian and Russian markets

3.4.6. Research and introduce the implementation of an online one window service center based on the EU's experience

3.4.7. Conduct research into equalizing Mongolian-Russian-Chinese standards for agricultural products, facilitate the cooperation of standardization agencies from these countries

3.4.8. Get conformity assessments of export goods approved by trading countries by establishing bilateral and multilateral agreements, implement trade facilitating measures

3.4.9. Develop a proposal to establish a center for advertisement in Berlin to promote and advertise Mongolia, investing in Mongolia, the business environment, and products to the European public and business sectors

3.4.10. Conduct research on and create the necessary legal environment to introduce e-commerce for export goods

3.4.11. Promote and advertise Mongolian exports goods through embassies and diplomatic missions abroad.

3.4.12. Coordinate and integrate the activities of international development organizations, take into account export promoting measures in their projects and programs, and to jointly ensure their implementation

Four. Timeframe, stages, and outcomes of the program

4.1 The program will be divided into 2 key stages; short term and medium term, and implemented from 2018 to 2022:

The short-term stage (2018-2019) will focus on:

Improving the legal, financial and tax environment of export trading, improving the production of export products, increasing the production and processing capacity of non-mining products, and introduce new advanced technology.

The mid-term stage (2020-2021) will focus on:

The diversification of non-mineral exports, increasing production of finished goods, facilitating export trade, expanding into new export markets.

4.2 The program will aim to achieve the following outcomes:

4.2.1. Create a favorable investment, tax, legal, and financially stable environment for export production and trade

4.2.2. Create export trade and production networks, increase the number of Mongolian brand products on the international market

4.2.3. Create a unified source to provide information to the European Union and other countries on Mongolian goods, exporters and producers.

4.2.4. Enhance the international perception of Mongolia through export goods and products

4.2.5. Change the structure of and expand the range of export products produced.

4.2.6. Create a stable supply chain for wool, cashmere, leather, and other agricultural raw materials. Increase the level of processing of agricultural raw materials to 60%.

4.2.7. Increase the export income of the light industry, food, and agriculture sectors by 50% by 2022 as compared to 2016 levels.

4.2.8. Introduce international standards of technology and innovation in order to produce internationally competitive products

4.2.9. Create and introduce environmentally friendly and internationally competitive products with the “Mongolian Khaan Shirkhegt” and “Organic Produce” quality certification logos to the international market.

4.2.10. Increase employment through increased domestic production. Increase domestic savings and foreign currency reserves.

4.2.11. Decrease the time and cost of getting clearance for exports as defined in the World Bank’s “Doing Business” report.

Appendix 5. Gravity Model Estimation Results

Figure A1. Hausman test of Fixed or Random effect estimation

```
. hausman FE RE, sigmamore
```

	(b) FE	(B) RE	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
policy_l	.7353631	.9013183	-.1659552	.0606621
ln_impGDP	.047867	.9310976	-.8832307	.8947579
year				
2011	-.4595086	-.6728396	.213331	.1106458
2012	-.5082367	-.7003513	.1921145	.1003178
2013	-.0143969	-.2298161	.2154192	.1250242
2014	.152546	-.0885684	.2411144	.1366035
2015	-.1832383	-.3239908	.1407525	.062484
2016	.2230131	.1434296	.0795835	.0443996

```
                b = consistent under Ho and Ha; obtained from xtreg
     B = inconsistent under Ha, efficient under Ho; obtained from xtreg

  Test:  Ho:  difference in coefficients not systematic

            chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                    =       10.21
          Prob>chi2 =      0.2505
```

Source: estimation result

If the p-value is less than 0.05, there is a systematic difference in coefficients and the fixed effect method is more appropriate. However, in this case, as the p-value is 0.25 the research team chose to use the random effect method.

Figure A2. Breusch and Pagan test

```
Breusch and Pagan Lagrangian multiplier test for random effects

        ln_exp[imp_id,t] = Xb + u[imp_id] + e[imp_id,t]

        Estimated results:
                         |       Var     sd = sqrt(Var)
                ---------+------------------------------
                  ln_exp |   8.623883       2.936645
                       e |   1.323798       1.150564
                       u |   3.891508        1.97269

        Test:   Var(u) = 0
                              chibar2(01) =   352.29
                            Prob > chibar2 =   0.0000
```

Source: Authors' estimates

Figure A3. Random effect estimation with the tax exemption policy

```
Random-effects GLS regression                   Number of obs     =       244
Group variable: imp_id                          Number of groups  =        40

R-sq:                                           Obs per group:
     within  = 0.0934                                         min =         1
     between = 0.4748                                         avg =       6.1
     overall = 0.4036                                         max =         7

                                                Wald chi2(11)     =     54.20
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =    0.0000
```

ln_exp	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
inter_1	4.230364	1.879255	2.25	0.024	.5470907	7.913636
ln_dist	-1.425037	.8209195	-1.74	0.083	-3.03401	.1839353
ln_impGDP	.9663557	.3103089	3.11	0.002	.3581614	1.57455
policy_l	.9402185	.2637144	3.57	0.000	.4233479	1.457089
policy_t	-.2775754	.3497161	-0.79	0.427	-.9630064	.4078556
year						
2011	-.7011621	.3295061	-2.13	0.033	-1.346982	-.055342
2012	-.7351553	.3493977	-2.10	0.035	-1.419962	-.0503483
2013	-.046085	.4155432	-0.11	0.912	-.8605346	.7683647
2014	.0941853	.4148456	0.23	0.820	-.7188973	.9072678
2015	-.1289801	.4237897	-0.30	0.761	-.9595926	.7016324
2016	.3603751	.4081068	0.88	0.377	-.4394996	1.16025
_cons	7.87693	7.368706	1.07	0.285	-6.565467	22.31933
sigma_u	1.9366654					
sigma_e	1.1494381					
rho	.73950336	(fraction of variance due to u_i)				

Source: Authors' estimates