Diversification Paths: What Can Mongolia Learn from the Export Trends of Other Resource-Dependent Countries?

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MONGOLIA JOBS DIAGNOSTIC:
More Vibrant and Inclusive Labor Markets for Economic Recovery and Diversification

Background Paper: Diversification Paths: What Can Mongolia Learn from the Export Trends of Other Resource-Dependent Countries?

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Abbreviations

BPM	*Balance of Payments and the International Investment Position Manual*
FDI	foreign direct investment
GCI	Global Competitiveness Index
GDP	gross domestic product
GIFF	Growth Identification and Facilitation Framework
HDI	Human Development Index
IMF	International Monetary Fund
NEET	not in employment, education, or training
SDR	special drawing right

Abstract

Mongolia has benefited from its mineral wealth, but diversification is now a major priority. But to what extent is diversification possible, and what would it look like? This paper adopts the Growth Identification and Facilitation Framework methodology to examine the extent to which other resource-rich countries at a higher level of development than Mongolia have diversified the products and services they export. The literature on diversification underscores the challenges resource-dependent economies face in diversifying, and this is supported by our analysis. We find that the export baskets of the six resource-rich comparator countries studied tended to be even more concentrated on resources in 2019 than they had been in 2001. There was little evidence of new industrial products emerging as important exports, and services remained a small part of total trade. However, in most of the countries, exports of some high-productivity and tradable services had grown significantly, even if they still accounted for relatively small shares of overall trade. Like the other countries included in the study, Mongolia faces challenges in diversifying out of mining, especially in terms of new manufacturing industries where its remoteness and small population are significant constraints. However, the experiences of other resource-rich countries, as well as Mongolia's endowments, suggest that high-productivity and tradable services, such as business services and telecommunications, computer, and information services, may hold promise for future growth and diversification.

1. Introduction

This paper has been prepared as part of the World Bank's Mongolia Jobs Diagnostic (Betcherman et al. 2022). The Jobs Diagnostic involves an analysis of the Mongolian labor market, including the evolution of labor supply and demand as well as relevant policies and institutions, to provide evidence to support the creation of more and better jobs in the future. Based on this analysis, the Jobs Diagnostic provides policy recommendations to address various job challenges, including the creation of new jobs in a more diversified economy.

Mongolia's economy has relied heavily on the mining sector for growth, trade, and investment. Although mining has contributed in a major way to the country's economic development and poverty reduction record over the past two decades, the prospects for continuing along this resource-dependent path are not favorable. Environmental concerns, the expected decline in demand from export destinations (especially coal to China), and the economic volatility caused by resource dependency are creating impetus for a new economic model where different sectors drive economic development and job creation.

The importance of economic diversification has been highlighted in the government's strategy, including the country's development plan, Vision 2050 (Government of Mongolia 2020). Diversification was also a theme of the latest World Bank Country Economic Memorandum (World Bank 2020).

Diversification is a challenge for many developing countries, especially those that have relied on resources. These countries often have low levels of economic complexity, which means that they have a limited number of assets and capabilities that are transferable across sectors (Hidalgo and Hausmann 2009; Lashitew, Ross, and Werker 2020). This characterization applies to Mongolia, which has a low economic complexity rating, creating challenges for future economic diversification (Tudela-Pye and Merotto 2023).

One framework for analyzing diversification possibilities is the Growth Identification and Facilitation Framework (GIFF) developed by Lin and colleagues (e.g., Lin and Monga 2010; Lin and Xu 2016). The GIFF offers a guide to potential growth sectors in a target country by analyzing the evolution of exports in comparator countries. The logic of this framework is that countries with similar endowments—and especially those that are slightly more developed than the target country—can provide insights into products and services where the target country may have natural comparative advantages.

The objective of this paper is to use a modified and partial GIFF approach to identify potential growth sectors for Mongolia. The methodology we use is to analyze export trends for a set of countries that we have selected as useful comparators for Mongolia.

A key part of this analysis is to identify appropriate comparators. To do this, we generally follow the approach used in the GIFF methodology to identify comparator countries. This selection process considers a number of economic and human capital variables to identify potential countries. These countries are then further assessed in terms of endowment similarities with Mongolia to arrive at a final list. In our approach, we have three groups of comparators:

"standard," "aspirational," and "high aspirational." We analyze exports in 2001 and 2019 for the aspirational and high aspirational comparators that are resource rich to gain insights into the extent and nature of their diversification.

We find that the export baskets of the six resource-rich comparator countries studied tended to be even more concentrated on resources in 2019 than they had been in 2001. There was little evidence of new industrial products emerging as important exports, and services remained a small part of total trade. However, in most of the countries, exports of some high-productivity and tradable services had grown significantly, even if they still accounted for relatively small shares of overall trade. Mongolia's export trends have been similar to those of the comparator countries, and it faces challenges in diversifying out of mining. However, the experiences of other resource-rich countries, as well as Mongolia's endowments, suggest that high-productivity and tradable services, such as business services and telecommunications, computer, and information services, may hold promise for future growth and diversification.

In the next section, we review some of the relevant literature on diversification, particularly in resource-dependent countries. In section 3, the partial GIFF methodology that we use is described. Then, in section 4, the methodology is applied by analyzing data on exports for Mongolia and selected comparator countries. In the concluding section, the results are discussed, and implications are drawn for future job creation possibilities for Mongolia.

2. Diversification in Resource-Rich Countries

2.1 Mongolia's Resource Dependency

Mongolia's economy has been heavily dependent on resources, especially the mining of coal, gold, and copper. Mining has been the major contributor to economic growth, especially during the 2003–13 period, when the country's economic performance benefited significantly from large-scale mining investments. Figure 1 summarizes the contribution mining has made to aggregate gross domestic product (GDP) and the extent to which mining has dominated exports, government revenue, and foreign direct investment. The figure also highlights how much this dependence on mineral resources increased during the 2000–19 period.

Figure 1: Mongolia's Growing Economic Dependence on the Mining Sector
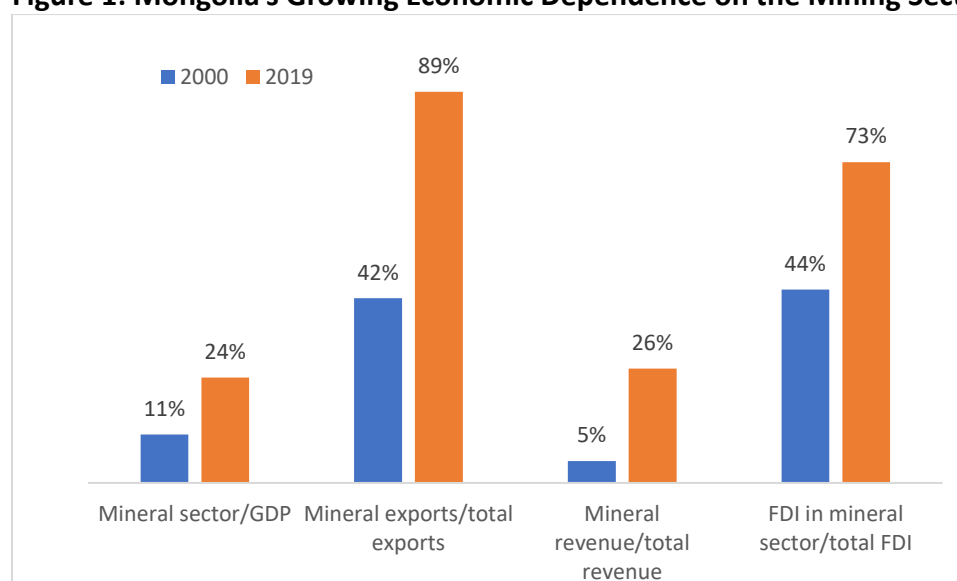
Source: World Bank (2020), based on National Statistics Office, Ministry of Finance, Bank of Mongolia, and World Bank estimates.
Note: FDI = foreign direct investment; GDP = gross domestic product.

The mining-dependent economy has been beneficial in many respects. Average annual GDP growth was about 7 percent during the first two decades of the century. With solid economic growth, poverty has declined, especially prior to 2015, and inequality has remained stable and moderate.

However, there are concerns related to this resource-driven economy. Growth is closely linked to commodity prices, and their volatility has translated into considerable instability in the Mongolian economy. The growth has been primarily due to capital investment and natural resource depletion rather than productivity improvements that are necessary for prosperity over the long run. The resources generated by mining have not been used to strengthen the intangible capital that is increasingly important for economic development. These issues are discussed in detail in the World Bank's last Country Economic Memorandum (World Bank 2020).

Furthermore, environmental considerations add to the concerns about the structure of the Mongolian economy going forward. The dependence on coal, in particular, will be a problem with Mongolia's commitment to a green transition and similar commitments that are being made by trade partners, most importantly China.

In response to such concerns, Vision 2050, Mongolia's long-term development plan, sets out diversification as an important objective. The plan identifies various products and services as priorities for creating a more diversified economy, including mineral processing, food processing, wool and cashmere, tourism, creative industries, and information technology (Government of Mongolia 2020).

2.2 Diversification in Resource-Dependent Countries

Diversification is a key aspect of economic development. It is part of a broader process of structural change whereby productive inputs are reallocated from low- to high-productivity activities, resulting in increases in the value of what a country produces and in the incomes of its population.

As Hausmann and his colleagues (e.g., Hidalgo and Hausmann 2009) have demonstrated, specializing in increasingly more complex products is strongly correlated with national income. Yet it can be challenging for countries to diversify into new productive activities. Developing different and more complex products (or services) depends on acquiring new capabilities (i.e., know-how). But where do these new capabilities come from? Generally, the expectation has been that they will be closely related to existing capabilities. In other words, movement across the "product space" would be path dependent.

Diversification has been seen as more challenging in developing countries than in developed countries, which have a broader and more sophisticated range of capabilities and, thus, the capacity to make "longer leaps" across the product space. In developing countries, the general goal is to leverage capabilities they already have to expand into more complex products that are a "short leap" from existing ones (Balland et al. 2022).

Developing countries face additional challenges in diversifying into new products because many of these countries are commodity or resource dependent, as is the case in Mongolia. Resource-rich countries typically face more hurdles in diversifying than other countries (Lashitew, Ross, and Werker 2021). Because they have relied on extraction of natural resources, these countries usually have not developed a wide range of capabilities to move into more complex products, especially far across the product space.

Resource-rich countries can diversify in two ways (Joya 2018). One is resource-based diversification, where minerals or other resources are not only extracted but now are also processed domestically. The other is broad-based diversification, with new activities that are not necessarily connected to the resource sector.

It is true that conventional views on diversification suggest that only the former is possible given the specialized and limited comparative advantages of resource-dependent countries. However, this view is now being challenged more seriously. Comparative advantage may not only be determined by factor endowments but also by country-specific features such as history, institutions, and geography (Ahmadov 2014; Joya 2018). There are examples of countries that have diversified into areas unrelated to their initial resource specialization (World Bank Group 2019). Indeed, recent empirical work by the United Nations Industrial Development Organization found that, even in developing countries, there was an unexpectedly high incidence of new exports unrelated to the country's initial export basket (Coniglio et al. 2021).

2.3 Structural Change, Premature Deindustrialization, and Services

The conventional path of structural change has been from agriculture to modern industrial and service activities. As the structural transformation proceeds, the objective is to move up the value-added ladder by specializing, or diversifying, within industry and eventually services. For developing countries, low-cost manufacturing has traditionally been the starting point for this process of structural upgrading. This has been exemplified by the experience of several East Asian and Southeast Asian countries.

However, there are now doubts about whether recent changes in technology and trade are limiting future opportunities in manufacturing for developing countries where the dominant asset is abundant low-wage labor. Rodrik (2016) has referred to this as "premature deindustrialization." He has noted that, compared to the experience of today's developed countries, the share of manufacturing in the economy now peaks at lower levels and at far lower levels of income.

This raises the question of where growth and job creation will come from if the conventional path is now much less likely. For the most part, the literature on structural change and diversification is only now adjusting to this new reality. Indeed, the economic complexity literature and the GIFF, which we will turn to in the next section, still focus on the possibilities for specialization in goods. The methodologies and the data tend to be limited to goods (especially goods exports) without including services.

Traditionally, there has not been much interest in service-led development. Services were not tradable, and there were limited prospects for productivity gains in the sector. However, because of technological advances, neither is necessarily still the case for many services (Nayyar, Hallward-Dreimer, and Davies 2021). Services value added as a share of trade has been rising (albeit often embedded in goods). Among lower-middle-income countries, productivity in services has been growing more rapidly than in industry or agriculture (figure 2). Given these developments, along with premature deindustrialization, services must be more central to structural change and diversification (Rodrik 2021).

Figure 2: Trends in Labor Productivity by Sector, Lower-Middle-Income Countries, 1990–2020
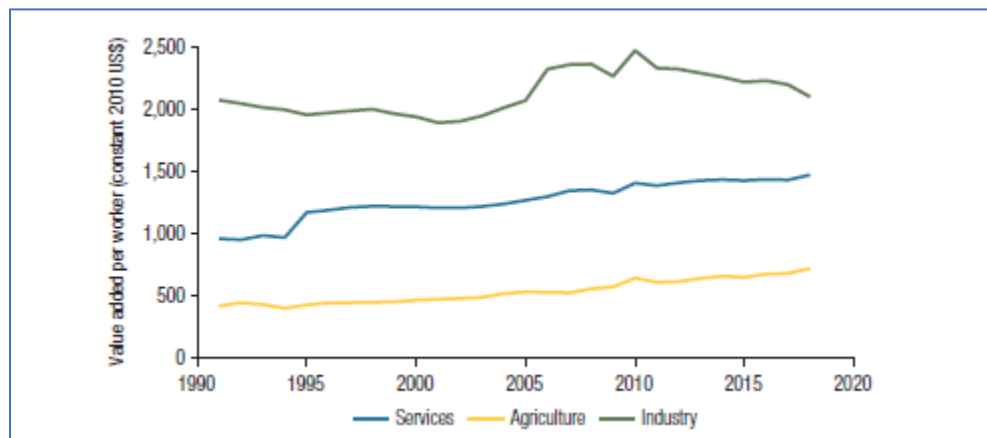
Source: Nayyar, Hallward-Dreimer, and Davies 2021.

The service sector is very diverse (box 1). It includes public sector and private sector activities. Some services are tradable, whereas others are less so. Technological change opportunities vary across the different service industries, and, accordingly, so do possibilities for productivity growth.

Box 1: The Diversity of Service Industries

Traditionally, economists have seen services as an undifferentiated sector—a residual of activities that do not fit into the primary sector or industry. However, the sector includes a wide range of activities that differ significantly in terms of, for example, tradability, technological intensity, linkages with other sectors, the relationship between producer and consumer, labor intensity, and skill requirements.

Nayyar, Hallward-Dreimer, and Davies (2021) organize the service sector into four categories:

- *Global innovator services*, including professional, scientific, and technical services; information and communication technology services; and financial services
- *Low-skill tradable services*, including transportation and warehousing, accommodation and food, and wholesale trade
- *Skill-intensive social services*, including education and health
- *Low-skill domestic services*, including retail trade; entertainment, arts, and recreation services; administration and support services; and other community and personal services

There may be little doubt that service industries will account for the bulk of job creation in the future, as they have in the recent past. However, how growth is distributed across these four categories will determine the quality of jobs that countries are able to create. To this point, job creation in developing countries has been mostly concentrated in low-skill services. Their challenge will be to acquire the capabilities to develop services that generate better jobs, specifically in global innovator services and skill-intensive social services.

Services will play an increasingly important role in structural change and diversification, but the key question will be which types of services grow.

3. The GIFF Methodology for Analyzing Diversification Prospects

We now turn to the practical question of how to identify sectors that have potential for creating future growth and jobs in Mongolia. The GIFF, developed by Lin and colleagues, offers a systematic approach for doing this. In this section, the GIFF methodology is explained, focusing on the parts of the overall methodology that will be applied to the Mongolia case.

3.1 The GIFF Methodology

The GIFF was developed as a systematic way to identify natural comparative advantages for countries as a prelude to developing a strategy for upgrading and growth. In essence, it is a tool for operationalizing the new structural economics approach to development (Lin 2010).

> The GIFF is designed to help policymakers in catching-up developing countries to develop feasible and sharply focused policies in an effort to identify and unlock their latent comparative advantage to achieve structural transformation. At the heart of the GIFF is the principle that developing countries should not focus on what they do *not* have but what they *do* have in an effort to unleash their latent comparative advantages (Lin and Xu 2016, 3).

The GIFF has been applied to several countries in Sub-Saharan Africa and Asia (e.g., Lin and Dinh 2014; Lin and Wang 2014; Lin and Xu 2016; Sichoongwe, Kaonga, and Hapompwe 2021; Xu and Hager 2017).

The GIFF is a practical instrument that can be applied by policy makers to guide structural change and diversification strategies. Fully implementing the framework involves the six steps below, which include analysis (step 1) and policy actions (steps 2–6).

1. Choosing the right target (i.e., picking comparator countries and analyzing diversification possibilities based on the export patterns of these countries)
2. Identifying and removing binding constraints for these goods and services
3. Attracting global investors
4. Scaling up self-discovery
5. Recognizing the power of industrial parks/special economic zones
6. Providing limited incentives to the right industries

In this paper, we only apply the first step of the GIFF methodology to Mongolia. This involves, first, selecting comparator countries and, second, analyzing their export trends to identify potential sources of diversification for the target country.

3.2 Identifying Comparator Countries

Our methodology for selecting comparator countries generally follows the approach used in the GIFF. However, some adaptations have been made to reflect differences in the purposes of using comparator countries. In the GIFF studies, comparators provide examples of development paths that could lead to economic growth and diversification in the target country. For this purpose, comparator countries should be slightly ahead of the target country in terms of development, should be growing dynamically, and should have factor endowments similar to the target country. In this paper, we also use comparators to identify potential growth sectors, so the criteria used in the GIFF studies are appropriate for that purpose. However, in another study, we use comparators to benchmark Mongolia's labor market performance regionally and internationally (see Betcherman and Jalil 2023). For that purpose, it is important to have some comparator countries that are similar to Mongolia in terms of level of development, as well as endowments.[3] The methodology we have used is summarized in figure 3.

Figure 3: Process for Selecting Comparator Countries
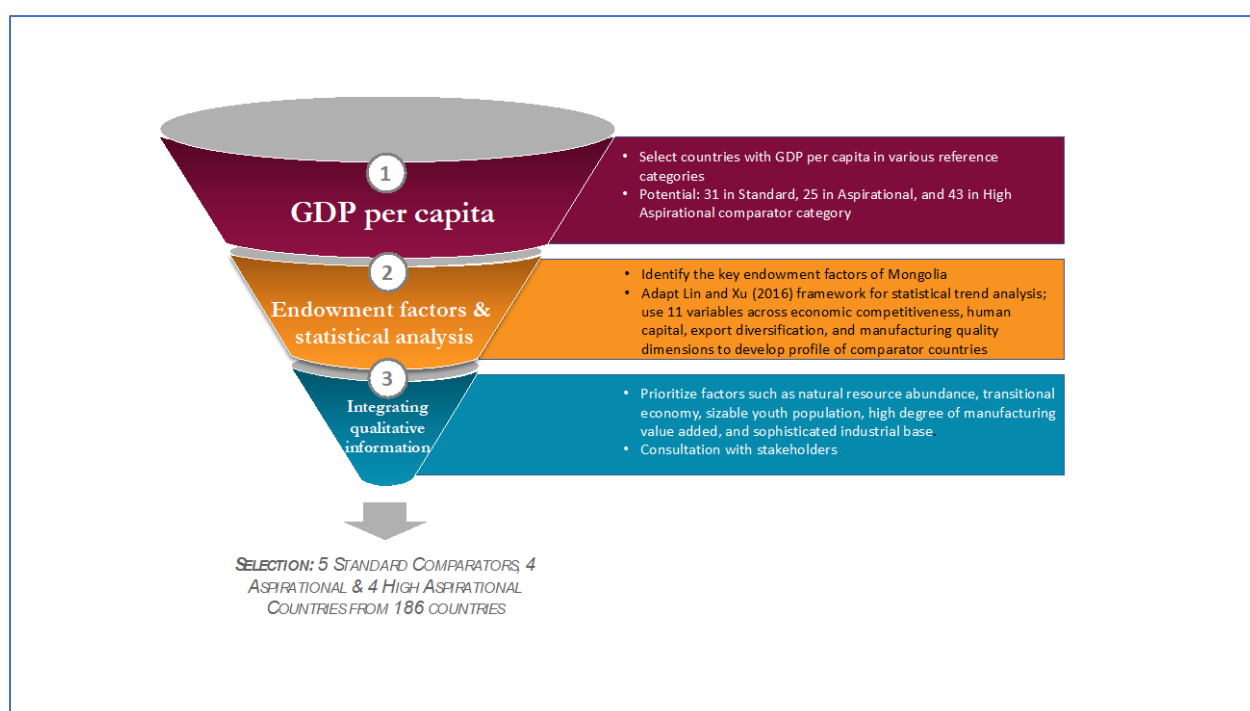
Note: GDP = gross domestic product.

Step 1: Shortlisting Countries Based on GDP per Capita

In the GIFF studies, Lin and his colleagues select comparators with similar endowments to the target country that are slightly ahead in terms of economic development. To identify potential comparators that are slightly more developed, the GIFF studies use two indicators: a GDP per capita about 100–300 percent higher than the target country or a per capita income from 20 years ago that is similar to the target country's current per capita income (Lin and Xu 2016).

We use the current GDP per capita approach and select three groups of potential comparators:

- *Standard comparators,* with a GDP per capita of 100–150 percent of Mongolia's; these countries are used for benchmarking Mongolia's labor market performance, as reported in Betcherman and Jalil (2023)
- *Aspirational comparators,* with a GDP per capita of 150–250 percent of Mongolia's; this group includes the countries that are primarily used for identifying potential sources of growth and diversification for Mongolia, which is the focus of this paper
- *High aspirational comparators,* with a GDP per capita of greater than 250 percent of Mongolia's; these countries serve to provide a longer-term vision for Mongolia's diversification

Using 2019 GDP per capita levels, we identified 31 potential countries in the standard category, 25 in the aspirational category, and 43 in the high aspirational category.[4]

Step 2: Endowment Factors and Statistical Analysis

To illustrate the GIFF approach, Lin and Xu (2016), in their analysis of Uganda, created a list of countries with GDP per capita between 100 and 300 percent of the target country. They then determined comparator countries in two stages. First, they removed slow-growing countries. Second, they retained countries with similar endowment factors as Uganda, including geography (landlocked countries), resource richness, labor abundance, and manufacturing value added.

Regarding the growth condition, we excluded countries that had below 3 percent annual average growth (2000–19) for the standard and aspirational categories and below 2 percent for the high aspirational group.

For the remaining countries, we carried out further analysis, using quantitative and qualitative indicators, to capture factor endowments similar to Mongolia. These indicators are listed in table 1.

Table 1: Indicators Used for Selecting Potential Comparators

Variables	Rationale
Manufacturing value added	Industry performance, also used by Lin and Xu (2016)
Trade (% of GDP)	Export orientation
Global Competitiveness Index	Overall economic competitiveness
Population density	To select countries with similar low-density profile as Mongolia
Human Development Index	To identify human capital level
Human Capital Index	
Unemployment, youth total (% of total labor force, ages 15–24)	Performance in reducing youth unemployment; also used by Lin and Xu (2016)
Export Diversification Index (2014)	Manufacturing quality and export diversification
Manufacturing quality	

Variables	Rationale
Additional qualitative factors	Countries that are transition economies (e.g., eastern European countries); similar geography (e.g., landlocked: Central Asian countries)

Note: GDP = gross domestic product.

For each of the quantitative variables, an analysis was undertaken of the latest levels and also trends over the 2000–19 period.

Step 3: Integrating Qualitative Information

The selection of comparator countries was finalized after consultation with World Bank colleagues and others knowledgeable about Mongolia. The final selection is shown in table 2. This list was also compared with the Country Economic Memorandum list of comparator countries (World Bank 2020), and it turns out there was some overlap: 8 of the 12 countries used as comparators in that report were also on our list.

Table 2: Comparator Countries Selected

STANDARD COMPARATORS	
Thailand[a]	High manufacturing value added; high on human capital but, unlike Mongolia, low on youth unemployment
Vietnam[a]	High youth population but low NEET and very diversified export/manufacturing sector despite lower per capita income than Mongolia
Colombia[b]	Resource rich and primary commodity exports; high human capital
Azerbaijan[a]	Transition economy; resource rich
Armenia[b]	Transition economy; landlocked
ASPIRATIONAL COMPARATORS	
Malaysia[b]	Diversified export, including electrical/industrial machinery; resource/primary commodities/agricultural products still account for 20% of export
Russia[b]	More diversified manufacturing sector; oil/energy/resource rich; low population density
Kazakhstan[b]	Resource rich; similar geography
Chile[b]	Resource/mineral rich; globally competitive economy; high human capital; diversified export; high unemployment among youth
HIGH ASPIRATIONAL COMPARATORS	
South Korea	Successful example of structural transformation; strong manufacturing/export base
Australia[b]	Resource rich; low population density
Canada[b]	Resource rich; low population density
Estonia	Transition economy; successful economic transformation focusing on service rather than industry

Note: NEET = not in employment, education, or training.
a. Countries referred to in World Bank (2020, 26, 49).
b. Identified as comparator countries in World Bank (2020, 48).

3.3 Analysis of Export Trends of Resource-Rich Comparators

The logic of the GIFF methodology is that countries with similar endowments and that are slightly more developed than the target country can offer insights into sectors where the target country may have natural comparative advantages. This is done by analyzing what the export mix has been for these comparator countries and how their export basket has evolved over time.

As noted earlier in this section, the analysis reported in this paper is only the first step in a full implementation of the GIFF methodology. In a full implementation, once potential growth products have been identified based on the export baskets of comparators, the next step would be to make an initial judgment on whether these products are in line with the target country's comparative advantages.[5] This can include an assessment of labor and capital cost structures as well as other endowments that can determine the feasibility of diversifying into a specific product. Once general and sector-specific constraints have been considered, the GIFF then turns to how investment, self-discovery, and incentives can transform the potential products into a concrete plan for growth and diversification.

Our analysis of exports includes the four aspirational comparators we have selected: Malaysia, Russia, Kazakhstan, and Chile. The aspirational group meets the condition of being somewhat more developed than Mongolia, as measured by GDP per capita. As of 2019, the GDP per capita in each of these countries was slightly more than double Mongolia's (table 3). The higher development level of the aspirational countries is also indicated by their scores on the Global Competitiveness Index (GCI) and the Human Development Index (HDI) relative to Mongolia. They also ranked higher in terms of economic complexity, although only Malaysia had a relatively high rank on this index. The aspirational countries also had fairly strong economic performance over the 2000–19 period, with annual GDP growth rates ranging from 3.7 percent to 6.5 percent.

In terms of endowments, all four countries are rich in resources, which is a defining characteristic of Mongolia. Three other important characteristics of Mongolia are its very low population density, transition economy, and landlocked geography. Both Russia and Kazakhstan have low population density and are transition economies, but Malaysia and Chile do not. Only Kazakhstan is landlocked (table 3).

Although the analysis focuses on the exports of the aspirational comparators, we also look at export trends of the two high aspirational countries that are resource rich: Australia and Canada. These countries are much more developed than Mongolia, as illustrated by their GDP per capita and GCI and HDI scores (table 3). However, they both have low population density levels, like Mongolia, in addition to their natural wealth. Australia's economic complexity is quite low; although Canada's is higher, it is not among the global leaders in this category. These relatively low economic complexity rankings may suggest a high degree of resource dependency, but Australia and Canada have been included in the analysis for potential insights into where diversification might occur for Mongolia farther down the road.

Table 3: Selected Characteristics: Mongolia and Resource-Rich Comparator Countries

Country	GDP per capita relative to Mongolia (%), 2019	Annual GDP growth rate (%), 2000–2019	GCI rank, 2017–2018	HDI, 2019	Economic complexity ranking, 2019	Population density[a]	Transition country	Landlocked geography
Aspirational								
Malaysia	230	5.1	23	0.79	23	100	No	No
Russia	220	3.8	38	0.81	54	9	Yes	No
Kazakhstan	214	6.5	57	0.79	79	7	Yes	Yes
Chile	204	3.7	33	0.83	73	26	No	No
High aspirational								
Australia	403	2.9	21	0.93	86	3	No	No
Canada	397	2.7	14	0.91	36	4	No	No
Mongolia	**100**	**6.8**	**101**	**0.72**	**112**	**2**	**Yes**	**Yes**

Sources: World Bank, World Economic Forum, United Nations Development Programme, and Harvard Growth Lab.

Note: GCI = Global Competitiveness Index; GDP = gross domestic product; HDI = Human Development Index.

a. Population density refers to the number of people per square kilometer.

The export data for goods used in our analysis are based on United Nations Comtrade statistics and, in some cases, draw on published data by national statistical offices. These data are classified according to the Harmonized System codes, using six-digit, four-digit, and two-digit classifications (Mendoza 2021). For this research, we rely on the two-digit product classification and, to a lesser extent, the four-digit classification, covering the period between 2001 and 2019.

The trade data on services are based on the *Balance of Payments and the International Investment Position Manual (BPM)* collected by the International Monetary Fund (IMF). The *BPM* has undergone several iterations. The latest version, *BPM6*, has more granular classifications of services than earlier versions (IMF 2009). To maximize data comparability, the data on services were collected between 2005 (the earliest available data using *BPM6*) and 2019. We present service exports at the *BPM1* level, which is the highest level of aggregation.

4. Export Baskets of Mongolia and Its Resource-Rich Comparators

In this section, we analyze the export trends for the aspirational comparators and the high aspirational comparators. We begin with export trends for Mongolia. Export values for all countries are reported in current U.S. dollars.[6]

The objective of this analysis is to identify the extent to which these countries have diversified their exports beyond resources. The data cover the 2001–19 period for goods exports and 2005–19 for service exports. To consider the extent of diversification in each country, we look at how

export shares of individual products and services have changed and what the growth rates have been for exports of individual products and services.

The tables included in this section include products and services that accounted for at least 3 percent of the country's exports (as a share of goods or services) in 2019.

4.1 Mongolia's Export Trends

Mongolia has experienced rapid growth in trade volumes in the first two decades of the century. Goods exports were only slightly more than $500 million in 2001, but they had grown in nominal terms to over $7.6 billion by 2019 (table 4). However, the goods export basket became even more concentrated in resources over the period. This is due to the tremendous growth in mineral fuels, oils, and bituminous substances, which accounted for only 1 percent of goods exports in 2001 but 46 percent in 2019. This category is dominated by coal, which was not exported in 2001 but had exports valued at over $3 billion in 2019. Mongolia's other major export—ores, slag, and ash—increased its share of goods exports from 29 percent to 35 percent over the period. By far the most important product in this category is copper ore, which amounted to $1.8 billion in 2019. Over 80 percent of Mongolia's goods exports in 2019 were in the two mining categories (product codes 26 and 27), with coal and copper accounting for 64 percent of all goods exports.

To further illustrate the growing dominance of resource exports in Mongolia, table 4 also includes three nonresource categories—wool, yarn, and woven fabric and two apparel and clothing groups—that were significant export products in 2001 but not in 2019.

Table 4: Major Goods Exports, Mongolia, 2001–2019

Code	Product label	Exported value, 2001 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2001 (%)	Share, 2019 (%)	2001–19 change (%)
TOTAL	All products	523,223	7,619,754	100	100	1,356
27	Mineral fuels, mineral oils, and products of their distillation; bituminous substances; mineral ...	3,838	3,485,104	1	46	90,705
26	Ores, slag, and ash	153,197	2,686,199	29	35	1,653
71	Natural or cultured pearls, precious or semiprecious stones, precious metals, metals clad...	75,433	419,076	14	6	456
51	Wool, fine, or coarse animal hair; horsehair yarn; and woven fabric	67,568	374,568	13	5	454
61	Articles of apparel and clothing accessories, knitted or crocheted	29,204	50,316	6	1	72
41	Raw hides and skins (other than fur skins) and leather	57,389	13,455	11	0	-77
62	Articles of apparel and clothing accessories, not knitted or crocheted	73,079	6,935	14	0	-91

Source: International Trade Centre, based on United Nations Comtrade data.

Services accounted for 14 percent of total trade in 2019 and have been growing at a much slower rate than goods exports. Travel, which consists primarily of tourism, remains the most important service export, as it was in 2005 (table 5). Transport services, while still important, have been

growing more slowly than other services. Other business services have become a much more important export over the period, though the volume is quite small. Trade flows of telecommunications, computer, and information services remain very small.

Table 5: Major Service Exports, Mongolia, 2005–2019

Code	Service label	Exported value, 2005 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2005 (%)	Share, 2019 (%)	2005–19 change (%)
S	All services	414,000	1,233,000	100	100	198
4	Travel	177,000	513,000	43	42	190
3	Transport	199,000	389,000	48	32	95
10	Other business services	10,000	226,000	2	18	2,160
9	Telecommunications, computer, and information services	15,000	50,000	4	4	233
5	Construction	1,000	39,000	0	3	3,800

Source: International Trade Centre, based on International Monetary Fund data.

4.2 Export Trends for Aspirational Comparators

4.2.1 Chile

Resource-based products, predominantly copper, were Chile's most important goods exports in 2001, and they became still more important over the next two decades. Ores, slag, and ash accounted for 14 percent of goods exports at the beginning of the period, and that share had roughly doubled by 2019 (table 6). Copper ore exports have accounted for well over 80 percent of this category, reaching nearly 90 percent in 2019. The other major export category is copper and articles thereof, which largely consists of copper alloys. This category lost some share of total goods exports between 2001 and 2019 but was still the second most important by far. When fish, fruits and nuts, wood pulp, and wood are considered, the dominance of resource-based exports (mineral and nonmineral) becomes even more apparent.

Table 6: Major Goods Exports, Chile, 2001–2019

Code	Product label	Exported value, 2001 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2001 (%)	Share, 2019 (%)	2001–19 change (%)
TOTAL	All products	1,874,5415	69,145,962	100	100	269
26	Ores, slag, and ash	2,595,826	20,020,938	14	29	671
74	Copper and articles thereof	4,844,018	14,946,321	26	22	209
03	Fish and crustaceans; mollusks and other aquatic invertebrates	1,409,842	5,781,495	8	8	310
08	Edible fruit and nuts; peel of citrus fruit or melons	1,277,396	5,777,233	7	8	352
47	Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or ...	1,068,184	2,725,994	6	4	155
44	Wood and articles of wood; wood charcoal	1,158,295	2,320,994	6	3	100
28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, ...	382,119	2,116,789	2	3	454
22	Beverages, spirits, and vinegar	663,035	1,958,950	4	3	195
99	Commodities not elsewhere specified	444,342	1,917,082	2	3	331

Source: International Trade Centre, based on United Nations Comtrade data.

Services accounted for 12 percent of Chile's total exports in 2019, and service exports have been growing very slowly. They increased in nominal terms by only 32 percent over the 2005–19 period (table 7). Exports in the major service category, transport, declined by 28 percent over the period. Although there was some growth in other services included in the table, export volumes remained low. Overall, services are contributing very little to the diversification of Chile's export basket.

Table 7: Major Service Exports, Chile, 2005–2019

Code	Service label	Exported value, 2005 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2005 (%)	Share, 2019 (%)	2005–19 change (%)
S	All services	6,992,000	9,259,000	100	100	32
3	Transport	4,260,000	3,079,000	61	33	-28
10	Other business services	1,116,000	2,515,000	16	27	125
4	Travel	1,002,000	2,279,000	14	25	127
9	Telecommunications, computer, and information services	234,000	413,000	3	4	76
6	Insurance and pension services	153,000	325,000	2	4	112
SN	Services not allocated	130,000	320,000	2	3	146

Source: International Trade Centre, based on International Monetary Fund data.

4.2.2 Kazakhstan

Oil exports have been dominant in Kazakhstan, and the dependence on oil increased over the 2001–19 period. The mineral fuels category represented two-thirds of the country's goods exports in 2019, up from 56 percent at the beginning of the period. Oil accounts for over 80 percent of the exports in this category. The fastest-growing major export category over the 2001–19 period was ores, slag, and ash, with the dominant product being copper ore. There is little evidence of diversification away from resources in Kazakhstan's goods exports; in fact, the one significant industrial export in 2001 was iron and steel, and this category's share halved over the period (table 8).

Table 8: Major Goods Exports, Kazakhstan, 2001–2019

Code	Product label	Exported value, 2001 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2001 (%)	Share, 2019 (%)	2001–19 change (%)
TOTAL	All products	8,485,515	57,722,942	100	100	580
27	Mineral fuels, mineral oils, and products of their distillation; bituminous substances; mineral ...	4,757,677	38,717,325	56	67	714
72	Iron and steel	1,008,207	3,473,438	12	6	245
26	Ores, slag, and ash	221,909	2,727,064	3	5	1,129
74	Copper and articles thereof	704,127	2,619,526	8	5	272
28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare earth metals, ...	271,800	2,213,704	3	4	714

Source: International Trade Centre, based on United Nations Comtrade data.

Service exports have been growing in Kazakhstan, but they only accounted for 12 percent of exports in 2019. There has been little change in the composition of service exports over the 2005–19 period, with transport and travel accounting for over 80 percent in both years (table 9).

Table 9: Major Service Exports, Kazakhstan, 2005–2019

Code	Service label	Exported value, 2005 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2005 (%)	Share, 2019 (%)	2005–19 change (%)
S	All services	2,087,000	7,754,000	100	100	272
3	Transport	1,024,000	3,974,000	49	51	288
4	Travel	701,000	2,456,000	34	32	250
10	Other business services	179,000	527,000	9	7	194
12	Government goods and services n.e.c.	87,000	278,000	4	4	220

Source: International Trade Centre, based on International Monetary Fund data.
Note: n.e.c. = not elsewhere classified

4.2.3 Russia

Russia is another example of a country that has been resource dependent, with little sign of export diversification. Russia's export basket is concentrated in a few commodities; only four product categories accounted for at least 4 percent of goods exports (table 10). Mineral fuels dominate exports. This was the case in 2019 when that category accounted for 52 percent of goods exports, the same share it had in 2001. However, the composition of mineral fuel exports changed over the period. In 2001, oil accounted for 63 percent of these exports and gas 33 percent, but in 2019, oil accounted for 85 percent. There are a few industrial products that do export to some degree, such as iron and steel, machinery, and electrical machinery; however, their share of goods exports is small (4 percent, 2 percent, and 1 percent, respectively, in 2019) and declined between 2001 and 2019.

Table 10: Major Goods Exports, Russia, 2001–2019

Code	Product label	Exported value, 2001 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2001 (%)	Share, 2019 (%)	2001–19 change (%)
TOTAL	All products	99,868,397	422,777,167	100	100	323
27	Mineral fuels, mineral oils, and products of their distillation; bituminous substances; mineral...	51,860,985	220,845,173	52	52	326
99	Commodities not elsewhere specified	12,356,012	55,265,424	12	13	347
72	Iron and steel	5,547,426	18,140,726	6	4	227
71	Natural or cultured pearls, precious or semiprecious stones, precious metals, metals clad...	1,137,864	15,258,928	1	4	1,241

Source: International Trade Centre, based on United Nations Comtrade data.

Service exports in Russia grew slightly more quickly than goods exports over the 2005–19 period (118 percent versus 75 percent) but still only accounted for 13 percent of all exports in 2019. In Russia, like Kazakhstan, the composition of service exports changed very little over the period, with transport, other business services, and travel maintaining relatively constant shares of services trade through the period (table 11). The one exception was telecommunications, computer, and information services, which grew rapidly over the period.

Table 11: Major Service Exports, Russia, 2005–2019

Code	Service label	Exported value, 2005 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2005 (%)	Share, 2019 (%)	2005–19 change (%)
S	All services	28,845,000	62,786,000	100	100	118
3	Transport	9,125,000	21,481,000	32	34	135
10	Other business services	5,792,000	12,994,000	20	21	124
4	Travel	5,870,000	10,961,000	20	17	87
9	Telecommunications, computer, and information services	1,041,000	5,489,000	4	9	427
5	Construction	3,313,000	4,786,000	11	8	44
2	Maintenance and repair services n.e.c.	917,000	1,900,000	3	3	107

Source: International Trade Centre, based on International Monetary Fund data.
Note: n.e.c. = not elsewhere classified

4.2.4 Malaysia

Of the four aspirational comparators, Malaysia exhibits the most diversified export basket, with the least reliance on resources. Two of the three largest export categories are industrial products: electrical machinery and machinery. Most of the specific products within these categories are related to electronics. The major commodities being exported are mineral fuels (primarily oil) and animal and vegetable fats and oils (primarily palm oil). Although Malaysia's major exports are industrial products, there is little evidence of further diversification away from resources over the 2001–19 period (table 12).

Table 12: Major Goods Exports, Malaysia, 2001–2019

Code	Product label	Exported value, 2001 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2001 (%)	Share, 2019 (%)	2001–19 change (%)
TOTAL	All products	88,004,108	238,161,125	100	100	171
85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television...	33,567,770	81,965,042	38	34	144
27	Mineral fuels, mineral oils, and products of their distillation; bituminous substances; mineral...	8,554,204	34,479,307	10	14	303
84	Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof	19,270,447	21,772,846	22	9	13
15	Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal...	3,090,495	11,469,172	4	5	271
90	Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical...	1,912,751	10,065,997	2	4	426
39	Plastics and articles thereof	1,847,219	9,594,622	2	4	419
40	Rubber and articles thereof	1,700,810	7,107,004	2	3	318

Source: International Trade Centre, based on United Nations Comtrade data.

Services represented 15 percent of all Malaysia's exports in 2019, up slightly from 12 percent in 2005. Travel accounts for almost half of this total (table 13). Growth in service exports has been strongest in other business services; telecommunications, computer, and information services; and manufacturing services on physical inputs owned by others.[7]

Table 13: Major Service Exports, Malaysia, 2005–2019

Code	Service label	Exported value, 2005 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2005 (%)	Share, 2019 (%)	2005–19 change (%)
S	All services	19,750,000	41,089,000	100	100	108
4	Travel	8,846,000	19,828,000	45	48	124
10	Other business services	2,773,000	7,075,000	14	17	155
3	Transport	4,056,000	5,240,000	21	13	29
9	Telecommunications, computer, and information services	1,050,000	2,996,000	5	7	185
1	Manufacturing services on physical inputs owned by others	2,000	2,869,000	0	7	143,350

Source: International Trade Centre, based on International Monetary Fund data.

4.3 Export Trends for High Aspirational Comparators

4.3.1 Australia

Despite being a high-income country, Australia's export basket is dominated by resources (table 14). In 2019, mineral fuels and ores, slag, and ash accounted for 62 percent of all goods exports. The main product in the former category is coal, and iron accounts for the bulk of exports in the latter. Both categories increased their share significantly over the period. The increase in the export of ores was particularly striking. This was especially the case for iron exports. Manufactured goods represent a small part of Australia's exports. The main manufacturing categories are machinery, pharmaceuticals, and electrical machinery, but none accounts for as much as 2 percent of total goods exports, and exports in each grew at a slower rate between 2001 and 2019 than all exports.

Table 14: Major Goods Exports, Australia, 2001–2019

Code	Product label	Exported value, 2001 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2001 (%)	Share, 2019 (%)	2001–19 change (%)
TOTAL	All products	63,288,189	272,579,608	100	100	331
27	Mineral fuels, mineral oils, and products of their distillation; bituminous substances; mineral**...**	13,142,434	88,880,849	21	33	576
26	Ores, slag, and ash	5,132,594	78,792,909	8	29	1,435
71	Natural or cultured pearls, precious or semiprecious stones, precious metals, metals clad**...**	3,116,828	18,057,454	5	7	479
02	Meat and edible meat offal	3,251,447	11,573,586	5	4	256

Source: International Trade Centre, based on United Nations Comtrade data.

Services account for a larger share of total exports in Australia than in the standard comparator countries. In 2019, this share was 20 percent in Australia compared to 12–15 percent in the standard comparators. Travel is the major service export (table 15). Exports in other business services; financial services; and telecommunications, computer, and information services all grew faster than services as a whole.

Table 15: Major Service Exports, Australia, 2005–2019

Code	Service label	Exported value, 2005 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2005 (%)	Share, 2019 (%)	2005–19 change (%)
S	All services	32,227,000	70,951,000	100	100	120
4	Travel	18,423,000	45,709,000	57	64	148
10	Other business services	3,686,000	8,440,000	11	12	129
3	Transport	5,631,000	5,515,000	17	8	-2
7	Financial services	1,289,000	3,701,000	4	5	187
9	Telecommunications, computer, and information services	1,258,000	3,596,000	4	5	186

Source: International Trade Centre, based on International Monetary Fund data.

4.3.2 Canada

Resources are also important in Canada's export basket, although the dependency is not as great as it is in Australia. Mineral fuels, specifically oil and gas, was the most important export category in 2019, supplanting vehicles, which were the top export in 2001 (table 16). After these two categories, Canada's goods exports include a range of resource, agricultural, and industrial products. Nevertheless, there is little evidence of the overall export basket shifting away from resources into industrial goods. The fastest-growing export categories between 2001 and 2019 were semiprecious metals and ores, along with pharmaceutical products.

Table 16: Major Goods Exports, Canada, 2001–2019

Code	Product label	Exported value, 2001 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2001 (%)	Share, 2019 (%)	2001–19 change (%)
TOTAL	All products	261,058,775	446,562,311	100	100	71
27	Mineral fuels, mineral oils, and products of their distillation; bituminous substances; mineral...	37,342,350	98,433,244	14	22	164
87	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof	53,075,965	61,438,011	20	14	16
84	Machinery, mechanical appliances, nuclear reactors, boilers; parts thereof	22,420,204	34,773,897	9	8	55
99	Commodities not elsewhere specified	15,841,200	21,889,905	6	5	38
71	Natural or cultured pearls, precious or semiprecious stones, precious metals, metals clad...	2,655,076	21,294,078	1	5	702

Source: International Trade Centre, based on United Nations Comtrade data.

As was the case with Australia, service exports are more important in Canada's total export basket than they are in the standard comparator countries. In Canada, services represented 20 percent of all exports in 2019, and service exports grew at a faster rate than goods exports between 2005 and 2019. Canada exports a diverse group of services, including travel as well as other business services.

Table 17: Major Service Exports, Canada, 2005–2019

Code	Service label	Exported value, 2005 (US$, thousands)	Exported value, 2019 (US$, thousands)	Share, 2005 (%)	Share, 2019 (%)	2005–19 change (%)
S	All services	61,506,000	112,771,000	100	100	83
10	Other business services	18,357,000	31,563,000	30	28	72
4	Travel	14,912,000	29,776,000	24	26	100
3	Transport	10,626,000	14,004,000	17	12	32
9	Telecommunications, computer, and information services	5,331,000	11,939,000	9	11	124
7	Financial services	3,338,000	9,259,000	5	8	177
8	Charges for the use of intellectual property n.e.c.	2,872,000	6,786,000	5	6	136
11	Personal, cultural, and recreational services	2,245,000	4,314,000	4	4	92

Source: International Trade Centre, based on International Monetary Fund data.
Note: n.e.c. = not elsewhere classified

5. Discussion

The six comparator countries included in this analysis are all rich in resources, particularly oil and gas, coal, and minerals. The experience of resource-rich countries is particularly relevant for Mongolia, a country that has been resource dependent but now is facing the challenge of diversifying into other areas. By analyzing export trends in these comparator countries that are all more developed than Mongolia, this paper has observed the extent to which these countries have been able to diversify their exports away from the resources on which they have traditionally depended.

The economic literature has identified the challenges resource-rich countries face in diversifying their economies. Although there is some questioning of the conventional view now, dependence on oil and gas, minerals, and other natural resources is associated with limited capabilities to jump to other products or services. There are not many products or services that require similar capabilities as resource extraction.

The export trends of the comparator countries are consistent with this theory. There is little evidence of any significant diversification, at least when exports are used as the indicator. In fact, the export baskets of these countries tended to be more concentrated in resources in 2019 than they were in 2001.

Before accepting this resource persistence theory, we analyzed whether our results could be due to commodity price trends; for example, particularly high commodity prices in 2019 could have

resulted in a high value for resource exports in that year which could explain our findings. However, as figure 4 indicates, according to the IMF commodity price index, which covers primary commodities and energy, commodity prices were not particularly high in 2019, and they were approximately the same in real terms as they had been in 2001.

Figure 4: Indices of Primary Commodity Prices, 2000–2023
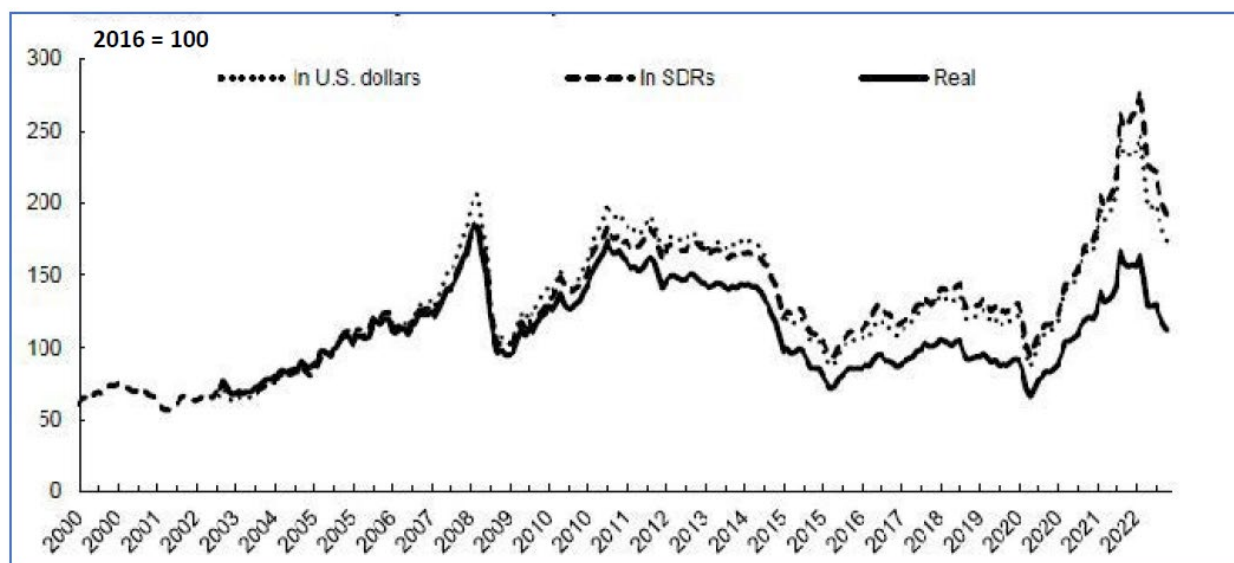
Source: International Monetary Fund.
Note: The figure combines indices of nonfuel primary commodity prices and energy prices. Real prices are deflated by the U.S. Consumer Price Index. SDR = special drawing right.

Three main observations are evident from our analysis of export trends, which are summarized in table 18.

Table 18: Summary of Export Trends in Comparator Countries

Country	Major exports in 2001 (% share of goods exports)	Major exports in 2019 (% share of goods exports)	Observations on diversification
Chile *Aspirational comparator* *Resource intensive*	Mineral processing, especially copper (26) Ore mining, especially copper (14)	Ore mining, especially copper (29) Mineral processing, especially copper (22)	• Dominance of mining and mineral processing; in fact, concentration greater in 2019, due to more mining exports • Other significant goods exports are all resource-based • Service exports 12% of total, growing slowly
Kazakhstan *Aspirational comparator* *Resource intensive*	Oil and gas (56) Iron and steel (12) Copper refining (8)	Oil and gas (67) Iron and steel (6) Copper refining (5)	• Very high and increasing concentration on oil and gas. • Major industry export, iron and steel, has declining share • Service exports 12% of total, transport and travel main exports
Russia *Aspirational comparator* *Resource intensive*	Oil and gas (52) Commodities not elsewhere classified (12) Iron and steel (6)	Oil and gas (52) Commodities not elsewhere classified (13) Iron and steel (4)	• Little change in export mix, with dominance of oil and gas • No major industrial exports, with largest—iron and steel—declining share • Service exports 13% of total; transport, other business services, and travel are main exports
Malaysia *Aspirational comparator* *Partial resource intensive*	Electrical/electronic machinery/equipment (38) Machinery (22) Oil and gas (10)	Electrical/electronic machinery/equipment (34) Oil and gas (14) Machinery (9)	• Goods exports oriented to manufacturing though declining share • Small evidence of diversification in manufacturing • Service exports 15% of total, about half in travel; growth in global innovative services
Australia *High aspirational comparator* *Resource intensive*	Mineral fuels, especially coal (21) Ore mining, especially lead (8)	Mineral fuels, especially coal (33) Ore mining, especially lead (29)	• Dominance of resource exports increased over period • Manufacturing exports are small share • Services account for 20% of all exports; travel is main service export; some growth in global innovative services, but still small export category
Canada *High aspirational comparator* *Resource intensive*	Vehicles (20) Mineral fuels (14) Machinery (9)	Mineral fuels (22) Vehicles (14) Machinery (8)	• Some diversification outside resources, but oil and gas increased share • Major manufacturing exports grew more slowly • Service exports 20% of total exports; travel, transport, and global innovator services are major service exports

First, the resources that had been the countries' major exports in 2001 generally accounted for an even larger share of exports in 2019. This was true of copper in Chile and oil and gas in

Kazakhstan, and in Russia, oil and gas continued to account for over half of goods exports. This was even the case in the two high aspirational comparators. In Australia, coal and lead mining increased their share of goods exports, and the same was true for oil and gas exports in Canada.

Second, the export data offer little evidence of diversification into industrial products over the period covered. In the first place, at the beginning of the period, there were few industrial products that accounted for at least 3 percent of goods exports. With the exception of Malaysia and Canada, those products that did exceed this threshold were examples of resource-based and not broad-based (i.e., unrelated to natural resources) diversification. The most prominent examples were copper alloys in Chile and iron and steel in Kazakhstan. In each of these cases, exports grew more slowly than overall goods exports, and their share of goods exports declined over the period.

Malaysia and Canada had more diversified goods exports than the other countries. Moreover, the industrial products that have had significant export volumes in these countries—electrical machinery and machinery in Malaysia and vehicles and machinery in Canada—are not closely linked to resources. However, in both countries, the export shares of these products decreased between 2001 and 2019, and no new industrial products became high-volume exports in either country over the period.

Third, although services need to be important in economic diversification going forward, they remain a small part of total exports. Among the aspirational countries, services only account for 12–15 percent of all exports, and this share remained largely unchanged over the period of our analysis. Tradable services are more important in Australia and Canada, where they account for about 20 percent of all exports.

Ideally, growth is most desirable in global innovator services that are tradable, and technologically and skills-intensive, and can thus be sources of productivity growth and high-wage jobs. In this respect, there have been some positive developments in the comparator countries. Although lower-skill services such as transport and travel remain major service exports, several examples of global innovator services have become more significant. Not unexpectedly, this is most evident in Canada, where other business services;[8] telecommunications, computer, and information services; and financial services are all significant service exports. But there is also evidence of global innovator service exports growing in some of the aspirational comparators. Other business services are an increasingly important export for Chile, Russia, and Malaysia, as are telecommunications, computer, and information services in the latter two.

What does our analysis mean for Mongolia? Diversification into nonresource goods will be challenging based on the experience of other resource-dependent countries included in the analysis. Indeed, Mongolia's export patterns are similar to the other countries we have analyzed. Goods exports are dominated by two commodities, coal and copper, and their share increased over the 2001–19 period. No industrial products have emerged as major exporters, and trade in services remains small.

However, while no new industrial products became important sources of exports, there are some that, while still small, did grow rapidly. Copper refining and meat preparation are the best

examples. These are connected to a country's primary sector products and are "short leaps," to use the language of economic complexity. Indeed, processed product exports, such as meat, wool, and cashmere, are included in the Vision 2050 diversification strategy. Currently, processed products account for a very small share of exports, but some—most notably, meat preparation— have been growing rapidly. Longer leaps into manufacturing goods that have driven structural change in some other East Asian economies are less likely in Mongolia because of its remoteness and small population.

Services may offer more promising prospects based on evidence from comparator countries as well as Mongolia's endowments. Travel, which primarily consists of tourism, remains the most important service export. Tourism is identified in the Vision 2050 strategy as a priority sector for future growth. In addition, some global innovator services demonstrate potential. Other business services grew rapidly, and telecommunications, computer, and information services – the fourth-largest category – is flagged for its growth potential in Vision 2050. Mongolia's remoteness is less of a constraint for services such as these, where connectivity comes from technology. Moreover, Mongolia's youth are reasonably well-educated. COVID has resulted in the rapid growth of digitalization worldwide, which could make this a promising time for Mongolia to leverage its human capital to expand technology-intensive services. Major investments in the hard and soft infrastructure necessary for global innovator services such as business services and telecommunications, computers, and information services will be essential. Mongolia's resources can generate the capital for these investments if they are used strategically for economic growth and diversification.

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[3] These comparators are also used in the Mongolia Jobs Diagnostic (Betcherman et al. 2022) and some of the background research papers for the Jobs Diagnostic.

[4] It should be noted that for all indicators used in the selection of comparators, we did not include data after 2019 because of potential COVID-19 effects.

[5] See Xu 2017.

[6] Export values are estimated by Comtrade based on data received from national central banks, which are in local currency; Comtrade then uses an average annual exchange rate to convert local currency to U.S. dollars. A similar process applies to the services trade data.

[7] This category includes services for processing goods either in the reporting country or abroad. The International Trade Centre notes that the trade valuation for this service changed in 2010 and advises caution in interpreting the data.

[8] This category includes research and development, professional consulting, and technical and trade-related services.

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