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MONGOLIA:
Systematic Country Diagnostic

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EXECUTIVE SUMMARY

Country Context

1. **Mongolia is a unique country of extreme features**: three million people over a land mass of three-times France (most sparsely populated country in the world), a vibrant democracy land-locked between Russia and China, mining-dependent (approximately 90% of exports), dominated in trade with one neighbor (China accounts for approximately 90% of the country's exports), urbanized with about half of the population living in the capital, Ulaanbaatar, and where economic growth and development have been impressive (highest GDP growth in the world in 2011 at over 17%) but extremely volatile (flat growth in 2016 with a historic $5.5 billion multilateral support package initiated in 2017).

2. **Mongolia is favored with key assets**: world-class mineral deposits (coking coal, copper, gold, etc.), pasture land and pristine nature, proximity to the second largest economy in the world (China), and an educated population. Mongolia has demonstrated significant success in reducing poverty and elevating human well-being since its peaceful transformation into a market-oriented democracy in the early 1990s. The domestic private sector has vastly expanded in all key sectors (banking, property, telecom, food and beverage, etc.) and foreign direct investment has shown clear, albeit sporadic, potential.

3. **Mongolia successfully transitioned towards a market-oriented democracy, with strong development results since the early 90s**. The country has held uninterrupted parliamentary and presidential elections every four years, respectively, since 1992 and 1993, with peaceful transmission of power on every occasion (except in 2008 when it witnessed some post-election violence). During this period, life expectancy increased from 60 to 69, access to improved sanitation rose from 46 to 60 percent, and access to electricity from 64 to 85 percent, while the percentage of children out of primary school declined from 20 to 3 percent and rural population fell from 42 to 27 percent. Maternal mortality was halved during the past decade (from 100 to 50 per 100,000 live births), mobile phone networks cover 99% of the population, with 70% smartphone penetration, and real GDP per capita in 2015 more than doubled its level in 1990. Participation in economic activities also increased with private investment rising from 12 percent of GDP in 1990 to above 25 percent in 2005 and even 40 percent in 2012. Access to banking services is one of the highest in the world and financing expanded consistently.

4. **Notwithstanding its long-term achievements, Mongolia now experiences three main problems: unstable economic growth, population wellbeing at risk and growing environmental stress**. Over the last two and a half decades, the country has experienced three recessions, and entered six IMF programs (including the current EFF). The 2016 crisis of twin deficits caused a sudden stop that can be traced to two main structural problems. On the one hand, persistent fiscal deficits and growing public-debt, mostly associated to non-prudent fiscal management. On the other hand, unsustainable Balance of Payment deficits linked to undiversified sources of foreign exchange (single-product/single-client exports, mining-predominant FDI and growing sovereign debt). These boom-and-bust cycles put at risk the gains in standards of living. The sudden deceleration of economic growth between 2014 and 2016 led to a subsequent fall in employment growth and real wages. Consequently, the

previously fast reduction in extreme poverty has reversed. As defined by the official poverty estimates, the poverty rate in Mongolia declined from 38.7 percent in 2010 to 21.6 percent in 2014, to rise again to 29.6 percent in 2016.

5. **A more long-lasting issue has been the impact of climate change and deterioration of natural resources**. Climate change and human action have brought about higher disaster risks and environmental degradation. Over the last six decades, growing frequency and severity of natural disasters (dzud, drought, and flood) has been observed as well as a clear upward trend in Mongolian average temperatures. These climate change factors, together with fast urbanization, mining industrialization, and low-productivity agriculture have increased pollution of air (Ulaanbaatar's air quality, especially in winter, is one of the worst in the world), water (total water withdrawals outstripping renewable water supply, often by at least 50% annually in some areas), and pasturelands (90 % of grassland under some degree of desertification). All these, if not reversed or contained, will likely hinder economic growth and population wellbeing in the medium to long term.

Overarching challenges and development strategies

6. **Mongolia faces three main development challenges and two main strategies to overcome them.** The three challenges are: first, to pursue a more stable and diversified path of economic growth; second, to regain the poverty reduction trend enhancing further gains in population wellbeing; and, third, to strengthen sustainability, avoiding -or reversing- environmental stress. This Systematic Country Diagnostic proposes two main strategies to achieve these goals. On the one hand, the formation of efficient regulations and capable institutions that effectively design, implement and monitor government plans and actions. This "intangible capital" is needed to better manage volatile resource revenues, promote a competitive business environment, provide quality social services and protect natural resources, all of which is technically and politically very difficult due to high dependence on commodities and their inherent boom-bust cycles. On the other hand, the accumulation of a more diversified set of financial, physical and human capital assets. These "genuine savings" seek to transform the rents from commodity exports into a new mix of productive assets so that economic diversification evolves naturally as endowments and competitiveness of the country shift from abundance in natural assets to relative abundance in human and other forms of capital.

7. **In terms of "intangible capital", there is a significant "implementation gap".** That is, although Mongolia's corpus of regulations is strong and modern in many areas, there is a need to better implement, enforce and monitor what is already on the books**.** For instance, to counter the inherent instability of commodity prices and its impact on the budget, the country introduced a Fiscal Responsibility Law in 2010. Similarly, to strengthen the financial sector, multiple regulations have been introduced. However, the government did not follow the rules of the Fiscal Sustainability Law -which it postponed and modified on multiple occasions since 2012- and regulatory forbearance in the financial sector has been pervasive. This implementation gap is due to shallow, fast-changing, and sometimes politicized institutions, public sector management and civil service.

8. **Implementation challenges are also prevalent in health, urbanization and natural resources management**. Implementation of many good plans in these areas is hindered by fragmented funding and week policy coordination across institutions. For instance, total

expenditures on health in Mongolia are like comparable countries but since it has higher incidence of non-communicable diseases then it spends less than needed given its burden of disease. Water, electricity and transport companies in UB run deficits and cannot recover costs, while facing regulations that limit opportunities for new investments and modernization. The depletion of water sources, growing air pollution, pasture degradation and increasing disaster risks, question the actual impact of multiple plans and enforcement of existing laws and regulations. In some cases, the sheer size and cost of the problem (e.g., air pollution in UB) hinder rapid progress. In other cases, lack of coordination and complex political economy conflicts among divergent interests of different social groups also play a role in impeding progress in preserving the value of natural wealth of the country

9. **In terms of "genuine savings", the record is mixed: there is strong investment in mining, but deficient infrastructure and other forms of assets accumulation**. As a percentage of total GDP, capital accumulation (mainly from FDI and over 80% in mining, primarily to Oyu Tolgoi) grew from 18 percent in 1994 to 50 percent in 2012, but contracted to 21 percent in 2016, due to irregular treatment of FDI and an unpredictable investment climate. The process has made the economy more capital intensive and efficient. This process of capital accumulation is mostly funded by foreign savings, through foreign direct investment and public debt. Mobilization of local savings into productive activities is still an important shortcoming of the Mongolia economy. Access to personal finance has grown exponentially, placing Mongolia in the same league with middle-income countries. However, the financial system is highly dominated by a high-risk banking system which holds 95% of country's financial assets and where access to finance for corporate sector and SMEs remains a constraint. Transport infrastructure remains insufficient. By 2016 the total road network was only one fifth all season paved, gravel or improved soil road. In 2015, Mongolia ranked 118th in quality of roads, much lower than countries with similar income level. Surveys such as Doing Business, the Enterprise Surveys, the Global Competitiveness Index, and the Logistics Performance Index (LPI) identified the poor transport infrastructure network as one major bottleneck for business environment in Mongolia. For example, Mongolia ranks 102nd in 2016 on the Global Competitiveness Index, and ranks 108th on LPI. Its quality of trade and transport-related infrastructure score only ranked 140th out of 160 countries

10. **The same can be said about accumulation of human capital and preservation of natural resources.** Low life expectancy, relative to comparison countries, and growing incidence of non-communicable diseases, poses a serious risk to population wellbeing. With nearly half the national population living in gers (45 percent, as of 2015 census) inadequate housing is partly explaining population vulnerabilities due limited access to sanitation, central heating, and transportation. Air pollution in UB is the worst among all capitals in the World. The rapid urbanization of the capital, as well as growing mining and livestock industries in the rest of the country, have created serious water deficits in some parts of the country. In rural areas, where agricultural activity is the main sustenance of wellbeing, there are reports of pasture degradation and deforestation -due to livestock growth and overgrazing-, with at least 90% of pastureland at some level of desertification. As of 2016, total health economic costs of health risks)in constant US$ of 2011) are three times higher than in 1995. Large increases have also been seen in GHG emissions from fossil fuels (a ten-fold increase between 1995- and 2015)

and from agriculture (a doubling in the same period). Consequently, total environmental and health costs have been increasing since 1995 and are n9ow even higher than in 1990.

A list of development priorities

11. **The Systematic Country Diagnostic gives a general analysis of the main problems of the Mongolian economy and its general causes and, in addition, proposes a list of development priorities for the country.** This list is based on a combination of (i) quantitative benchmarking, (ii) stakeholders' consultations and (iii) WBG experts' deliberation. The benchmarking exercise gauges Mongolia's performance in comparison to all countries in the World -and a few selected "peer" countries- through a number of development indicators (about 110 indexes, mostly from WDI). The stakeholders' consultations gathered opinions from around 400 participants in Ulaanbaatar city and 5 provinces as well as an online survey filled out by close to 600 people (91% of respondents taking the survey in Mongolian language). Finally, WBG experts that contributed to the elaboration of this SCD participate in a seminar to discuss the ranking of development priorities for Mongolia, based on the SCD, data from the benchmarking exercise and stakeholders' consultations. The exercise shows two types of development challenges. First, governance as a cross-cutting problem which all sources of information -benchmarking, stakeholders and bank experts- coincide in selecting as a main development challenge. Second, a group of challenges which some sources coincide in choosing an area as a main development challenge. Based on the above, the following priorities are listed.

Governance: a cross-cutting root-issue behind all key challenges

12. **From fiscal stabilization and social policy, to urbanization and environmental protection, weak governance is widely recognized as the root factor for unsustainable outcomes of recent years**. Thus, improved governance holds the key to tackle today's development challenges with lasting impact. Three broad governance issues are highlighted: pro-cyclical election policies (exacerbating boom-bust-bailout cycles), poor enactment and implementation of laws (an "implementation gap"), and clientelistic political competition, with frequent shifts following changes in parliamentary composition (frequent and deep turnover of civil servants). From a more operational point of view, these issues translate into problems in terms of credibility of fiscal budget, quality and predictability of public investments, and capabilities and consistency of civil service.

13. **The problem of an "implementation gap" can partly be addressed by improving the civil service and public-sector management.** The numerous regulations need to be implemented by a motivated and competent civil service. In contrast, there is consensus that the meritocracy of the civil service has been undermined through rounds of patronage-driven recruitment. This may lead to loss of talented staff with valuable professional skills which will exacerbate existing skills gaps, reduce the overall capacity and capability of the civil service and compromise its ability to deliver public goods and services to the citizenry. Moreover, budgetary information, and financial management as well as public procurement, have drawbacks that need to be overcome to make public expenditures more efficient. These problems are the manifestation of a deeper governance problem of political competition leading to clientelistic practices and growing social perceptions of corruption.

14. **Prudent macroeconomic management is perhaps the most urgent of governance problems**. The sudden-stop crisis of 2016, characterized by unsustainable current account and budget deficits, warned about the dire consequences of the boom-bust-bailout cycle. The still-pending task to restore prudent macroeconomic management needs continued attention. The authorities should reduce persistent fiscal deficits to sustainable levels and curb public debt growth. These are pre-requisites to enable fiscal policy to smooth economic volatility by counter-cyclical fiscal policy, if necessary, since the country is still exposed to boom-bust commodity-price cycles and to foreign-investor confidence tests. Monetary policy should stay focused on maintaining price stability, provide adequate liquidity through conventional policy tools and avoid quasi-fiscal interventions.

Jobs and private sector development: the fundamental problem for most Mongolians

15. **Jobs, through employment and earnings are the most important driver for poverty reduction, but need to upskill for higher quality future jobs.** In recent years, employment creation with growing earnings –by the private sector in urban areas, and through farm incomes in rural areas– is the main reason behind poverty reduction. Encouragingly, this employment expansion has also witnessed a structural –and upskilling– shift from agriculture to services, supported by Mongolia's strong basic education system. However, still high unemployment rates and low female labor participation indicate that more can be done in terms of job creation. As the economy grows and becomes more complex, skills mismatch of recent graduates (especially at the tertiary level) is often cited by local stakeholders as a key cause for stagnating employment, productivity, and fulfilment of higher value jobs.

16. **Private Sector Development: driver of growth and jobs, but constrained by fiscal crowding out and unpredictable investment climate.** Despite undeniable advances in Doing Business indicators, and beyond current limitations in infrastructure -also listed as a priority- private investors still perceive Mongolia as a high-risk environment due to issues such as uneven access to regulatory information, licenses, finance and frequently changing regulations. The country could revert this by strengthening public investment management, improving the quality of the financial sector -particularly for SMEs-, and deepening trade facilitation reform with special focuses on inspection reform, food safety and trade logistics.

Human capital accumulation and protection: turn mining riches into wellbeing

17. **There are impressive improvements in health services in the past two decades, but need more investment and for higher quality.** Key indicators of wellbeing – life expectancy, maternal and newborn mortality, infectious disease – have all shown positive trend in the past two decades. However, life expectancy at birth (69 in 2015) is still lower when compared with neighboring countries. Non-communicable diseases are also rising, responsible for 78 percent of all deaths in 2015, ranking Mongolia in the bottom half of peer countries. Other issues include domestic violence and disparities in rural and urban access to services. These challenges call for an expansion and quality enhancement of primary care, together with better incentives in the hospital system to cope with growing demands to care for NCD.

18. **Education: Underpinned impressive progress since market transformation, but needs continual investment and upgrade to fulfill Mongolia's development needs.** Mongolia's

strong basic education system, with almost universal literacy, fueled growth over the past two decades. Today, while public spending on education remains at mid-level (compared to peer countries), the supply-demand gap is widening – especially for critical early childhood education – given the country's young demographics and fast urbanization. Moreover, as the economy becomes more complex and linked to the global market, upskilling in poor-quality tertiary and vocational education are much needed to prepare the incoming workforce for higher value jobs. Investment in education, along with health and basic infrastructure, builds requisite social capital (i.e. productive asset) to generate productive returns (i.e. better jobs and incomes) for Mongolia's future.

19. **Social Protection: Critical to protect the poorest and provide basic services, but need to be more targeted and fiscally sound.** The social protection system, despite its recognized merits in terms of coverage and equity, has had limited impact on easing macro-shocks or poverty reduction. While generally pro-poor, many programs remain categorical and universal. Improvements would include: (i) extending coverage and improving sufficiency of social protection programs; (ii) serving as a buffer to economic shocks in more means-tested and targeted manner; and (iii) being fiscally more sustainable. Pensions deserve special attention as fiscal subsidies to the pension system represent 2 percent of GDP and, without reform, could account for unsustainable 6 percent in 2030 and 11 percent in 2050.

Infrastructure: the groundworks of future diversification

20. **Several indexes show Mongolia at the bottom of global rankings in infrastructure.** This is a clear constraint on country's competitiveness. Mongolia ranked 110 out of 138 countries in Infrastructure according to the World Economic Forum's 2016. Large infrastructure projects while necessary for both national development and state revenues carry the political risk of political capture (a governance issue again), with many core infrastructure (power, heat, water, transport) dominated by the state, limited private sector participation even as PPPs. Being land-locked, transport and logistics are acute concerns, hindering trade (especially tourism and agriculture), and the potential of the country to become a regional hub. The state is heavily involved in core infrastructure such as power, water and transport, and is likely to remain an important factor in these areas. However, more private sector investment and PPP options would ease fiscal pressures and rising pubic debt, as well as provide end-consumers of better technology, governance, and efficiency in the provision of utilities.

Protection of Natural Resources: shortsightedness would be a grave mistake.

21. **The impact of climate change and recent economic development upon the deterioration of natural resources.** The depletion of water sources in some areas, high levels of air pollution in UB, pasture degradation and increasing disaster risks call for enforcement of laws and regulations on natural resources. There are important efforts to stem environmental stress but increased participation from the public and less short-sighted policies from authorities are needed. On the one hand, legitimate conflicts of interest in the use of natural resources should be discussed transparently, recognizing the trade-offs involved. On the other hand, the limited awareness of the public and policy-makers, seems to indicate a myopic behavior that fails to address these grave problems and hence to implement adequate policies to prevent further dissaving. Policies towards cleaner heating alternatives in Ulaanbaatar, capacity building

programs amongst herders to adopt better pasture management, and better administration of new water resources seem key initiatives to undertake.

Conclusion

22. **In summary, this SCD finds that Mongolia has experienced undeniable progress, but it has done it through growing instability and hence in an unsustainable manner because it has generated few "genuine savings" to diversify the future of the economy and has yet to create "intangible capital" to manage the volatility of a mineral commodity-based economy**. Given the general development challenges outlined in this summary, the development goals ought to be make Mongolia grow at a stable path, make the country achieve further gains in population wellbeing, and make it strengthens sustainability and avoids -or reverses- environmental stress. Based on the diagnostics, this needs to be done by managing volatility and accumulating diversified assets. Detailed interventions within the priorities discussed above are summarized and classified within these two strategic forces in the following table:

	Accumulation of "genuine savings" to diversify productive assets	Formation of "intangible capital" to manage instability of a commodity-based exports economy
Governance	i. Sound public investment management; ii. Strengthen medium-term debt management;	iii. Restore meritocracy and reduce the exodus of technical staff iv. Increase fiscal budget comprehensiveness and transparency; v. Restore sound and sustainable macroeconomic management framework.
Jobs and private sector development	i. Modern-skill training programs; ii. Promote entrepreneurship training and finance; iii. Strengthen financial sector stability;	iv. Investor protection legislation and investment promotion for the sectors such as agriculture, tourism and energy. v. Implement regulations of Food Product Safety Law and Food law, develop traceability system for meat and dairy and implement investment plan for veterinary services and transboundary diseases control.
Human Capital	i. Reduce inequities in access to quality early childhood, primary and secondary education;	i. Reorganize health services (more integration between primary care and hospitals) and address growing

	ii. Rehabilitate rural schools and expand urban schools; iii. Continue reforms of tertiary education subsector. iv. Extend coverage and improve sufficiency of social protection programs; v. Improve programs that serve as a buffer to economic shocks in more means-tested and targeted manner; and vi. Make pensions, Child Money Program and social protection in general fiscally sustainable.	burden of non-communicable diseases; ii. Reduce fragmentation of funding and quality of health
Infrastructure	i. Implement a transportation plan with feasible financing; ii. Pave access roads to ger areas and build sidewalks, together with sanitation and power infrastructure; iii. Induce private sector participation to build out backbone ICT networks in rural areas and participate in urban areas. iv. Upgrade heat and power transmission and distribution infrastructure (mostly by opening the sector to private investment).	v. Improve ICT sector policy and regulatory environment, … vi. Strengthen the energy regulatory framework (mostly by modernizing tariffs) and …
Natural Resources	i. Promotion of access to cleaner and affordable heating solutions in ger areas of UB. ii. Promote low-cost on-site sanitation solutions, and application of affordable and appropriate wastewater collection and treatment. iii. Promote productive alliances and contract farming, including mechanisms for access to and sustainable management of pasture and water.	i. Update the regulatory and institutional frameworks to support these heating and sanitation solutions. ii. Complete the ground water assessment on proper water use and allocation plans to satisfy the various economic demands with consideration to the herders' demand from the shallow aquifers

I. INTRODUCTION

1. **Mongolia is a unique country of extreme features**: three million people over a land mass of three-times France (most sparsely populated country in the world), a vibrant democracy land-locked between Russia and China, mining-dependent (approximately 90% of exports), dominated in trade with one neighbor (China accounts for approximately 90% of the country's exports), urbanized with about half of the population living in the capital, Ulaanbaatar, and where economic growth and development have been impressive (highest GDP growth in the world in 2011 at over 17%) but extremely volatile (growth was flat in 2016 with an IMF support package initiating).

2. **Mongolia is favored with key productive assets**: world-class mineral deposits (coking coal, copper, gold, etc.), pasture land and pristine nature, proximity to the second largest economy in the world (China), and an educated population. Mongolia has demonstrated significant success in reducing poverty and elevating human well-being since its peaceful transformation into a market-oriented democracy in the early 1990s. The domestic private sector has vastly expanded in all key sectors (banking, property, telecom, food and beverage, etc.) and foreign direct investment has shown clear, albeit sporadic, potential.

3. **Since the beginning of the nineties, the country has experienced a successful and peaceful transition towards an open democracy and a market economy**. The country has had uninterrupted presidential and parliamentary elections every four years since 1992 (1993 in the case of president), with peaceful transmission of power in every occasion (except in 2008 when it witnessed some post-election violence). During this period the country has also experienced a notable transformation. Life expectancy increased from 60 to 69, access to improved sanitation increased from 46 to 60 percent, and access to electricity from 64 to 85 percent, while the percentage of children out of primary school declined from 20 to 3 percent and rural population fell from 42 to 27 percent. Maternal mortality was halved during the past decade (from 100 to 50 per 100,000 live births), mobile phone networks cover 99% of the population and real GDP per capita (in US$ of 2010) in 2015 more than doubled its level in 1990. Smartphone penetration has also accelerated to over 70% by 2016. Participation in economic activities also increased with private investment representing 12 percent of GDP in 1990 but above the 25 percent mark since 2005 (even above 40 percent in 2011 and 2012) while access to finance, particularly for SMEs, deepens year after year.

4. **However, the mining-dependent country suffers from high volatility due to both external factors (high dependence on single export product and single trade partner) and internal factors (governance issues such as unstable macroeconomic policy, implementation gap and clientelism)**. Institutional capacity, while improving, remains weak. The regulatory regime, while good on paper, lacks consistent implementation. Pro-cyclical fiscal policies exacerbate boom-bust cycles into macroeconomic crises. The investment climate, while showing concrete improvements and potential, is unstable and has recently deterred needed FDI, especially in core infrastructure (power, heating, water, transport). In short, despite decades of respectable growth, Mongolia's governance weaknesses and macroeconomic instability constrain its ability to optimally utilize and grow its assets efficiently. Consequently, gains in well-being risk stagnation (and even reversal), while social and environmental stresses become more acute.

5. **This volatility has increased over time**. Over the last two and a half decades, the country has experienced three recessions, and entered six IMF programs (including the current EFF).[1] The recent crisis of twin deficits has caused a sudden stop that can be traced to two main structural problems. On the one hand, the growing public-sector deficit is mostly associated with weak governance capabilities. On the other hand, the unsustainable Balance of Payment deficit is linked to undiversified sources of foreign exchange (single-product/single-client exports, FDI mostly linked to mining and growing sovereign debt). These boom-and-bust cycles put at risk the gains in standards of living. The sudden deceleration of economic growth between 2014 and 2016 led to a subsequent fall in employment growth and real wages. Consequently, the previously fast reduction in extreme poverty has reversed and growth in human development has decelerated.

6. **A more long-lasting issue has been the impact of climate change and deterioration of natural resources**. Climate change and human action have brought about higher disaster risks and environmental degradation. Over the last six decades, growing frequency and severity of natural disasters (dzud, drought, and flood) has been observed as well as a clear upward trend in Mongolian average temperatures. These climate change factors, together with fast urbanization, mining industrialization, and low-productivity agriculture have increased pollution of air, water and pasturelands. All these, if not reversed or contained, will likely hinder economic growth and population wellbeing in the long term.

7. **Notwithstanding its long-term achievements, Mongolia faces three overarching areas of concern: unstable economic growth, population wellbeing at risk and growing environmental stress.** Consequently, these are Mongolia's three main development challenges: make Mongolia grow at a stable path, make Mongolia regain its former poverty reduction trend and enhance further gains in population wellbeing, and make Mongolia strengthen sustainability and avoid/reverse further environmental stress. This Systematic Country Diagnostic aims at identifying the constraints the country needs to overcome in order to achieve these goals.

Analytical Framework

9. **The Systematic Country Diagnostic, informs the strategic dialogue between the World Bank Group and a country about priority areas for WBG engagement**. It is an analytic exercise conducted by WBG staff in consultation with national authorities, the private sector, civil society and other stakeholders. It presents a systematic assessment of the constraints a country should address and the opportunities it can embrace to accelerate progress toward the goals of ending extreme poverty and promoting shared prosperity in a sustainable way. It is not limited to areas or sectors where the WBG is currently active or where the WBG expects immediate country demand. The diagnostic identifies a set of priorities through which a country may most effectively and sustainably achieve poverty reduction and shared prosperity.[2]

10. **This Systematic Country Diagnostic will adopt the analytical framework of the recent World Bank Report *Diversified Development in Eurasia* to identify main development challenges and identify policy options**. One of the main viewpoints of Diversified Development is that commodity-based economies whose exports concentrate in a few products tend to

[1] The IMF programs are a Stand-by program in 1991, and two Enhanced Structural Adjustment Facility programs in October 1993 and June 1997, a Poverty Reduction Growth Facility in September 2001 and another Stand-By program in April 2009. The current Extended Fund Facility was approved in May 2017.

[2] World Bank Group Directive. Country Engagement. Section III, articles 4 and 5. (Catalogue OPCS 5.01-Dir.01)

experience more economic volatility (i.e., they are "high-Beta" countries). This volatility is worsened – particularly in the case of minerals and hydrocarbons – by domestic boom-and-bust cycles driven by oscillations in commodity prices, pro-cyclical fiscal policies, and difficulties in managing the political economy of mineral rents. Moreover, such a concentrated export basket is difficult to change in the short-term because trade patterns depend on relative intensity of productive factors (e.g., natural resources, human, physical and financial capital) which take time to accumulate and shift the competitiveness of a country toward other export products. However, despite such inherent volatility, these economies can increase labor productivity and job creation, particularly during periods of rising commodity prices, and can also become more efficient, particularly through investments in social capital (health and education) and building modern skills and technology via FDI.

11. ***Diversified Development*** **then proposes that governments in countries with this type of economy would better focus more on managing volatility and increasing efficiency, and focus less on export diversification *per se* (i.e. targeted industrial policies).** It proposes, on the one hand, to diversify assets (rather than outputs or exports) and, on the other, establish effective institutions to better manage volatile resource revenues, provide quality social services (especially health and education), and promote a fair, stable and competitive business environment. These two approaches should lead to what the report calls the accumulation of *"genuine savings"* and the formation of *"intangible capital"*. The former seeks to transform the rents from commodity exports into a new mix of productive assets so that diversification evolves naturally as relative endowments of productive assets shift from natural assets to human capital. The latter addresses the need for capable regulations and institutions to manage such transformation, which is technically and politically very difficult due to high dependence on commodities and inevitable boom-bust cycles.

12. **Mongolia's development challenges can then be analyzed in terms of the three same questions that *Diversified Development* probes in Eurasia: Has the country's economy had an efficient performance? Has it been able to generate "genuine savings"? Has it created functional institutions and regulations of "intangible capital"?** Addressing these questions will guide the diagnostics and potential lines of action towards an economy that grows at a stable pace, enhances further gains in population well-being and reverses/mitigates environmental stress.

13. **Mongolia has a mixed record in terms of efficient growth performance, genuine savings and intangible capital.** Mongolia has experienced important gains in productivity and employment creation, but these gains are unequal across sectors and volatility has characterized the economy for many years. Non-prudent fiscal policy has led the country to endure severe macroeconomic instability, which not only has affected standards of living but has also hindered the potential growth of the private sector. The country has a well-developed legal framework regarding fiscal administration but implementation has been weak. Similarly, fast-changing and inconsistent implementation of regulations related to foreign investment, financial markets and the private sector in general, have seriously deteriorated foreign and local investor confidence. Similar problems affect urban development and environmental protection. These problems are often rooted in ineffective regulations in a wide variety of urban policies ranging from tariff codes, revenue collection systems or investment incentives for public utilities, to issues of tenure, registration and marketing mechanisms for urban lands.

14. **There are three broad governance issues in Mongolia**. First, election campaigns bring promises combining general social benefits and other advantages that benefit certain groups of citizens without the appropriate fiscal funding. Second, legislative processes that have led to enactment of laws, which have worked in some countries, without sufficient policy analysis of the country context, risk assessment and consultation. Third, forms of state capture by some politicians and businesses, with frequent shifts following changes in parliamentary majorities. These translate into low perceptions about corruption, independent judiciary and government efficiency when compared to other countries in the world and across multiple indexes. It must also be said, in praise, that the country performs above or like its peers in terms of stability and absence of political violence as well as on voice and accountability, surely connected to the beneficial democratic experience of the country since the early 90s,[3] and ranks favorably on other assessments of governance such as Freedom House.

15. **From a more operational point of view, these governance issues translate into problems in terms of credibility of fiscal budget, quality of regulations, capabilities of civil service and investor confidence.** Despite recent advances, there are challenges to improve efficiency, effectiveness and transparency of Public Financial Management. Particularly, lack of budget credibility due to poor alignment of expenditures to revenue outturns and weak implementation of Public Sector Accounting Standards. Similarly, the Government of Mongolia (GoM) has over the last few years implemented several reforms to improve regulatory frameworks, but these reforms have revealed the need for a more systemic approach to the preparation, coordination, transparency, and enforcement of regulations. There are limitations in terms oversight, analysis and impact assessment of regulations as well as mechanisms of effective consultation. Finally, Mongolia's civil service is currently confronting a variety of challenges that, if not addressed, will ultimately compromise its credibility, technical competence and effectiveness. Expansion in the number of staff in some areas may have been justified, while growth in others appears to have been largely driven by patronage. Turnover has increased year after year (from 5 to 14 percent between 2007 and 2014), weakening morale, reducing accumulated experience, and ultimately diminishing the effectiveness and capabilities of the civil service.

16. **The 2017 World Development Report *Governance and the Law* provides a suitable background to understand the challenges of Governance constitution and its impact upon implementation of public policy**. This Mongolia Systematic Country Diagnostic will also rely on this analytical framework to complement the analysis of the development challenges of the country, particularly regarding the causes of the "implementation gap". Namely, the deep governance-related causes of ineffective execution of development policies -from fiscal policy to environmental protection- despite having progressive regulatory and policy frameworks, which have often proved successful in other countries, and sufficient resources (see Box 1).

Box 1: Governance in Mongolia: *The implementation gap*

A little bit of History

In 1990 the economic and political prospects for Mongolia were not propitious. At the time of the first appearance of opposition groups in Mongolia in 1989, the country did not have exploration or exploitation of its abundant natural resources, had no regional power pretensions and, unlike other Central Asian states, had no single dominant leader capable of providing overarching leadership at the

[3] For a compilation of various governance indicators see https://govdata360.worldbank.org/

time of the onset regime change. Mongolia embarked upon its transition in 1990 with the lowest standard of living of any ex-Communist state, matched only by Albania.

Yet Mongolia has been referred to as an 'oasis of democracy', 'a miracle' and according to the UN Secretary general 'a role model for many developing countries'. If the country was assisted by its relatively small population, by near full literacy (an inheritance of the Soviet period), and by relative ethnic homogeneity, the fact remains that the exceptional political achievements of the process of post-communist democratization have been remarkable. All of this was achieved while undergoing a quite radical 'shock therapy', including the disbanding of rural collectives which created tensions between the ruling party and its robust rural base. A stunning economic contraction – at its worst in 1992-1993 – said to have been considerably worse than the 1930s US Depression, returned consumption to the level of the 1940s and GDP per capita dropped by over 33% between 1990 and 1995. And yet amidst this turmoil, in January 1992 the Great Hural ratified a parliamentary system with some presidential veto power – itself a compromise among power nationalist, conservative and liberal forces in the country – patterned on the French system but instituting a powerful legislature. Providing for a unitary rather than a federal state, the advocates of parliamentarism were victorious but the presidency was vested with veto powers (and filled by direction election) as a bulwark against unbridled parliamentary authority. Much can be said about the contemporary limits of Mongolian democracy – the elasticity of the electoral laws, the fragmentation of parties, the deferment of key constitutional reforms – but the fact remains that by the mid-1990s a democratic structure was – and remains – in place.

By the conventional measures of democratic and economic performance, Mongolia stands head and shoulders above other post-communist Eurasian states. Comparatively speaking, the super-presidentialism of other former Soviet Inner Asian states have slid from party to personalistic rule. In Mongolia anti-democratic parties have not gained traction, and across turbulent economic boom and bust cycles there has been, except for 2008, previous little political violence. Polling data reveals a resolute commitment to democracy. Of the seven parliamentary and presidential contests since 1990, five have produced uncontested turnovers. While the electoral cycle has been marred by the fluidity of electoral laws, the most recent 2016 and 2017 contests met "exacting international standards for propriety". During the Presidential elections of 2017 amidst talk of ballot rigging and other irregularities, the election oversight committee concluded that the election was "competitive and well-organized". All of this has been aided by a relatively muscular civil society: over 4000 NGOs were registered by mid 2000s (World Bank 2005).

If the Mongolian democratic experiment is to be applauded, its relationship to economic growth, shared prosperity, and political power is far more complex. At the center of these concerns stood political pressures to spend and distribute rents and a political settlement marked by deeply embedded systems of patronage and clientelism. (…) In settings in which democracy takes on clientelistic attributes, the pace and character of economic growth turns on how competing factions shape the emergence of the market economy and, through the acquisition of technology, its ability to compete globally.

Governance and the "implementation gap"

Governance is the process through which state and non-state actors interact to design and implement policies within a given set of formal and informal rules, and is shaped by and in turn shapes, power relations. (…) How effective policies are – in terms of their design and capabilities to achieve development goals - depends on the performance of key institutions, and their three core functions: enabling credible commitment, inducing co-ordination and enhancing co-operation. The existence and operation of these functions, in turn, will be shaped, and possibly compromised by the types of regime, by the character and interests of political parties and systems of electoral rules, and by the relative powers distributed among different actors and ruling coalitions (the military, parties, the

executive, business lobbies, the judiciary, foreign governments and development agencies, organized labor, civil society groups and so on).

Most developing countries are not lacking in a menu of laws and legislative initiatives capable of addressing developmental failures. Rather there is an ***'implementation gap'***, a need to better implement, enforce and monitor what is already on the books. Public sector deficits are emblematic of the shallowness of actual reform programs – isomorphic mimicry, meaning they look like reforms made elsewhere but do not function like elsewhere– and the durability of 'state capability traps'. Rather than understanding state deficits as the failure to follow best practice, or a lack of political will or state capacity, the challenge is to understand what animates the policy arena and how formal and informal institutions that distribute power shape the rules of the game (World Bank 2017). Policies do not occur in a vacuum, they take place "in complex political and social settings" marked by "unequal bargaining…. interact with changing rules as [groups] pursue conflicting interests" (ibid, 29). The same rules, in short, can produce quite different developmental outcomes. Policy effectiveness turns not only on the formulation of policies but how they are chosen and implemented (ibid, 7).

An analysis of the *'implementation gap'* will require three key steps around the policy effectiveness cycle: diagnosis (the identification of functional problems), assessment (the manifestation of power asymmetries and bargaining arrangements), and targeting (how incentives and preferences can reshape the policy arena) (World Bank 2017). In the forthcoming analysis, we will propose a review of these three key steps in the areas of stable economic growth, enduring population wellbeing and reduced environmental stress (see Boxes 2, 3 and 4, respectively).

Source: Excerpts from (M. J. Watts 2017)

Structure of the Document

17. **This Systematic Country Diagnostic includes three main chapters for analysis of development challenges and a conclusion chapter that delineates main priorities for future policy and reform.** Chapters II, III and IV discuss the challenges of unstable economic growth, setbacks in population wellbeing, and growing environmental stress, respectively. Each chapter is organized around the main tenets of *Diversified Development*, customized to the Mongolian context. Consequently, each chapter will have, first, a sub-section dedicated to an analysis of the country's performance and, second, a sub-section discussing whether the country has been able to accumulate "genuine savings" and "intangible capital". Forces of political economy will be explored in each chapter with an analysis of how growth, wellbeing and sustainability are connected to governance issues (Boxes 2, 3 and 4, respectively). Chapter V summarizes the evidence compiled in previous chapters and proposes -based on consultations with World Bank Group experts and discussions with stakeholders in Mongolia- a list of development priorities to constitute development policies in the short-medium term.

18. **This Systematic Country Diagnostic also includes two annexes that supplement the evidence of the main body of the document**. First a benchmarking exercise whereby Mongolia's performance is compared across more than 100 indicators -mostly from World Development Indicators- with all the countries of the World as well as with a subset of comparison countries (see Annex 1: A benchmarking exercise for Mongolia). Second, a summary of meetings with stakeholders that the SCD team conducted during the months of September and October 2017. These meetings took place in several cities and provinces (e.g., Ulaanbaatar, Darkhan, Orkhon) with representatives of the public sector, academia, private sector, civil society organizations and multilateral agencies. The meetings took a "Chatham house" format and included brief informal polls to gather both qualitative and quantitative information. In addition, an online/web-based

platform was open to enable participation by the public, whose inputs are also summarized in the annex (see Annex 2: Consultations with Stakeholders).

II. STABLE ECONOMIC GROWTH

19. **Mongolia has been able to increase the productivity of its economy but this positive outcome has been partly offset by macroeconomic instability.** During the nineties and early 2000s, the Mongolian economy went through a structural transformation from centralized to market economy. Since the mid-2000s it has received large inflows of foreign capital in mining as it moved from closed to open economy. These led to a larger, more productive economy. But the lack of diversification and its proclivity to boom-bust cycles, as well as the limited ability of authorities to deal with these cycles, has made Mongolia to suffer repeated macroeconomic shocks. This instability puts at risk recent gains in standards of living. Like many other commodity exporters, Mongolia has tended to spend excessively in good times, when prices are high, and not save enough for bad times, when extreme cuts are then required because of a lack of buffers.

20. **The country has been able to elicit large inflows of capital towards mining activities and its suppliers, but still has limitations in funneling capital towards other business activities.** This is the consequence of several factors ranging from a weak financial sector, to deficient infrastructure in transport and cumbersome logistics.[4] In addition, another important form of capital accumulation for Mongolians -livestock- has been suffering from weather shocks and weak institutional and capital infrastructure (which will be discussed in more detail in section IV). Diversification of the economy will not be possible without first broadening the assets base of the economy which can only be done though enhancing the financial sector, the transport and communications infrastructure and the logistics environment.

21. **Macroeconomic instability manifests itself in dual fiscal and trade deficits and can be tracked to lack of economic diversification and prudent fiscal policy, but originates from a policy "implementation gap" that prevents the country from putting into action its modern regulatory framework.** Mongolia has advanced in the creation of a regulatory framework to address its main challenges in terms of fiscal-financial, physical and logistic infrastructure. The paradox is that implementing this complex set of regulations requires a motivated civil service, a capable corporate sector, and political actors and civil society that refrain from clientelism and abandon the "provisioning pact" (see Box 2, below). It is not so much a matter of new institutions, but a matter these groups working together to overcome the "implementation gap" and to execute the existing -or still needed- regulations towards the transformation of the economy.

Growth performance: fast GDP and productivity growth but growing instability

22. **Mongolia is a country that has realized part of its high growth potential.** In the 1990s, the country experienced a difficult transition from centralized to market economy and GDP per capita declined at an annual rate of 1.2 percent. In the first decade of the 2000s, however, the

[4] Interestingly, in a previous growth diagnostics study, these same areas of finance, infrastructure and logistics were already singled out as main constraints for development in Mongolia, even before the arrival of large FDI in mining (see (Ianchovichina and Gooptu 2007).

transformation paid off and GDP per capita grew at 5.2 percent per year. The period 2010-2017 has seen an even faster growth of GDP/head of 7.3 percent per year.

23. **The fast growth in GDP per capita over the past 15 years is mainly due to rapid growth in productivity per worker**. Being a country with a slow demographic growth and growing dependency rate, the increase in the size of labor as a factor of production explains a diminishing part of GDP/head growth. In the period 2000-2010 the growth of the working age population explained almost half of the GDP/head growth (2.0 percentage points), but almost nothing of the GDP/head growth in 2010-2016 (0.2 percentage points).[5] Moreover, the gross employment rate has declined over the period leading to a negative impact upon GDP/head growth (0.8 and 0.3 percentage points, respectively). In contrast, output per worker has passed from a little more than half to more than 95 percent of GDP/head growth (Figure 1, top right and left panels).[6]

24. **The fast growth in GDP per worker is due to structural transformation and growing labor productivity**. After the difficult transition of the 90s, the Mongolian economy continued in the 2000s its structural transformation with a growing share of workers moving from low productivity to high productivity sectors. These "inter-sector" shifts, mostly from agriculture to other sectors, lead to important gains in output per worker. In the 2000-2010 decade, more than half of the gains in labor productivity are explained by this "inter-sector" shifts (1.5 out of the 2.8 percentage points of annual labor productivity growth). In the more recent 2010-2016 period, "inter-sector" shifts represent a smaller share of the labor productivity (only 0.6 out of the 7.1 percentage points of annual labor productivity growth). This leaves the remaining labor productivity growth being explained mostly by productivity gains within each sector of production. Agriculture and mining represent more than half the labor productivity gains of the period (1.6 and 2.3 out of the 6.5 percentage points of labor productivity growth net of "inter-sector" shifts). All the remaining sectors contribute 1 or less percentage points to labor productivity growth. It is worth noting that services have had negative productivity gains, while manufacturing has been among the sectors with the slowest productivity growth, in both periods under study (Figure 1, middle right and left panels).

25. **The source of labor productivity growth is accumulation of capital and, more importantly, growing total factor productivity.** The modernization of the Mongolian economy and its integration into global markets during the 2000s led to growing total factor productivity gains which explain almost two thirds of the labor productivity growth (0.9 out of the 1.4 percentage points of annual labor productivity, net of inter-sector shifts). The period 2010-2016 has seen an expansion of foreign investment, particularly in mining, which has led to an acceleration in capital accumulation per worker as well as more growth in total factor productivity,

[5] The share of working age population grew from 56 percent of total population in 2000, to 68.7 percent in 2010. From 2010 to 2017, however, it rose slightly from 68.7 to 69.6 percent. The employment rate (i.e., proportion of working age population who have a job) has declined from 60.0 percent in 2000, to 55.5 percent in 2010 and to 54.5 percent in 2016 (data from Mongolian Statistical Information Service, http://www.1212.mn/ visited on 03/07/2018).

[6] This decomposition of GDP per capita into worker productivity and labor-demographic components is derived from the identity: $\frac{GDP}{P}=\frac{GDP}{E}*\frac{E}{A}*\frac{A}{P}$, where GDP stands for value added, E for employment, A for working age population and P for population. The rate of growth of the left-hand side term is approximately equal to the sum of the rates of growth of the three right-hand side terms. In our estimates we use real Value Added at factor prices in place of GDP.

leading to the fastest growth in labor productivity seen in Mongolia for decades (Figure 1, bottom right and left panels).[7]

26. **Capital accumulation has undergone wide swings over the last three decades**. In the last years of centralized economy, capital investment declined year after year and did not pick up again until the mid-nineties. As a percentage of total GDP, it reached a minimum of 17,8 percent in 1994 and since rose to a maximum of 50 percent in 2012, followed by a sharp contraction to 21 percent in 2016. This evolution involved a dramatic change in the Mongolian economy which evolved from a centralized, closed economy with a capital-output ratio around 4.5, in the late eighties, to a market based and open economy with a capital-output ratio around 2.7 since the mid-2000s (Figure 2). The process has made the economy more capital intensive (capital per capita almost doubled between 2000 and 2016) and efficient (annual output-yield of capital went from 22 percent to 37 percent).[8]

27. **The mining sector is the main pillar of economic growth and development in Mongolia.** In recent years, the mining sector has contributed to about 20 percent of the GDP, about 60 percent of the industrial output and about 80 percent of total exports. Indeed in 2011, Mongolia's GDP growth rate of 17 percent was the highest in the world, mostly due to a peak in mining investment, which in in years 2011 and 2012 represented around 49 percent of total GDP. The mining sector has been the key driver of economic growth through mineral exports (mostly to China), with copper concentrate exports representing about 50 percent of total mineral exports. In the last four years (i.e., 2013-2016), Mongolia's exports averaged $4.9 billion per year, of which mineral exports comprised $3.9 billion per year or 78 percent. About 50 mining companies and the government are active in Mongolia's mining sector, with about 30 operations in or near production.

28. **Another performance outcome for the mining sector in Mongolia is the associated foreign direct investment.** These FDI net inflows had been growing consistently in line with a global economic recovery following the Global Financial Crisis of 2007-2008 along with a growing demand for commodities from China. In 2011 however, FDI net inflows began to decline from US$ 4.6 billion to US$ 94.2 million in 2015 and negative US$ 4.2 billion in 2016. The decline in FDI net inflows coincided with a decline in commodity prices globally, and leadership and policy changes in Mongolia, that created uncertainty. Notwithstanding these fluctuations in FDI net inflows, over the eight years from 2006-2013, the extractive industries (including oil and gas), contributed a total of $5.5 billion in taxes and other payments to the government of Mongolia, representing about 49 percent of the government's total tax revenue over the same period.

[7] This decomposition of labor productivity is based on the assumption of a Cobb-Douglas production function of the form: $\frac{GDP}{E}=\Phi\left(\frac{K}{E}\right)^{1-\alpha}$, where K stands for capital stock and (1-α) for the share of capital in national income. The rate of growth of the left-hand term is approximately equal to the capital share of the rate of growth of the capital/labor ratio (i.e. K/E) plus changes in a residual that are identified with gains in total factor productivity; namely, how effective is the accumulation of factors of production into producing output. The authors assumed a capital share within VA of 60%, constant over the period of study. Different assumptions of 50 and 70 percent, render qualitatively similar results. Assumptions about the estimates of capital stock are further explained in footnote 8.

[8] Estimates of stock of capital using the perpetual inventory method as explained in (Nehru and Dhareshwar 1993). We use official data of gross fixed capital investment since 1981 (from World Development Indicators) and assume, to define initial conditions, a capital output ratio of 4.5 in 1981 and an annual depreciation rate of 7 percent. For robustness we also use initial capital output rates of 3.5 and 4.0, as well as depreciation rates of 10 percent, which rendered qualitatively similar results.

29. **However, the mining sector creates very little employment.** In the last five years (i.e., 2012-2016), the sector has directly employed about 23,500 persons, only a small proportion of Mongolia's total labor force (about two percent). Mining can also have effects on employment generation in goods and services associated with its activities (e.g., construction, financial services, transport and telecommunications) but these sectors also represent a limited share of total employment in Mongolia (around 15 percent of total employment, as of 2016). The mining industry, however, does impact real wages in the whole labor market because of its pull of aggregate demand in general, derived labor demand and the fiscal revenues it generates (see paragraphs 88 to 90 on wages and wellbeing in Mongolia in chapter III on wellbeing).

30. **On the other hand, agriculture was the traditional source of growth in the past but still is the largest source of employment in the present.** Agriculture sector represented a third of real GDP in the early 90s, and after the structural transformation of the last 25 year has come to represent a still sizeable 13 percent of gross domestic product around 2015, providing employment to one third of country's economically active population. Within agriculture, livestock output has the largest share (84.2 percent). Meat and milk are the primary products of the livestock sector, contributing 61 percent of livestock output and 7 percent of GDP. The preliminary estimates of livestock census reveal that, number of livestock heads reached 61.54 million and about 160,650 herding households in 2016.

31. **Agriculture production in the country has recovered after near collapse during the transition period.** De-industrialization pushed many households back into herding during the nineties and early 2000s, but increase in herd size without pasture rotation and sufficient production of supplementary winter feed put their livelihoods at risk. However, the trend reversed with introduction of several initiatives and total production in meat, vegetables, cereals and potatoes has increased remarkably since the mid-2000s.

32. **Mongolia is self-sufficient in meat, wheat and potatoes, but productivity is low in international comparison and gains are limited by declining livestock and crop productivity.** Per capita availability of meat, cereals and potato have significantly increased to fully meet the domestic demand. But the offtake and yields for beef, sheep and goat perform poorly against global comparators. A World Bank Livestock Sector Study indicated that Mongolian beef yields are less than half when compared to international yields and Mongolian sheep yields are 60 percent when compared to international yields.[9] The wheat and potato producers have increased productivity, although the average yields remain good deal lower than those achieved by more advanced commercial producers or producers in other countries. The gains in crop productivity were achieved through use of new technologies (minimum tillage) and equipment, improved access to herbicides and improved seed varieties. These yields can again dip in the absence of supplementary fertilization, crop rotations or management of crop residues for soil enhancement. Improving soil fertility, combating soil erosion, efficient water use (including conjunctive use of ground water) and better managerial and technical are therefore key ingredients for long term productivity improvements in crop sector.

33. **Over the years, the expansion in mining exports has led to productivity gains and higher standards of living, but also to a much less diversified economy**. Since the early 2000s, export volumes have increased almost tenfold, mostly due to the growth of coal and copper exports

[9] (World Bank 2009)

(Figure 3, top left panel). This successful expansion of mining activities has led, particularly in recent years, to a sustained improvement in trade and current account balances, which has been in deficit for years (Figure 3, top right panel). At the same time, exports of traditional agricultural products such as meat, animal fibers (e.g., wool and cashmere) and clothing have declined, not only in relative but also -in some cases- in absolute terms (Figure 3,middle and bottom panels).[10] This lack of diversification is highlighted in our benchmarking exercise. Mongolia is ranked in the bottom quartile of the distribution when compared to peers and against all countries, which indicates that it has one of the least diversified export baskets in the World (see Figure A1 5). Moreover, diversification of the economy is mentioned as a key challenge of the Mongolian economy during consultations -particularly by government, private sector and civil society organizations- although trade and exports do not rank high in polls, gathering less than 5 percent of the responses (see Figures Figure A2 1, Figure A2 3 and Figure A2 4 in the Annex 2).

34. **Exports have become not only heavily concentrated in mining, but also in a single market**. Exports to China represented around 20 percent of the total in the early 2000s, to represent more than 90 percent since 2012. In contrast, imports are dominated by capital goods, intermediate goods, and fuels (accounting for 71% of imports in 2015); but with more diverse origins (China Russia, and Japan represent 36, 14 and 12 percent of merchandise imports as of 2016).

35. **However, Mongolia has potential to diversify its exports in areas in which it has had global competitiveness, as well as in areas in which it has potential to become competitive.** A recent study by IFC shows that Mongolia has increased its competitiveness in mining and animal products (as already described in previous paragraphs), but it has lost in apparel and gained little in textiles, areas in which the country had a competitive edge.[11] Figure 4 shows, first, that Mongolia relies on a few activities and, second, between 2000 and 2016 the country has moved into the 25% top world performers in animal products and mining. One the other hand, it lost that top quartile position in apparel, has made no progress in textiles and has made modest progresses in crops, paper, metal products and machinery. The IFC analysis identifies investment potential in several specific activities within these areas to diversify and strengthen the Mongolian economy. In addition, IFC has also identified a recent expansion, and further potential, in services exports associated to tourism and transport services. [12] A recent World Bank report also identifies production and export potential in the areas of wool and cashmere, meat and leather, but important logistic, financial and organizational challenges need to be overcome to make these activities grow faster.[13]

36. **The high level of export dependency has entailed full exposure to the cyclical nature of global commodity markets and associated price volatility**. Added to this is the "lumpy" nature of mining sector investment, in which the fortunes of the Oyu Tolgoi project alone have had a major impact on macroeconomic performance. This volatility is worsened by pro-cyclical fiscal policies, and difficulties in managing the political economy of mineral rents. Moreover, such

[10] According to figures from the Observatory of Economic Complexity, exports in animal fibers went from US$ 44.4 million in 2000 to US$ 265 million, between 2000 and 2016; but exports of garments went from US$ 137 to 40 million in the same period. (https://atlas.media.mit.edu/en/ visited on March 15, 2018).

[11] The IFC report uses the term "fitness", rather than competitiveness, which refers to a combination of an analysis of the capabilities of an economy based on their exports basket -as in the analysis of Economic Complexity by (Hausmann, et al. 2014)- and IFC's predictive models based on market demand analysis and local expertise.

[12] See (International Financial Corporation 2017).

[13] (Latimer and Piatkowski (in preparation))

a concentrated export basket is difficult to change in the short-term because trade patterns depend on relative intensity of productive factors (e.g., natural resources, human, physical and financial capital) which take time to accumulate and shift the competitiveness of a country toward other export products.

37. **Commodity price and exchange rate volatility seriously affected the Mongolian external sector between 2009 and 2016.** During the commodity boom, export price index was on strong growth path while import price index growth was relatively moderate and, as a result, terms of trade increased in the period 2009-2012. Improving terms of trade attracted FDI into Mongolia which, coupled with expansionary fiscal policy, fueled the economy (Figure 5, bottom panel). During this period, the nominal exchange rate appreciated which led to sharp appreciation in real exchange rate with high inflation. Then, the halt to the mining boom, cooling commodity prices and a slower growth in China significantly weakened the external position of Mongolia. Mounting pressure on the balance of payments caused a sharp currency depreciation and a significant loss of reserves since late 2012. In 2012-16, nominal exchange rate depreciated by 78 percent which resulted in a 38 percent depreciation in NEER and, due to falling inflation since mid-2014, a stable REER (Figure 5, upper panel).

38. **This severe boom-bust cycle was confronted with an unsustainable domestic economic policy**. The sharp drop in commodity prices from 2011 onward severely affected country's fiscal and external positions. Mongolia grew at a double-digit annual rate over 2011-13 as foreign investors rushed in to take advantage of its vast untapped mineral deposits. However, growth in 2014-16 dropped substantially following a sudden and sharp decline in commodity (copper and coal) prices, resulting in dampened commodity exports. Foreign direct investment (FDI) inflows dried up to less than 2 percent of GDP in 2014-16 from about 40 percent of GDP in 2011, as new foreign investment projects mainly in the mineral sector, were delayed. Authorities responded to external shocks through loose macroeconomic policy which supported growth for a while, but at the cost of increasing public debt, weakening the balance of payments, deteriorating banks' asset quality, spiking up domestic and international borrowing costs and rising poverty. By end-2016, the large fiscal deficit and the depreciation of national currency pushed general government debt up to nearly 90 percent of GDP.

39. **The preponderance of mining exports in the Mongolian economy also affected fiscal stability.** Despite the adoption of a fiscal rule in 2010, fiscal policy remained pro-cyclical and the public sector has become a conduit for Dutch disease to the economy in recent years (Kahn and Gottschalk 2017). Budget spending expanded strongly, and Mongolia is perhaps the only country in the world which has employed a direct resources-to-cash scheme – operating a universal cash transfer scheme between 2010 and 2012 (Ying and Howes, 2015). Arguably, these policies came up against to domestic absorption constraints – regarded as a key factor in why developing countries experience problems with resource windfalls (Collier, et al. 2010)– that are visible in the form of structurally high inflation and large (non-mining) trade deficits.

40. **It should be underlined, however, that the main problem was not mineral exports - which have led to remarkable expansions in productivity and standards of living for the country- but the authorities' inability to adequately deal with the innate instability of commodity-based growth**. Key recent macro policy errors were as follows. First, in terms of fiscal policy, large quasi-fiscal spending was implemented through Development Bank of Mongolia that pushed the consolidated deficit up to over 10 percent of GDP over the period of

2012-16. Second, in terms of monetary and exchange rate policy, the BoM implemented expansionary policies during 2012–14 through mainly the policy rate cut and several new quasi-fiscal lending programs which injected about 25 percent of GDP in new liquidity into the economy. Moreover, the BoM depleted a large amount of international reserves (around US$3 billion) to prop up the local currency. And third, in terms of financial sector policies, the supervisory framework was inadequate, with limited resources, frequent recourse to forbearance (particularly on policy loans by the BoM), and weak enforcement. The country faced large double deficits (in fiscal and external accounts) leading to rapid loss of international reserves and growing external debt. An unsustainable macroeconomic situation that led to the adjustment program with multilateral agencies in 2016-2017 (Figure 6)

41. **Given the external shocks, macroeconomic policy easing supported growth for a while but with high cost.** The on-budget deficit was, until 2016, generally kept under control, but substantial additional off-budget spending (on infrastructure projects and subsidized lending programs) was channeled through the Development Bank of Mongolia (DBM) and the Bank of Mongolia (BOM) from 2012 onward. The overall fiscal stance was thus expansionary, and Mongolia eroded its (insufficient) buffers built during good times. Government debt increased almost fourfold since 2011, with the budget deficit reaching 17 percent of GDP in 2016. The expansionary monetary stance fostered a credit boom and fueled imports which led to a substantial loss of reserves and sharp depreciation of national currency, as well as a spike in inflation. Regulatory forbearance in the financial sector was pervasive, allowing bank vulnerabilities to grow. In addition, weaknesses in governance and credit screening with respect to disbursements made by BOM and DBM wasted national resources toward politically-directed, low-yield and non-productive expenditures

42. **The growing fiscal deficits since 2012 involved an unsustainable debt trend, which together with growing uncertainties about FDI and foreign financing, led to the need of another structural adjustment supported by international financial institutions**. The preliminary result of latest IMF Debt Sustainability Analysis (DSA) in December 2017 concluded that the proposed fiscal adjustment would be able to bring Government's debt back to a sustainable path, under the following assumptions: (i) growth will pick up substantially in 2019 and remain strong thereafter, driven by development and production from major mines; (ii) funding of donors in favorable terms will significantly reduce the gross financing needs and the present value (PV) of debt; (iii) external non-concessional borrowing will be successfully refinanced and domestic creditors will finance the Government with more favorable terms than those prevailing today. Mongolia's total external debt reached over 220 percent of GDP—155.6 percent excluding US$7.4 billion of intercompany loans—at end-2016. Under these assumptions, the PV of debt-to- GDP ratio, the major indicator for debt sustainability, is projected to reach close to 89 percent in 2018 and starts declining from 2019, down to around 81 percent in 2021 (Figure 7). The economic results for 2017 already show a much-improved path for nominal GDP, interest rates, and fiscal balances which has improved the trajectory of public debt but debt sustainability is still fragile and sensitive to external shocks. Net inflows of FDI have rebound again to US$ 1.5 billion in 2017.

Challenges to stable growth: towards prudent fiscal management and diversified assets accumulation

43. **Unstable economic growth is one of the three main challenges of the Mongolian economy.** The previous section has shown that Mongolia has enjoyed fast GDP and productivity growth due to economic openness and to foreign direct investment in mining; but this path has become increasingly unstable. To keep growing and reduce instability -as suggested by our Diversified Development analytical framework- the economy needs to set institutions capable of managing the inherent variability of commodities. It also needs to diversify its assets base so that it can -in the future- have a more diversified production and export basket. These two elements will contribute to bring stability to the economy and avoid the fiscal and balance of payment deficits that have mired the economy in past years.

44. **Stable economic growth necessitates prudent macroeconomic management, a strengthened financial sector, and a favorable business environment**. This SCD discusses the limitations the Mongolian economy has experienced in these areas. Without prudent macroeconomic management, the country will embark in unsustainable public debt dynamics and fail to lure foreign investors. Without a strengthened financial sector and adequate business environment, new business opportunities will not prosper and a more diversified economy will not develop. Without appropriate trade infrastructure and logistics, export diversification will simply not be possible.

Responsible and efficient administration of the public budget

45. **In an attempt to establish a mechanism similar to a Sovereign Wealth Fund (SWF) for accumulating revenues from the mining sector for the economic and human development of the country, the Government created the statutory Mongolian Development Fund (MDF) in 2007.** Subsequently it created the Human Development Fund (HDF) in 2009 as a replacement of the MDF. Unfortunately, despite the good intentions, these funds were used to fulfill political promises such as universal cash transfers, untargeted social welfare measures, etc. during the parliamentary elections of 2004 and 2008 and contributed as major domestic factors to the 2008-09 economic crisis. Subsequently, in 2011 political parties agreed on a memorandum that stipulates non-competition among each other through political promises of cash handouts to the citizens. However, the idea of a more robust fiscal and mineral revenue management remains at the center of economic policy debates in Mongolia and further attempts were made to meet the goal of stabilization.

46. **Following the 2009 crisis, the Mongolian parliament approved the Fiscal Stability Law (FSL) in 2010 at a time of high commodity prices and strong economic growth.** The law, which came into effect in 2013, aimed at ensuring the sustainable development path of Mongolian economy and is well protected from the volatility of commodity markets and the inflow and reversal of foreign direct investment (FDI) by managing the Fiscal Stability Fund (FSF). The good times, however, did not last for long—the prices of mineral commodities and FDI to Mongolia started to drop since 2012. As a result, the government did not follow the rules of the FSL, which it postponed and modified on multiple occasions. It also did not accumulate much saving in the FSF. Instead revenues undershot and spending control was substantially loosened. Debt has also risen sharply, reaching nearly 90 percent of GDP in 2016. Nearly 20 percent of revenue was devoted to interest payments, which was clearly unsustainable.

47. **The government also established the statutory Future Heritage Fund (FHF) in Feb 2015** to implement the principles of distributing fairly and equally the revenues from the non-renewable resources mobilized in the budget to the current and future generations. There is a rule in the FSF that seeks to focus withdrawals on key development needs. Once the fund reaches 10 percent of GDP, the excess above that amount is to be invested in foreign markets and with the Development bank of Mongolia for investments in railroads, Oil processing, power stations, or high-quality export goods and services (Table 1).

48. **Public Financial Management has been challenged due to the volatile economic context and political decisions.** Revenue outturns deviations have been caused by consistent underestimation of mineral prices during the commodity boom and political pressures for capital expenditures expansion. Moreover, lack of alignment of expenditure and revenue outputs with the originally approved budget (Table 2), poor quality of cash flow forecast and predictability in availability of funds, have weakened the budget processes which in turn negatively affects the ability of the government to prioritize growth-enhancing investment as well the continued improvement of service delivery. This dynamic has translated into an aggregate deviation in expenditures of around 12 percent between 2013-2016 which in turn led to a weak and unpredictable delivery of services in the 20 largest budget heads of the Government, including entities responsible for delivery of education, social welfare, roads, health, and justice services.

49. **The quality of the revenue forecasts has been compromised by missing data from certain agencies** (especially the General Department of Taxation, the Customs Administration, and the Oil and Petroleum Agency) because of difficulties in consolidating information from remote offices across the country. The quality of expenditure forecasts is also poor as they are based on historical approved monthly budget allocations, which are frequently revised based on cash availability and requests from the line ministries. Capital expenditures are particularly volatile because they bear the brunt of the expenditure cuts and therefore the historical data cannot accurately estimate the cash needs of spending agencies. This represents a severe constraint for effective and efficient service delivery.

50. **While Mongolia has an acceptable procurement legal framework there are significant weaknesses in the institutional environment.** [14] Particularly in the implementation of the law, due to the lack of a strong procurement cadre and to political interference in procurement decisions aimed to benefit bidders who are not fully qualified. Most of the public investments are made outside the public procurement law and with very limited transparency and oversight. Moreover, the Government has dedicated substantial resources and efforts in developing and accessible, functional and well-integrated e-procurement systems but implementation is still uneven.

51. **These numerous regulations need to be implemented by a motivated civil service and a competent corporate sector, but there are limitations in both.** Mongolia's civil service is currently confronting challenges that, if not addressed, will compromise its credibility, technical competence and effectiveness. There is a broad consensus across the political spectrum that the meritocracy of the civil service has been undermined through repeated rounds of patronage-driven recruitment. There has been a marked increase in the annual attrition rate from the civil service from just under 6 percent in 2007 to around 13 percent in 2014. This raises a very real risk that the

[14] The Public Procurement Law of Mongolia was approved in April 2000. It is supported by implementation guidelines and a wide range of procurement documents.

departure of talented staff with valuable professional skills will exacerbate existing skills gaps, reduce the overall capacity and capability of the civil service and compromise its ability to deliver public goods and services to the citizenry. These rounds of patronage recruitment are undermining public trust in the rule of law and the efficacy of the civil service. Survey data from 2011 indicates that nearly 100 percent of the population believe that there are laws to prevent nepotism and cronyism within the civil service, as well as laws to ensure that the civil service is neutral, independent and fairly managed. However, less than 50 percent feel that existing civil service laws are effective. However, even accounting for these issues, recent trends in civil service employment and organization offer cause for alarm. Even among states with populations from between 1 to 5 million, Mongolia spends around 5 percent more of its budget on wages and salaries than other countries within this population range. Furthermore, there is a significant growth in the size of the public sector occurred between 2005 and 2014. Some of the increase could be attributed to the creation of new cadres (such as social workers) or to the growth in front-line staff at the district level, which mark legitimate efforts to expand the scope and quality of government services. But, disturbingly, the number of senior administrative posts (Category 2 positions) more than doubled throughout this period, growing at an annual rate of 8.6 percent. It is hard to justify the administrative or bureaucratic rationale for such a large expansion, and the increase is most likely the result of patronage driven recruitment.

Sources of capital: FDI and local financial sector

52. **Capital accumulation is mostly funded by foreign savings, through foreign direct investment and public debt, while mobilization of local savings into productive activities is still an important challenge of the Mongolia economy**. FDI will continue to play an important role in years to come, but mutual trust and understanding of the dynamics of international finance need to be preserved between the government and foreign investors. Furthermore, a more diversified Mongolian economy will depend crucially on a more competent and sophisticated financial sector that channels local and international funding towards new local businesses.

53. **Foreign direct investment (FDI) inflows are one of the key funding sources of Mongolia's economic growth and is one of the main sources of state revenues and foreign currency**. Despite this dependence, regulatory treatment of FDI has been irregular, and this has threatened the country's economic development. Mongolia experienced enormous tribulation with international investors following a 2012 law that introduced tight investment limitations, including government and parliament approval for deals in key sectors such as mining, telecommunications, banking and finance. Foreign investment plummeted in 2013 and apprehension gripped the Ulan Bator business community as challenges at projects such as Rio Tinto's multi-billion Oyu Tolgoi (OT) copper mine made international headlines. Yet in 2010, FDI inflows reached $1.7 billion (or 24% of GDP), and peaked at $4.6 billion in 2011 (44% of GDP). The mining sector was behind this steep increase, and specifically Rio Tinto's OT Phase I development; this project alone impacted FDI. As Phase I wrapped up in 2012, little investment came into Mongolia, which led to a sharp drop. FDI flows fell to $94 million in 2015 (0.8% of GDP). Beyond OT, FDI inflows declined in 2014-2015, as a result of a combination of other factors too, including a challenging domestic macro situation, a perceived deterioration in overall business climate, government's delays in decision-making in mining activities, a slowing in international markets, and key commodity prices going down. There is evidence of an FDI recovery in 2017 responding to OT Phase II and IMF package alleviating risk of sovereign default.

54. **Mongolia's minerals sector has attracted most foreign investors, with very few investments in other sectors.** Based on the data for announced FDI, which covers cross-border investments in "greenfield" assets and major expansions, metals and extractives commanded by far the largest share of all inbound FDI into Mongolia since 2003 – at around 82%, which includes a new gold and copper mine co-financed by Rio Tinto. The three sectors that follow, with much smaller shares, are alternative and renewable energy with 3.8% share of the total, warehousing and storage at 3.4% and financial services with 2.7%. Apart from "lumpy" resource and metals investments, the value of investments as well as the number of projects, have declined in recent years, reflecting the deteriorating macro and business environment in the last few years. Mongolia's most significant investment partners are UK, Canada, Japan, Singapore, China and Russia. (see Figure 8).

55. **Mongolia's financial system is highly dominated by the banking system, and consequently, loans from commercial banks are the main financing source for both individuals and businesses**. Increased banking sector risks have forced the banks to reduce lending and significantly increase their holdings of safer assets (e.g. government bills, which were also high yielding due to GoM's intensive domestic borrowings to fund expansionary measures), which is a sign of a weakened access to finance. On the other hand, loans to the private sector concentrate in mortgages and, more recently, consumption loans, leaving business financing a smaller share of financial intermediation. Household loans (mortgages, consumption and salary loans) represent nearly 50% of the stock of loans. SMEs still struggle to secure access to finance to grow their businesses, due in part to: (i) stringent collateral requirements by the banks; (ii) high interest rates; and (iii) short maturity of loans.[15] Since mid-2012, the lending rates have been rising gradually and reached 20 percent in 2017. At the same time, the banking system has seen a rise in the proportion of non-performing loans from less than 3 percent before 2014, to reach around 9 percent in 2016 (Figure 9, left panel). All these components have made Mongolia's banking system one with the higher risk in the region (Figure 9, right panel). This is mainly due to slowing economic activity, growing deposit rate with tighter liquidity condition, deterioration of asset quality, high market risks, banks' cost inefficiency, as well as the crowding out of private borrowing by domestic financing of the budget.

56. **At the same time, Mongolia has one of the strongest access to bank branches in the world**. With 72 commercial bank branches per 100,000 adults (compared to approximately 26-33 in middle- and high-income countries), and 1,298 accounts per 1,000 adults, placing Mongolia in the same league with middle-income countries. According to the WB Global Findex Database, about 92 percent of Mongolia population of age 15+ has a bank account. In stark contrast, capital markets are very weak and still in progress and far from completion, hampered by weaknesses in the regulatory framework as well as in institutional capacity. The progress of non-bank financial institutions is slow and continuous effort is needed in building appropriate institutions, policies and oversight arrangements. The non-bank financial sector is small but needs to be monitored regularly and, the capacity in the Financial Regulatory Commission (FRC) needs to be significantly improved. Our benchmarking exercise shows a mixed picture of the financial sector that coincides with the previous analysis. On the one hand, concentration of assets in a few financial institutions and limited access to credit for SMEs are ranked at the bottom half of the distribution when compared to peers or the World. But when looking at population with banking

[15] Access to finance is the top obstacle to business development (31.7 percent of the firms in the survey, well above the 11.3 percent average in East Asian and Pacific countries), according to Mongolia Enterprise Survey 2013.

services (be it accounts or loans) Mongolia is at top quartile of the distribution when compared to peers and the World (see Figure A1 5).

57. **The Mongolian authorities acknowledge that a sound financial sector is essential for sustainable growth and have prepared the Financial Sector Medium-Term Development Strategy until 2025.** This strategy aims at developing an internationally competitive, efficient, inclusive and balanced financial system. Moreover, in recent years, several efforts have been made to strengthen financial sector stability, improve financial sector efficiency and depth; as well as to improve access to financial services. Prudential standards have been strengthened so Basel II and Basel III accords have been implemented, and the risk-based banking supervision practices have been adopted at the BOM. The Financial Stability Council was established in 2012 and a Bank Deposit Insurance Law was adopted in 2013, laying down the legal basis for the establishment of the Deposit Insurance Corporation of Mongolia (DICOM) with the mandate to protect depositors' interests and ensure financial stability. From 2016 all banks need to use IFRS for their financial reporting and IAS39 for impairment calculations. The Law on Pledge of Movable Properties and Intangible Assets became effective with the launch of an online registry on March 2017; since then, about 100,000 movable collaterals have been registered to date, generating USD 1 million in fees for the Government and generating new associated loans mainly to SMEs. A new payment system strategy was launched in 2016 and The National Payment System law was adopted in May 2017. More recently, new Banking Law, the Bank of Mongolia and the Deposit Insurance Law have been approved, drafted within the IMF framework to bring them in line with international best practices.

58. **Despite these achievements, the regulatory forbearance is still widespread and the financial sector in Mongolia faces significant challenges.** Strengthening the banking system is also a crucial part of the IMF program, to ensure that the banks can support sustainable and inclusive economic growth. The IMF, working with the Bank of Mongolia (BOM) has concluded an Asset Quality Review (AQR), conducted by PwC, under ECB guidelines.[16] A comprehensive effort to rehabilitate the banking system and strengthen the Bank of Mongolia includes strengthening of DICOM and amendment of DICOM law to bring it in line with IADI Core Principles for Effective Deposit Insurance Systems. Lastly, the BoM is considering a public-sector funded and managed Asset Management Company (AMC) to purchase and resolve NPLs from banks. Private sector NPL resolution platforms are also being considered as those may be better governed and operated, specialized in creating a market for NPL resolution, and more attractive for private sector funding.

59. **Although the Bankruptcy law has been in place for almost two decades, bankruptcy practice in Mongolia is virtually non-existent and the insolvency regime requires comprehensive reforms**. A good insolvency framework provides efficient mechanisms for saving viable businesses and orderly exits for the insolvent debtors, thus preserving maximum value for the distressed enterprises and allowing a new life for the overly indebted individuals. Without it, investors and lenders will hesitate to make financing available fearing that they may be dragged

[16] This AQR, which covered 91 percent of corporate loans of the banking system, identified a capital shortfall of 2 percent GDP (MNT 543 billion). This also represents about 6.9 percent of budget revenue and 3.5 percent of total deposits in the banking system. A deadline of 9 months was granted by BoM to ailing banks to recapitalize and this exercise is expected to be concluded by the end of 2018. It is worth noting that banking system remains resilient and capable to recapitalize as evidenced by the capital adequacy and liquidity ratios of banks estimated at 13.7 percent and 45 percent, respectively, at end 2017. (taken from Mongolia Macro Weekly Update, No.31, February 23, 2018).

into protracted proceedings. In times of economic down-turns when the ratio of NPLs tends to rise significantly, a quick resolution of consumer and corporate bad debts will be crucial for financial stability. All these helps to promote entrepreneurship, SME development and the financial sector efficiency and stability.

60. **Constraints in management capacity are not limited to the public sector.** The CG Scorecard developed by IFC in Mongolia in 2013, which was based on review of practices of the 20 largest listed companies on the Mongolian Stock Exchange collectively representing about 90% of the total market capitalization in Mongolia, resulted in the overall mean score of 27.5% (out of 100%) indicating a weak CG performance among the companies at the time. The 'Mongolia: 2015 National report on corporate governance' report issued by the National Council on Corporate Governance analysis using 2014 data covered 22 publicly listed companies with the overall mean score of 53.4%. By comparison, other countries in Asia, when applying similar scorecard assessment in recent years, demonstrated better results. Despite certain recent improvements, this illustrates that private sector capacity is far from adequate. In fact, the private sector requires assistance to effectively manage and participate in the anticipated strong economic growth.

The veins of trade: business environment, infrastructure and logistics

61. **As a land-locked economy, Mongolia faces obstacles in connecting with export markets**. However, its proximity to neighboring China and Russia also offer tremendous opportunities for investment and export development. While many factors affect the competitiveness of Mongolian companies, facilitating the movement of inputs into Mongolia and final goods to destination markets will be key to reducing the natural disadvantages Mongolia faces due to its landlocked nature.

62. **Despite abundant land resources and strategic central location in the Eurasian plateau, lack of high-quality transport infrastructure (including railways, paved roads, customs, logistic centers) has been hindering Mongolia to become a regional hub in the international market**. For a landlocked country with a large surface area, low population density, and an economy that depends on bulk exports, ground transport infrastructure is crucial to its economic development and competitiveness in improving market accessibility and reducing transportation costs. Regional transport infrastructure is also a key factor for the competitiveness and job creation for agriculture and tourism. Surveys such as Doing Business, the Enterprise Surveys, the Global Competitiveness Index, and the Logistics Performance Index (LPI) identified the poor transport infrastructure network as one major bottleneck for business environment in Mongolia. For example, Mongolia ranks 102nd in 2016 on the Global Competitiveness Index, and ranks 108th on LPI. Its quality of trade and transport-related infrastructure score only ranked 140th out of 160 countries (Figure 10, left panel).

63. **Through prominent government initiatives such as "The Millennium Road", the length of the national road network tripled in the last two decades but the extension of the regional transport network is still insufficient**. By 2016 the total road network in Mongolia was 49,606 km, with only one fifth being all season paved, gravel or improved soil road. Out of the total 21 aimags, the railroad network covers only 7, and only 16 are connected to the capital city through paved roads. In 2015, Mongolia ranked 118th in quality of roads, much lower than countries with similar income level. Besides the fact that low population density and harsh climate conditions makes ground transportation in Mongolia very expensive to build and to maintain, three

main factors contribute to the underdeveloped and poor-quality regional transport infrastructure in Mongolia: lack of financing especially in maintenance; lack of transparent processes and low technical capacity in investment planning and infrastructure asset management.

64. **Transport connectivity with main neighboring countries needs to be expanded.** Mongolia has advanced some efforts in this direction. In 2013, it defined a new initiative to construct roads between the borders with China in the south and Russia in the north, including 1,100 km of electrified rail lines, and an oil and gas pipeline across Mongolia, that altogether will cost US$50 billion. The three governments have agreed to build an economic corridor, strengthen cooperation in transportation infrastructure connectivity, port construction, industrial capacity, investment, trade and economy, cultural exchanges and environmental protection in order to improve economic benefits amongst each of the countries. In 2015 the three governments agreed to rail freight and to establish a Mongolian–Russian–Chinese joint railway transportation and logistics company.[17]

65. **The Belt and Road Initiative (BRI) has elements that could help enhance connectivity and trade in Mongolia**. The "Belt and Road Initiative" -first proposed by Chinese president in March 2013- links China to Central and South Asia and onward to Europe by road, and to the nations of South East Asia, the Gulf Countries, North Africa, and on to Europe by sea. Evidence of trade statistics from countries in the area covering the BRI shows growing relevance of the area as a trade intensive region. Intra-BRI trade has grown from 31.6 to 44.3 percent of global trade between 1995 and 2015. Most of this trade -and the trade within the region- is in intermediate goods (indicating a growing importance of value chains within the region). Preliminary analysis shows that the initiative can certainly increase trade and value added by reducing trade costs.[18]

66. **The BRI includes trade facilitation mechanisms that could be of help to Mongolia.** Out of the six economic corridors that have been identified, the China-Mongolia-Russia Economic Corridor has obvious pertinence to Mongolia. China and Russia are the main origins of value added in exports of the BRI area, so Mongolia sharing a vast border with both can benefit from this. The BRI specifically calls for enhanced customs cooperation in areas such as information exchange, mutual recognition of regulations, and mutual assistance in law enforcement. It also focuses on improving bilateral and multilateral cooperation in the fields of inspection and quarantine, certification and accreditation, standards measurement, and statistical information. The plan proposes that BRI participating countries work collectively to improve customs clearance facilities at border ports, establish "single-window" systems, reduce customs clearance costs, and improve customs clearance capability. This is an area that could benefit Mongolia because Mongolia's trade facilitation regime seems to be getting worse. Perceptions of Mongolia's Customs and other border agency performance have declined in recent years (more on this below).[19]

67. **However, the Belt and Road Initiative is an opportunity whose debt-sustainability implications need to be considered.** Actual size and mechanisms of financing of the required BRI investments are not fully transparent, but a combination of loans from China Banks and other local/international sources of funding. This could create debt sustainability issues for some countries and Mongolia -with already high levels of public debt- is one of the eight countries in

[17] Information taken from forthcoming World Bank Policy Research Paper: (Derudder, Liu and Kunaka forthcoming)
[18] Preliminary analysis shows that a reduction of trade costs of 1 percent is likely to increase bilateral trade in the area by 1.3 percent and domestic value added in 1.7 percent. Trade statistics and econometric analysis by (Boffa 2018)
[19] Information kindly provided by Julian Latimer, derived from forthcoming study: World Bank, 2018 "Trade Facilitation challenges and reform priorities for maximizing the impact of the Belt and Road Initiative".

the area that is seen as likely to reach unsustainable debt levels if adopting the pipeline of announced investments in the BRI.[20]

68. **Beyond transport infrastructure, in a vast country like Mongolia, modern telecommunications are a key alternative to conventional transport for many services but there is an important "digital divide".** Access to broadband is limited to a large extent to the urban population, particularly the approximately 50 percent of Mongolia's population living in Ulaanbaatar. Current polices not only make broadband less accessible to the rural population, but also more expensive. As it stands, state-owned Information Communication Network Company (ICNC) operates the only fiber optic backbone in many rural areas (while the private operators are not allowed to extend their backbone networks) and charges high prices to operators needing to use it—this discourages operators from offering broadband services in rural areas as they are not always able to pass the cost on to consumers. In our benchmarking exercise, the percentage of internet users in Mongolia is ranked at the bottom quartile of the distribution when compared to peers and against all countries which indicates that the country has one of the least internet-connected populations in in the World (see Figure A1 5).

69. **In addition to weak transportation infrastructure, trade facilitation performance is poor and contributes to its low level of trade competitiveness and export diversification**. According to the World Bank's 2016 Logistics Performance Indicators, Mongolia is ranked at 108 out of 160 countries and is ranked at 100 in the important area of Customs and Border Management (Figure 10, right panel). Likewise, the Doing Business, Trading Across Borders, survey indicates that the time to import and export is significantly longer than the East Asia and Pacific average. Traders complain about excessive documentary requirements, opaque rules and regulations, and excessive physical inspections at the border (including multiple inspections and laboratory testing), particularly the busy border post with China at Zamyn-Uud. Traders further complained about frequently changing import and export requirements, as well as inconsistent applications of rules on both sides of the border.

70. **Among the major pressing issues for existing and potential investors is Mongolia's inefficient transportation and logistics framework, which is especially important against the backdrop of the country's land-locked geography**. Compared to 2010, Mongolia has improved in its Logistics Performance Index (LPI) ranking; its current (2016) overall score at 2.46 puts it at 108th place among 160 economies rated. Yet Mongolia's overall LPI score is close to countries like PNG and Myanmar, but below other developing EAP economies, such as Cambodia, Philippines, Vietnam and Indonesia. Mongolia ranks 140th in terms of trade and transport related infrastructure, 129th for international shipments, 129th for logistics quality and competence, and 100th for customs clearance process, which demonstrates significant room for improvement. In the same vein, efficiency of trade and supply chains are affected by substantial trade costs -- as seen from the average cost of container for imports/exports, which is over 3X higher than average cost for developing EAP economies.[21]

71. **These infrastructure and logistics limitations hinder Mongolia's competitiveness through high trade costs.** According to the UNESCAP trade cost database, trade costs between Mongolia and the key trading partners are generally significantly higher than those between the

[20] Estimates from (Hurley, Morris and Portelance 2018).
[21] Doing Business 2018 (http://www.doingbusiness.org/reports/global-reports/doing-business-2018)

US and the same trade partners. The first two rows of Table 3 present total trade costs including tariffs, but the same pattern holds for the second set of rows, which are comprehensive estimates including all costs but exclude tariffs. These estimates cover not only transport costs, but also costs related to regulatory requirements and therefore give a clearer idea of the total barriers that distance and regulations create. Given Mongolia is closer to the selected markets than the US, and exporters face the same barriers in the destination markets, the observed differences are likely to originate from regulatory issues in Mongolia. When analyzing only trade in agricultural goods, trade including manufactures has more exaggerated effects. While these estimates indicate that Mongolia trades with some trade partners at a slight disadvantage in tariffs, tariff rates are not the main determinant of Mongolia's lack of export competitiveness. Trade logistics and trade facilitation issues therefore represent a clear priority to address as they disadvantage Mongolian exporters. High logistics costs effect Mongolian exporters twice negatively, as prices for imported intermediate goods and inputs required to produce final goods are inflated by high logistics costs.

72. **Unlocking the potential of new investments will require authorities to do more to ensure the business climate improves, where key impediments to growth are removed.** Apart from Mongolia's raw materials, the country possesses sizable livestock, while many other sectors present good potential for further development, such as food processing, telecoms, tourism, and renewable power. Importantly, greater stability and steadiness of economic policies and regulations and addressing corruption would be some of the key stepping stones towards improving the investment climate. Mongolia currently ranks 64th among 190 economies in WB's 2017 Doing Business report (www.doingbusiness.org), with Distance to Frontier showing consistent improvement from 58.73 percentage points in 2010 to the current 68.15. But there remain areas for improvement (Figure 11). Mongolia's business environment showed deterioration year-on-year, particularly in such areas as trading across borders (Mongolia ranks 103th; 102th in 2016), getting electricity (137th; 136th in 2016), enforcing contracts (85th; 83th in 2016) and resolving insolvency (91th; 87th in 2016).

73. **Beyond limitations in infrastructure, investors perceive Mongolia as a high-risk environment due to micro-level issues such as uneven access to regulatory information, licenses, or finance, and macro issues of frequently changing regulations)**. Access to land seems to complicate the investment into larger scale agriculture unless the foreign investor is willing to invest with a joint venture partner. According to the Governance of the World Economic Forum, regulatory quality remains low (even if contrasted against comparison countries) and has in some cases declined since the early 2010s. Figure 12 shows that the country does not compare favorably with respect to comparison countries in terms of judicial independence, diversion of public funds and undue influence.[22] Improvements in these areas would be critical for attracting high-quality investors that could bring competition and technological innovation to Mongolia.

74. **National Customs administration has started to implement many reforms in line with internationally accepted standards, but still a number of regulatory constraints affect the logistics sector, particularly in the trucking and train industries**. As far as trucking services are concerned, a lack of cross-border trade agreements restricts the flow of Mongolian goods through China and goods at times have to be twice trans-loaded at border posts. Differences in regulatory standards further prevent integrated logistics service providers from increasing the

[22] There numerous indicators of governance. Most of them coincide in this assessment of governance in general for Mongolia. For a compilation of indexes see World Bank https://govdata360.worldbank.org/

competition and quality of logistics services. In the rail sector, there are concerns that the regulation of the rail sector and applied tariff structure does not encourage private-sector investment in infrastructure or rolling stock. Discounts granted by the network owner (and principal operator) Ulaanbaatar Railways (UBTZ) to operators using their own wagons seem to be too low to attract significant investment in rolling stock. More complex still, infrastructure constraints generate barriers to the seamless movement of cargo across borders, such as those that prevented Mongolian rail cars on the new standard gauge line to deliver goods to Chinese ports, undermining the benefits from harmonizing rail gauges. This issue has been resolved by GoM through TT-China rail link. However, the needed funding for this link is still outstanding.

A distinctive capital of Mongolia: livestock herds

75. **Finally, it should also be noticed that for many Mongolians one of the main mechanisms of savings and assets accumulation is livestock herds which are enduring growing risks.** Poor animal nutrition, lower reproductive rates and the older age at slaughter negatively impact the meat output and meat quality. Inadequate nutritional reserves reduce resilience to environmental shocks and increase the severity of winter disasters. The increase in herd population has already put pasture lands and water resources under considerable stress, while hay and fodder production systems developed under command economy collapsed. Fodder availability of more than 40 Fodder Units (FU)/head in 1989 stood at just 11.3 FU/head in 2016. Nearly 65 percent of rangelands were degraded relative to the ecological potential (reference condition) and nearly 7 percent of the long-term monitoring sites have reported desertification. Herd composition with the sheep to goats' ratio of 3:1 before transition changed to nearly 1:1 now. Declining returns to herders led them to shift their preference for goats so the high value cashmere can pay for their basic needs. Further, the proportion of breeding ewes in the sheep population in Mongolia was about 45.2 percent compared to nearly 55.0 percent in Australia in 2016. Only 3.8 percent of herd is thorough-bred and improved breed and nucleus herds are not adequately maintained. It is important to underline, however, that the capacity of different herders to be productive is also seriously affected by the inequality in the size of herds and hence in the financial capabilities to grow their export capabilities (Table 4).

76. **Comparative advantage in livestock production and proximity to large export markets for livestock products with long term potential creates for Mongolia new opportunities for economic growth, job creation, and poverty reduction.** Comparing with countries like New Zealand with similar livestock endowments, meat export potential of Mongolia would be in the range of 650,000 metric tons per annum. Against this potential, it exported only 8,900 tons of red meat in 2016. Russia, China, Japan, Korea, Central Asian Republics, etc. offer long term export potential. It is estimated that China alone imported 1.9 million tons of meat in 2015 from various countries and has expressed to import about 150,000 tons of meat from Mongolia. Sanitary and phyto-sanitary (SPS) measures; cross border logistics; inspections and customs are among the chief constraints for export promotion. Even though 97% of meat is slaughtered by herders instead of in modern abattoirs, Mongolia can organize productive partnerships between farmers, herders, traders, processors and lead firms to achieve production on export scale with little reconfiguration to its supply chains and providing food safety assurance along the value chain. The recently promulgated Animal Breeding Law aiming at preserving gene pool and research into breed improvement with f arm-based trials are needed for 'resilience of pastoral livestock breeding that is adept to climate change, increase productivity and alter flock structure in line with grazing capacity' to enhance competitiveness of livestock sector in Mongolia.

77. **Of special importance are the regulatory measures needed to expand agricultural exports.** Animal disease coupled with poor food hygiene and sanitation have emerged as binding constraint for enhancing market access by herders. Outbreaks of foot and mouth disease has greatly impaired the ability of Mongolian producers to access markets and export products for over a decade. Government intensified vaccinations for livestock against contagious diseases during last two years. The livestock coverage jumped from 6.5 million heads in 2015 to nearly 26.8 million heads in 2016. But veterinary programs lack the human, physical and monetary resources to adequately address the control of infection disease or to support comprehensive herd health programs. Effective implementation of the new Animal Health Law should address these institutional challenges including redefining the role of private sector and strengthen the veterinary services and animal diseases surveillance and control system. Investments should also focus on proper transboundary animal diseases control plan that impede Mongolia's capacity to reach export markets, while public-private partnerships ("sanitary mandate") can enhance the surveillance system.

Box 2: Governance in Mongolia: *A "provisioning" pact?*

In resource-dependent states a pacting arrangements may arise, what the literature calls *provisioning pacts* in which access to centrally controlled rents, patronage and clientelism dominate. (…) In countries in which democratic and electoral systems exist, provisioning is driven by the fact that rents can (i) be exchanged for campaign contributions (ii) be targeted which implies that politicians can take credit for and be seen as credible, and (iii) be relative stable only if voters re-elect particular politicians (i.e. commitment).

***Provisioning pacts*, associated with resource-rich states, exhibit three political-economic tendencies:** the Dutch Disease (the appreciation of real exchange rates), volatility (boom-and-bust cycles), and erosion of governance (derived from the absence of checks and balances). But *provisioning pacts* as particular sorts of settlements also reveal considerable institutional and political variation. (…) Some parts of government, in short, function better than others; so-called pockets of effectiveness often co-exist with the worst of political capture, clientelism and corruption. A comparative World Bank study (Barma, et al. 2012), shows clearly how resource-rich states vary markedly in terms of 'credibility of inter-temporal commitment' and 'degrees of political inclusion'. Only in this way can one understand how Mongolia and Chile which both adopted similar forms of best practice with respect to the institutional forms of revenue allocation for their extractive sectors, exhibit very different outcomes. Similar 'institutional transplants' can produce different governance records and contrasting developmental results (World Bank 2017).

The Governance of Fiscal Policy in Mongolia

Poor public investment and procurement have stimulated several rafts of legislation. A National Development and Investment Committee (NDIC) created in 2009 (subsequently transformed into the Ministry of Economic Development (MED) in 2012 following the elections) and the Development Bank of Mongolia established in 2011, both modelled on Chinese institutions marked by powerful state-led development strategies. In July 2011 parliament passed a Fiscal Stability law, the Procurement Law and the Integrated Budget Law. Yet more shifts occurred in 2014 as the MED was dissolved and key ministries were brought under the Ministry of Industry and the Invest Mongolia Agency under the Prime Minister. Following the 2016 elections responsibility for public investment vetting moved to a newly established Department of Public Investments in the Ministry of Finance. While in legislative terms these reconfigurations and institutional changes reflected Mongolian multi-party democracy at work (although

usually 2 parties end up holding the power in coalition or alone, because of Mongolia's majoritarian electoral system), the patterns of change (often unstable and rapid) were driven by the electoral cycle, by swings in the economy and external pressures, and by inter and intra-party factional machinations. Co-operation was undercut by failed commitments because of the absence of consistent application of the law.

Fiscal management has weakened in recent years. Considerable flexibility was still allowed even after the passing of the Fiscal Stability Law and over the following two years the fiscal imbalance deepened. Furthermore, the creation of the DBM created opportunities to circumvent the Fiscal Stability Law opening up massive off-budget expenditures – over which the Ministry of Finance had no authority - compounded by politically motivated optimistic revenue estimates. Mongolia's performance indicators from PEFA analysis were at best average in 2015 while the CPIA quality of budget and financial management ratings have declined significantly since 2011.

Public investment in Mongolia suffers from two systemic failures. First, low allocative efficiency driven by a gross neglect of maintenance and capital repair which leads to the "build-neglect-rebuild" scenario, and undisciplined and capital budgeting not providing any incentive for ministries to prioritize. And second, low operational efficiency, notably the project cycle delays in project completion, and poor planning, and cost estimation especially in the construction sector. A World Bank study (Hasnain 2014) shows clearly how the processes of institutional capture emerge from a specific Mongolian ordering of power through its political settlement. In this case, it is the centrality and strategic role of parliament (and MPs) and party cleavages within the multi-party system. The combination of high parliamentary spending authority, large natural resource rents, a majoritarian electoral system with MPs representing specific geographical constituencies, and the need for constituency-specific spending for re-election purposes, creates a classic common pool problem that encourages over-spending by legislators. Procurement irregularities similarly can be explained by clientelism pressures as MPs favor construction contracts in exchange for political support. The pressures to enter into deals for private financing of mining-related infrastructure are high while the competitiveness and intensity of the electoral cycle (and the expense of campaigns) for MPs encourages short-term investment horizons and political expediency (i.e. a lack of incentives to maintain capital assets).

Poor management is associated with the structure of civil service governance which is not only weak but has been politicized – exhibiting all three processes of capture, exclusion and clientelism. The civil service framework adopted in1995 was amended in 2002, 2008, and most recently in 2017 (to enter into force in 2019) and while there have been some positive trends, the frequent reorganizations of key ministries and often been opportunities to dismiss existing staff and replace them with politically affiliated appointees. Sometimes this political capture of the civil service may be through the use of temporary appointments but a deeper penetration by political functionaries has been occurring among managerial staff in service delivery organizations as well as divisional and departmental heads across key national ministries. Based on Civil Service Council data, aggregate turnover reached about 10-12 per cent across staff categories annually, a significant increase from the late 2000s, when turnover was around 5 per cent annually. The recently approved Civil Service Law, which was forthcoming for a year, intends to limit the political capture of the civil service.

Policy Effectiveness cycle in Economic Policy

An analysis of the *policy effectiveness cycle* in economic policy underlines serious problems in management and execution of fiscal policy and public investment, mostly due to parliamentary influence upon budget and public-sector organization in general. This leads to short-termism in investments and weak public-sector institutions.

Functional Problems	Low allocative and operational efficiency in public investment. Excessive unit costs in projects due to built-in kickbacks. Substandard procurement and tendering processes. Small, multiple and fragmented public investments. "Build-neglect-rebuild" cycle. Massive off-budget expenditures. Weakly enforced PEFA standards. Soft budget constraints.	Low allocative a unit costs in proj tendering proces "Build-neglect-r enforced PEFA s
Power Asymmetries and Political Coalitions	Political capture of key civil service posts. Pronounced parliamentary authority. MPs demand constituency-specific spending in competitive elections. Lack of programmatic parties fragments the capital budget. Cross-party networks among political classes to capture large public contracts. Electoral competition incentivizes short-term investment and low capital asset maintenance	Political capture authority. MPs competitive elec Budget. Cross-pa contracts. Electo capital asset mai
Forces for Reform	Elites incentives to exercise collective restraints on mega-projects. Austerity and shrinking revenues will place pressure of rent-seeking politics. New constitutional reforms (Deliberative Polling Law 2017) offer avenues for public accountability. Increasing civil society engagement around corruption, diminished trust in the state, and public accountability. International pressure from donors	Elites incentives and shrinking re constitutional re public account corruption, dim International pre

Source: Excerpts from (Watts 2017)

III. ENDURING POPULATION WELLBEING

78. **Despite the recent crisis, Mongolia has been able to reduce poverty significantly but much remains to be done in terms of poverty eradication and expansion of social protection.** Increasing labor productivity has brought higher earnings so a continuation of stable economic growth with sustained job creation and labor productivity gains is key for achieving further poverty reduction. In addition, the social protection system needs to consider three main extensions to guarantee resilience among the vulnerable: (i) to extend coverage and improve sufficiency of social assistance programs, (ii) to introduce changes in targeting of social assistance so that it also serves as a buffer to changes in economic conditions and provides transfers to population groups based on their means and not only on population general characteristics and (iii) to make the social protection system in general fiscally sustainable.

79. **Mongolia has accumulated some genuine savings in access to basic health and education, but these need to be supplemented by higher quality of service in these areas; and additional attention to still-much neglected access to basic utilities and housing.** Investment in quality health, education and housing infrastructure needs to be ramped up. Attention to growing incidence of non-communicable diseases, better quality/inclusion in education, and infrastructure in sanitation, central heating and urban transport are all high-price tickets that require more capital allocation as well as good institutions to focus and manage these investments.

80. **Further advances in social protection, and in access to quality services in health, education and housing, require financial and institutional investments beyond the current clientelistic equilibrium.** The challenges of (i) fiscally sustainable pensions and social protection, (ii) more expensive health and education services because of non-communicable diseases and

modern skills formation and (iii) better housing which require better land, public utilities and financing policies, demand both institutional re-design and responsible financing. Resorting to political maneuvering to expand services without proper institutional and fiscal support will not solve the challenge of enduring population wellbeing, and risks repeated crises that may reverse the gains recently achieved.

Equity performance: advances in poverty reduction at risk

81. **In terms of long term wellbeing, Mongolia has experienced a remarkable improvement.** The Human Development Index (a composite indicator that combines measures of health, education and income per capita) had a 27 percent increase between 1990 and 2015 (one of the largest among comparison countries), and it is now in the high human development category. Life expectancy increased by over 9 years (from 60.3 to 69.8, for the same period), average years of schooling increased in 1.4 years (from 7.7 to 9.1) and national income per capita (in 2011 PPP terms) grew at 3.3 percent a year, for a cumulative increase of 124 percent (also one of the fastest among comparison countries). Other indicators of wellbeing have also shown important improvements. Infant mortality fell from 76.9 to 19.0 and pre-school attendance grew from 37 to 86 between 1990 and 2012. Maternal mortality rates declined from 186 to 44, adolescent pregnancy rates from 33.9 to 15.7, and share of seats in parliament held by women increased from 7.9 to 14.5 percent between 1995 and 2015. Enrollment ratios in tertiary education went from 18 to 64 percent of the tertiary school-age population between 1990 and 2014. Percentage of the population with mobile phone subscription went from 6.4 to 105.0 percent between 2000 and 2015.[23]

82. **In terms of monetary poverty, for the period 2010-2016, Mongolia has experienced a rapid decline -although partly reversed- in the incidence of poverty.** As defined by the official poverty estimates, the poverty rate in Mongolia declined from 38.7 percent in 2010 to 21.6 percent in 2014, to rise again to 29.6 percent in 2016.[24] The trend in poverty reduction observed during the first half of the decade, had also been observed since the late 90s, although strict comparison is not possible due to methodological issues. According to estimates by the World Bank, poverty rates declined from 43.1 percent to 36.1 percent between 1998 and 2002. Another study, using a different methodology, finds a decline in poverty rates from 65.1 percent to 35.2 percent between 2002 and 2008.[25]

83. **Vulnerability to poverty is high, which explains the rapid changes in poverty rate observed in recent years**. As of 2016, a 12.6 percent of the population lives with consumption

[23] Data from UNDP Human Development Reports (http://hdr.undp.org/en/data# visited on April 15, 2018).

[24] The most recent official poverty report is (Mongolia, National Statistics Office of 2017). Official poverty rates are produced every second year by the National Statistics Office of Mongolia. It uses the cost of basic needs method and an official poverty line of 146,145 MNT per person/month in year 2016 (approximately 2.28 US$/day at official exchange rate). In contrast, under the international poverty line (US1,90) using the 2011 Purchasing Power Parity (PPP) exchange rates, poverty headcount rate for 2014 is 0.2 percent, a number exceedingly below official estimates and very much lower than poverty rates in similar countries. This number is not used by World Bank staff because of doubts about the quality of the PPP rates for Mongolia. The main reason to suspect the quality of the PPP is that its implicit price movement -as well as the construction of its basket of goods and services- do not seem compatible with the Mongolia CPI: price changes move in opposite direction, item baskets are very different and the item weights are also different. This is a topic that requires further research (see Annex 3: Data and research gaps for Mongolia).

[25] Previous poverty numbers are not comparable because of methodological changes in survey questionnaires, welfare aggregate and poverty lines. See (World Bank 2006) and (World Bank 2008).

levels only 20% above the poverty line. Similarly, a 12.5 percent of the population lives with consumption levels below the poverty line. This implies that small changes in economic growth, and derived household consumption, can lead to rapid changes in poverty levels. Similarly, the poverty gap is 7.7, which means that the average shortfall in consumption of each person is 7.7 percent of the poverty line. If considering only the poor, the consumption deficit is 26 percent of the line.[26]

84. **Rural poverty rates have been regularly higher than urban rates, but the gap has narrowed over the years.** In 2010, the rural and poverty rates were 49.0 and 33.1 percent, respectively, but in 2016 they declined to 34.9 and 27.1, which implies a decline in the rural-urban poverty gap from nearly 16 percentage points to almost 8 percentage points for the period. This narrowing of the poverty gap by areas, together with a growing urban population, imply that, despite being more prevalent in rural areas, poverty has become a mostly urban problem: as of 2016, nearly two thirds of the poor in Mongolia live in urban areas, almost 40% of them in Ulaanbaatar (see Figure 13, top left panel).

85. **Poverty rates show wide dispersion across aimags and regions.** The percentage of population in poverty ranges from 15.4 percent in Umnugovi to 52.4 percent in Govisumber. However, due to relative population size of the provinces, most of the poor concentrate in the Ulaanbaatar aimag (38.7 percent of all the poor), with each remaining aimag representing between 1 and 5 percent of the total poor. If taking a regional perspective, the distribution of the poor is the following: western 15.6 percent, Khangi 21.2 percent, central (excluding UB) 14.5 percent and eastern 10.1 percent.

86. **Some personal and household characteristics, are associated to higher probability of poverty.** Living in a household where the head has less than higher-secondary schooling, being unemployed, or being employed in agriculture, particularly as a herder, elicit the highest poverty rates. Interestingly, poverty rates do not vary significantly by gender of the household head. Similarly, families living in gers have the highest poverty rate (44.5 percent) and represent nearly 60 percent of all the poor (see profiles in Table 5).

87. **Both in downswings and upswings, economic growth has been broadly shared, and economic inequality has remained stable.** Shared prosperity, that is the growth of welfare (as measured by consumption expenditures per capita) has been very similar between those at the bottom 40 percent of the distribution and the rest of the population. Between 2010 and 2016, the poorer 40% experienced a 2.0 percent annual growth in real household consumption expenditures, higher than the 1.4 percent of the those at the top 60 percent of the distribution. This pattern is mostly due to the favorable consumption growth of the bottom 40 in the period 2012-2014, whereas in the other two periods the bottom 40 did slightly worse. These shared prosperity patterns have also been accompanied by a remarkably stable inequality in consumption. The Gini moved from 0.331 in 2010 to 0.323 in 2016 (see Figure 13, top right panel).[27] Poverty, shared prosperity

[26] The poverty gap measures the average consumption deficit (i.e. the difference between family per capita consumption and the poverty line) assuming the non-poor have a zero deficit. The average gap, of course, is bigger if only considering the poor population. Data from (Mongolia, National Statistics Office of 2017), pages 10 and 11.

[27] Household consumption is the welfare aggregate used in poverty and inequality estimates for Mongolia, Estimates of income inequality are much higher and more volatile, with Gini coefficients around 0.45 for year 2014 as per world Bank staff estimates. Further research is needed in this area (see Annex 3: Data and research gaps for Mongolia).

an inequality in Mongolia are ranked in the top half, for the former, and top quarter, for the two latter, in global and peer-country comparisons (see Figure A1 5).

88. **Higher wages have been the main driver of poverty reduction for the period under study.** An analysis of changes in household income by sources of income, indicates that for the period 2010-2016, it is wages the largest component of the increase in household incomes (3.3 percentage points out of a total 3.9 percent increase), followed by transfers (1.2 percentage points) and then other sources of income (which actually accounted for a fall of 0.06 percentage points for the period).[28] An analysis of components of household income growth for each two-year period shows that wages had positive growth between 2010 and 2014, agricultural income only in the 2012-2014. Pensions and transfers contributed significantly to household incomes in the 2010-2012 period, but had no important contribution in the period 2012-2014. More important, the pension and transfer component did not compensate the fall in all sources of income experienced in the period 2014-2016, which indicates the limited effect of social policy transfers as buffer to economic shocks for Mongolian families, partly leading to the important increase in poverty for this two-year period (see Figure 13, bottom left panel). The latter does not involve that these transfers have no impact on poverty: without the transfers from social protection, poverty rates would have been nearly 15 percentage points higher.[29] What household income data indicates is that transfers do not fluctuate as a mechanism for compensating of an economic shock, and therefore have limited effect upon transitory poverty (i.e., crisis-induced declines in wellbeing) but are mostly directed to address chronic poverty.

89. **There is an important regional divide in sources of household incomes**. Wages have been the main component of household income growth in the capital city, as well as in Aimag and Soum centers, whereas agricultural income represents the largest component of household income growth in the country side (see Figure 13, bottom left panel). This indicates that sources of poverty reduction are area specific: I rural areas it is growth of agricultural incomes, and in urban areas it is employment creation in wage paying jobs. In contrast, pensions and transfers have had a similar contribution to household real income growth in all regions (approximately a 1 percentage point per year for the period 2010-2016). This is the consequence of social programs in Mongolia being fundamentally categorical and not mean tested, which implies that they are not particularly targeted towards the poorer sections of the population.

90. **The expansion years have brought incomes growth due to increased labor productivity and important changes in employment creation patterns.** Value added per capita has grown rapidly over the long run: real annual growth rate of 7.0 percent between 2016 and 2010, and 4.1 percent between 2010 and 2000. While this growth has been driven by the mining sector, the rest of the economy has also seen productivity gains (annual average productivity growth of 9 percent for the mining sector and 5.4 for the rest of the economy, for the period 2016-2010). These gains have translated into higher real earnings for workers in most economic activities, ranging from less than 7 percent annual growth in finance, education, health and public administration to more than 15 percent in utilities, agriculture and mining (Figure 14, left panel).

[28] Agricultural incomes include income (i) income from livestock products, income from crop products and foodstuff consumed from own private farm or enterprise. Other sources of income include: (i) income from non-agricultural products and services, (ii) other income and (iii) received from others free of charge.

[29] Recent estimates from Mongolia NSO show that the 2016, poverty rate of 29.6 percent would rise to 47.1 percent without the transfers from social protection. A similar effect is estimated for 2014 (21.6 and 36.7 percent, respectively).

Employment creation has been strong, and participation rates have remained at above 60 percent for the past decade and a half, with a strong structural shift from agriculture to services, moving from 49 percent to 30 percent, and from 35 percent to 51 percent of total employment, respectively, between 2000 and 2016, (Figure 14, right panel). It is the generalized increase in real earnings, particularly in the agriculture and construction sector, together with a movement of workers from low-earnings sectors (i.e., agriculture) to other sectors what explains the rapid reduction in poverty between 2010 and 2016.[30]

91. **However, poor jobs and labor market outcomes including high rates of informality, unemployment, and/or inactivity are still a major concern in Mongolia**. Particularly since 2014, economic difficulties have brought a decline in the labor force participation rate and a rapid rise in the unemployment rate. The labor force participation rate decreased from 63.7 % of the adult population in the third quarter of 2014 to 61.1 % in the third quarter of 2017. The unemployment rate rose from 6.4 % of the labor force in the third quarter of 2014 to 11.6 percent in the first quarter of 2016. In the third quarter of 2017, it still stood at 9.1 %. More structurally, even during the economic boom between 2010 and 2014, the unemployment rate stayed high and rarely dropped below 7 %. Moreover, informal employment and other relatively unproductive forms of employment continue to be widespread.

92. **Rates of informality, unemployment, and/or inactivity are particularly elevated for several specific groups, such as seasonal workers, rural-to-urban migrants, and particularly youth.** Informality is mainly due to a large share of herders and construction workers who because of seasonality of their activities have limited coverage of social security.[31] Regarding the youth, Mongolia with Indonesia and the Philippines, is one of the three countries in the East Asia and Pacific Region where the problem of high youth unemployment is most acute. A comparatively large share of young people is not in employment, education, or training. In 2013, this was the case for 21.1 % of young people ages 15 to 29. Rates of long-term unemployment for youth are also elevated and there appears to be no clear path of youth transitioning from school to productive and secure work.

93. **The situation of women in the labor market shows a mixed record**. Over the past decade female labor force participation has declined slightly from nearly 60% in 2007, to around 55% in 2016, with a gender gap increasing from around 10 to12 percentage points over the period. The gender gap in unemployment rates, in contrast, has increased in favor of women who since 2013 have lower unemployment rates than men (Figure 15). Mongolia ranks unfavorably when compared to some peer countries, (e.g., Kazakhstan, Peru and Zambia have female participation rates above 65%), but favorably when compared to others (e.g., it's among the top quartile performers in the World in terms of female unemployment rates). In any case, neither female participation rates nor unemployment rates are ranked in the bottom half of the distribution in either Global or peer-country comparisons (see Figure A1 5). In addition, the female/male wage gap is 12%, which is not among the highest among comparison countries (e.g., 46.1% in Azerbaijan, 24.5% in Kyrgyz Republic, 22.8 in Peru, 20.6% in Kazakhstan, and 10.1% in

[30] Notice, as well, how the fall in real wages since 2014 in most sectors, except mining, coincides with the upturn in official poverty rates between 2014 and 2016.

[31] There are few estimates of informal employment in Mongolia. The study by (Gasmann, Francois and Fardo Trinidade 2015) cite a study by Shatz et al. (2015) indicating a 57.4 percent of informal employment if animal husbandry is included in the count. More study on labor market conditions, and characteristics of informality in Mongolia, is needed (see Annex 3: Data and research gaps for Mongolia).

Colombia).[32] Despite of this, qualitative studies report that women feel trapped in precarious working conditions, lacking job security and even absence of secure wage payments and access to social insurance.[33]

94. **Women's entrepreneurship is affected by the constrains that SMEs face in general - lack of collateral- but also because of gender specific factors.** There is still a prevalence of gender roles that demand from women a larger allocation of time to home production activities such as taking care of children and elderly. This is the main factor explaining low participation rates among women (Figure 16, top panel). There is also some evidence of social transfers programs affecting female labor force participation.[34] Similarly, although female-headed SMEs do not show significantly more problems in loan applications than other SMEs, they certainly demand more agility from financial institutions (Figure 16, bottom panel). [35]

95. **The other driving force in poverty reduction in Mongolia is a social welfare system with well-established service delivery structures in place**. Our benchmarking exercise shows that Mongolia is ranked in the top quartile both among comparison countries and worldwide in terms of social protection coverage as a percentage of total population (see Figure A1 5). All programs, except the Food Stamp Program (FSP), are categorically targeted to the different population groups (e.g., disabled, elderly and single mothers, etc.) that are traditionally seen as the most vulnerable. The fact that most programs are categorical, rather than means-tested or shocks-related explains that the programs helped reduce poverty in 2010-2014, when the programs expanded in coverage and size, but failed to prevent the poverty impact of worsening economic in the period 2014-2016.

96. **The need for targeting the social welfare specifically to the poor have been better recognized after the 2008/2009 economic crisis.** Since then the government has taken some steps and built the enabling infrastructure for targeting of the social welfare benefits. An online Welfare Administration Information System has been newly developed with a comprehensive set of modules for welfare benefit registration, payment, accounting and reporting. A poverty targeting methodology -Proxy-Means Test (PMT)- was introduced and the PMT based Integrated Household Database has been established for targeting of the welfare benefits. As per government decision in December 2014 the database serves as an inter-sectoral database to be used not only for social welfare but also for some other government support and subsidies provided to the poor such as free health insurance and free legal counselling services for the poor etc. However, the actual use of the database for targeting of social welfare benefit remains limited to the Food Stamp Program only, which could serve to address problems of transitory program but is currently a very small program in terms of coverage and benefits.

97. **Cash transfer programs are not targeted at the poor although slightly do favor the bottom 4 deciles.** A 2015 World Bank study shows that some programs were more progressive

[32] Data from ILO's Key Indicator of Labor Markets, 9th edition, downloaded on 17 MAY 2018 from ILOSTAT.
[33] (Schmillen and Sandig 2017)
[34] The study by (Gasmann, Francois and Fardo Trinidade 2015) documents an econometric analysis of labor force participation and finds that: "…individuals living in social welfare recipient households are slightly less likely to be active labor market participants". It also documents that the programs have no (or even positive) effects on men, but a negative impact on females participation: "…The econometric analysis of the effect of social welfare allowances and the allowance for mothers and children confirms the findings based on the HSES 2012."
[35] Recent studies underline the importance of enhancing female labor participation in Mongolia and the potential of child care facilities to this end. See (International Finance Corporation 2015) and (Gasmann, Francois and Fardo Trinidade 2015).

than others. In total, the bottom 40 percent received 56 percent of the total budget on social protection benefits, while the top 40 percent received 28 percent of the total social protection. Social welfare transfers are mostly received by households in the bottom quintile of the distribution, while Child Money Program (CMP) and other categorical programs are more equally distributed across households because of their universal nature.[36] An ongoing World Bank study on the progressivity of the tax-and-transfer system finds that most of the monetary transfers through social protection are progressive in terms of the share of income they represent for beneficiaries (progressivity in terms of relative incidence), while pensions and other social welfare programs are -in addition- progressive in terms of the share of budget that goes to poorer members of the population (progressivity in terms of absolute incidence). However, large budgetary programs like the Child Money Program as well as in-kind benefits in basic education and public health, are neutral in terms of absolute incidence (i.e., almost all income groups get the same proportion of the budget).[37] This confirms the categorical/universalist approach to social protection in most policy programs in Mongolia. In contrast, indirect transfers in terms of regulated prices for electricity and central heating, as well as interest rates for housing mortgages, tend to favor those at the top of the distribution (Figure 17).

98. **The case of pensions deserves special attention because of its fiscal implications.** Fiscal subsidies to the pension system in 2017 represent 2.2 percent of GDP and, without reform, it is estimated that these subsidies would account for 6 percent of GDP in 2030 and 11 percent in 2050. These estimates could materially increase because of legislative changes that have been approved in 2017 and early 2018. The causes of these unsustainable costs include a contribution rate which is far too low to support the accrual rates, aging of the population, relatively low retirement ages, particularly for women, and benefit liberalizations and service buyback arrangements legislated which materially increase the benefits received in retirement relative to often nominal costs borne by workers. This highly unsustainable path calls for significant parametric reforms.[38]

Challenges to equity: better investments in health, education and housing as the foundations of enduring wellbeing.

99. **The vulnerability of advances in population's wellbeing is one of the main challenges of the Mongolian economy.** The previous section has shown that Mongolia's poverty reduction was mostly associated to growing labor earnings, be it through wages in urban areas or farm incomes in rural areas. Section II already explained how the growth of the economy in past years propelled labor demand in a manner that increased labor productivity, and how limitations to stable growth may hinder further labor demand and productivity gains. This section explores obstacles to continued wellbeing because of limits to labor supply due to inadequate investment in human capital and housing facilities.

100. **Resilient population wellbeing necessitates sound investments in health, education and housing.** To reduce vulnerability -as suggested by our Diversified Development analytical framework- the economy needs to accumulate genuine savings in human capital so that people's

[36] See (Onishi and Chuluun 2015)
[37] See (Freije and Yang 2018). This study estimates that taxes and transfers make income inequality (as measured by Gini index) to fall from 0.418 to 0.383 and income poverty (as measured by poverty rate) from 47.3 to 42.8 percent, for data referring to year 2016.
[38] See chapter 13 of (World Bank 2017) and (World Bank 2011)

labor market potential is not affected by weak health or lack of skills. Moreover, the population also need proper housing so that accumulation of human capital takes place and living conditions (in terms of access to utilities and connectivity) allow for the realization of economic opportunities. In the case of Mongolia, given its middle-income status, the problems of human capital accumulation and modern urbanization demand more sophisticated solutions. Here is where capable institutions are needed to manage the complex problems of dealing with -for instance- non-communicable diseases, quality of post-secondary education, and urban public utilities. What follows discusses the limitations the Mongolian economy faces in these areas.

Health: a fragmented health system faces growing non-communicable diseases

101. **There has been significant progress in Maternal and Child Health (MCH) in the past decades but regional inequalities are still a problem**. Mongolia has made much progress in reducing the maternal mortality rate from 186 in 1990 to 44 per 100,000 live births in 2015. The under-5 mortality rate is 17.9 deaths per 1,000 live births in 2016, compared to 108.5 in 1990.[39] Despite the successes, several challenges remain, particularly the wide gap that still exists between urban and rural areas.[40] Almost all births take place in a health facility[41]. As of 2014, 90 percent of women between the ages of 15-49 years who had a live birth in the last two years had at least four antenatal care visits during pregnancy, but the rate is 84 percent in rural areas vs 92 percent in UB. Similarly, 94 percent received a post-natal care visit within a week of birth by a doctor or similarly qualified health, although only 80 percent in rural areas vs. 98 percent in UB.

102. **Early childhood development outcomes in Mongolia exhibit large regional and socioeconomic inequalities.** Between 2005 and 2016, infant and under-five mortality rates declined from 33.4 to 15.4 and 49 to 23.5 per 1,000 respectively. But these rates are 3-4 times as high in rural areas (i.e. outside soum centers) than in UB, and 2-3 times higher among children from the poorest quintile of households than those in the richest. Separately, stunting and food insecurity continue to compromise early childhood development.

103. **Still, life expectancy at birth is lower than in any neighborhood country, at 69.1 years in 2015**. This indicator revealed an important gender gap, with 65.1 years among men and 73.3 years among women. Mongolia Sustainable Development Vision 2030 proposes to build an effective, high quality and accessible health care system to increase life expectancy by eight years to reach 78 years by 2030. At 4.7 percent of GDP, total health expenditures as a share of GDP is relatively low compared to other countries in the region. [42] However, general government health expenditure accounted for 55.4 percent of total health expenditure, which is comparable to the neighborhood countries.

[39] World Development Indicator, https://data.worldbank.org

[40] WHO: http://www.wpro.who.int/mongolia/topics/maternal_health/en ; and UNICEF: http://www.wpro.who.int/mongolia/topics/maternal_health/en/

[41] National Statistical Office (NSO). 2015. Mongolia: Social Indicator Sample Survey – 2013. Multiple Indicator Cluster Survey. Final Report. Ulaanbaatar.

[42] World Health Organization Global Health Expenditure database (2014). No more recent data are publicly available. For total health expenditure as a share of GDP, the comparison countries are Kazakhstan 4.4%, China 5.5%, Uzbekistan 5.8%, Kyrgyzstan 6.5%, Tajikistan 6.9%, Russia 7.1%. For general government health expenditure as a share of total health expenditure, the comparison countries are Tajikistan 28.8%, Russia 52.2%, Uzbekistan 53.3%, Kazakhstan 54.3%, China 55.8%, Kyrgyzstan 56.1%.

104. **Non-communicable diseases (NCDs) were responsible for 78 percent of all deaths in 2015**. The Global Burden of Disease Study (2016) shows that seven out of ten leading causes of death are NCDs, i.e. ischemic heart disease (No.1), cerebrovascular disease (No.2), liver cancer (No.3), stomach cancer (No.4), cirrhosis hepatitis B (No.8), lung cancer (No.9), and alcohol use disorders (No.10). The top five risk factors driving the most death and disability are dietary risks, high blood pressure, alcohol and drug use, tobacco, and high body-mass index. The disconnect between existing system design/inputs and needs on the ground is evident in the system's non-responsiveness to NCDs. This is due to incentives not designed to support and reward improvements in high-quality primary care (more on this in section on health institutions below).

105. **Infectious diseases overall have decreased over the years.** However, they still account for a high proportion of disability-adjusted life years and are of significant socioeconomic importance due to their potential for causing outbreaks and health emergencies, particularly in terms of viral hepatitis. Mongolia is a leading country in the world for hepatitis induced liver cancer deaths.[43] In fact, when comparing to peers or the World, Mongolia ranks with the worse 50 percent of the distribution in terms of mortality caused by non-communicable diseases, whereas it ranks with the best 25 percent performers in terms of infant mortality rate or mortality incidence due to communicable diseases (see Figure A1 5).

106. **There is some evidence of a problem of domestic violence.** A study conducted in two districts of UB in 2004, found that 37.7 percent of the surveyed reported having suffered some type of domestic violence (physical, emotional, sexual, financial).[44] This percentage is in the upper end of the range of percentages of gender violence collected in the World Bank's World Development Indicators.[45] The study also finds that incidence of domestic violence is associated to low incomes and living with a partner who is unemployed or uses alcohol. More recent studies are necessary, but if the same correlates continue the recent economic crisis may have also lead to an increase in domestic violence.[46]

107. **Mongolia has set high goals for its health system.** Mongolia Sustainable Development Vision 2030 proposes to build an effective, high quality and accessible health care system by 2030 with four objectives: 1) create national disease preventable system, increase the access to diagnosis services and increase life expectancy of the population; 2) reduce factors affecting preventable maternal and child mortality by improving the quality and accessibility of reproductive health care services, and decrease maternal and child mortality and malnutrition; 3) reduce the main non-communicable diseases, reduce health risk factors, and preventable deaths through an active and inclusive partnership of individuals, families, communities and organizations; and 4) decrease the spread of communicable diseases through prevention, early detection of communicable diseases, and preparedness to treat them, through improving the capacity of health services for fast response actions, and ensuring access to extremely necessary vaccines for everyone.

[43] WHO Mongolia press release (2016). Tackling infectious diseases is responsibility of the whole of Government and whole of society, http://www.wpro.who.int/mongolia/mediacentre/releases/20161025-tackling-infectious-diseases/en .

[44] See (Oyunbileg, et al. 2009).

[45] This range goes from 2 percent in countries like Italy and Spain, to 50.7 percent in Bangladesh. If focusing on peer comparison countries for which there is data in WDI the range goes from 12 percent in Peru to 37 percent in Colombia.

[46] There is evidence of this in frequent news about domestic violence cases, alarming reports from police and other research organizations, and growing public attention to this issue with recent nationwide protests. Further research is needed in this area (see Annex 3: Data and research gaps for Mongolia).

108. **Maternal and Child health has been and continues to be one of the highest priority of the Government of Mongolia**. The National Development Strategy, the National Health Sector Strategic Master Plan 2006-2015, the State Policy on Health 2017-2026, the Mongolia Sustainable Development Vision 2030, the Maternal Mortality Reduction strategy 2010-2020, the National Reproductive Health Program 2012-2016, the Maternal and Newborn Health Strategy 2011–2015, and the Child Survival Strategy 2011–2015 all aim to achieving the targets set for Millennium Development Goals. Some of the achievements on the maternal and child health front are due to high coverage of antenatal care, delivery by skilled birth attendants and provision for referral care through establishment of maternal waiting homes at rural and remote soum health facilities.

109. **A review of policy documents introduced by the GoM from 2000 to 2013, indicates GoM to have successfully generated political commitment, built an appropriate national multi-sectoral framework for the prevention of NCDs**, and integrated the prevention of NCDs into national health policies and undertaken significant endeavors to strengthen the health system at the national policy level. In addition, Mongolia's public spending patterns on NCDs are similar to NCD spending observed in countries with much higher per capita incomes. Nevertheless, it is evident that the burden of NCDs has not been well addressed. There are a few reasons: 1) it is unclear that whether high quality and effective NCD-related health services are being offered and appropriate preventive activity is being undertaken; 2) public spending for NCDs is low relative to the NCD disease burden in Mongolia; and 3) public-sector NCD spending is dominated by inpatient care and hospital-based specialist outpatient services, which suggests inefficiency in resource use.[47] The GoM has prioritized the hepatitis prevention and control putting in place the policy and strategic framework through the Health Sector Strategic Master Plan 2006–2015, the National Strategy on Viral Hepatitis Control 2010–2015,[48] and the National Sub-program on Viral Hepatitis Prevention and Reducing Liver disease-related Morbidity and Mortality 2016-2025. This Sub-program aims to prevent viral hepatitis, conduct early detection of hepatitis infection and reduce transmission and mortality due to liver diseases including chronic hepatitis, cirrhosis and primary liver cancer.[49]

110. **Quality of care is considered one of the health sector's main directions in the Health Sector Strategic Master Plan for 2006-2015.** The program on strengthening hospital quality management system 2008-2013 aimed to strengthen quality management system at all levels of the sector, create a supportive legal environment, develop and enforce service standards, clinical guidelines and pathways, and performance and quality indicators, and provide stakeholders coordination in continuous quality improvement. In addition, the strategy on strengthening of health facility infection control system was issued in 2010 to provide client safety and control hospital infections. Over the last few years, most hospital and clinical standards have been updated, and manuals and guidelines on specific diseases and conditions have been published.

111. **These plans and goals, however, are hindered by severe obstacles such as fragmented financing.** There are three main sources of revenue for health: state budget, social health insurance (SHI) contributions, and out-of-pocket payments. The state budget and SHI have separate pools of

[47] Dugee O, Munaa E, Sakhiya A, Mahal A. Mongolia's Public Spending On Noncommunicable Diseases Is Similar To The Spending Of Higher-Income Countries. Health Affairs. 2017 May 1;36(5):918-25.

[48] Viral hepatitis in Mongolia: situation and response. http://iris.wpro.who.int/bitstream/handle/10665.1/13069/9789290617396_eng.pdf

[49] WHO press release. Country Programme on Viral Hepatitis Prevention and Control. http://www.wpro.who.int/mongolia/mediacentre/releases/20160318_viral_hep_prevention_control/en

funds, resulting in separate benefit packages with persistent gaps in the scope of coverage. The 2015 health insurance law mandates gradual channeling of government budget resources to social health insurance, which is still in progress. The out-of-pocket payments (OOP) have been persistently high in Mongolia in the past decade, around 40 to 50 percent of total health expenditure. The spending on medicine and medical supplies, as well as informal payments, constitutes a large share of OOP.

112. Currently, Mongolia is implementing a mixed payment system with a global and provider-level cap on all revenues. It consists of four payment methods which complement each other and offset some potential negative consequences often associated with some payment methods. Nevertheless, the current provider payment system are only moderately supporting priority health system objectives. One of the main reasons is that it lacks efficiency and quality incentives. Strategic purchasing of health services by the General Authority of Social Insurance (GASI) remains restricted. Further a key constraint is the fragmentation of the payment system between the state budget and social health insurance fund.

113. ***Another obstacle is that*** **Mongolia's health service delivery system remains hospital-centric.** Even though Mongolia has significantly reduced the number of hospital beds over the last decade, the number of hospital beds was still around 7.2 beds per 1000 population in 2015, which is much higher than that of other countries in the region (China, Malaysia, Philippines, Viet Nam). Moreover, the system is fragmented, exhibiting little vertical integration across provider tiers nor horizontal integration across type of care. The providers at various levels have no incentive to manage population health in a coordinated way. Linkages between hospitals and primary health care providers, including structured referral systems, patient discharge and handover mechanisms, and patient outreach, are generally not in place. Consequently, the current delivery system is unable to address the growing burden of NCDs. As NCDs expand, Mongolia will need to address both their underlying causes as well as increase early detection and chronic disease management. For this, it must prioritize the reorganization of service delivery system around high-quality primary care, and shift hospitals from standalone facilities at the center of health systems to facilities functioning as part of networks that include primary care providers. Otherwise, these current silent epidemics will, over time will result in adverse health outcomes and higher costs of health care.

114. **Finally, most surveys and reviews revealed that the quality of care is a major constraint in the Mongolian health sector, particularly the quality of primary care in rural area**. A key constraint has been that primary health care facilities in rural areas have difficulties in recruiting and retaining competent health professionals, critical for the health system to deliver high-quality primary care. The service quality differentials have caused patients to bypass primary care services in favor of higher quality secondary or tertiary services. On the other hand, there is no standardized performance monitoring system to collect information on quality of care and facilitate quality improvement. Mostly importantly, there are little incentives for health providers to improve quality of care. One consequence is that thousands of middle-upper class Mongolians go overseas (mainly to Korea and China) for medical care.

Education: regional, gender and socioeconomic gaps hinder access to quality education

115. **The reach of primary education is nearly universal; thereafter, socioeconomic gaps in coverage emerge and are larger at higher levels of the system.** 98.1 percent of children of

primary school age enrolled in school[50]. At the lower- and upper-secondary levels, with overall enrollment rates of 93 and 85 percent respectively, children from the poorest households are at highest risk of not being in school. Secondary-school age children living in soums were at much higher risk of not being enrolled in school than children in urban areas. And boys lagged behind girls. Among children of secondary school age, the share of boys out of school was almost three times that of girls. 52 percent of Mongolian young adults between the ages of 18 and 24 years were enrolled in a college or university, and the gender gap is compounded with 61 percent of women enrolled compared to 44 percent of men. Inequality is particularly high: Only 10 percent of individuals in this age group from households in the poorest quintile were enrolled, compared to an astounding 88 percent of those from the richest quintile.

116. **Further, Mongolia trails behind its economic peers in emergent literacy and numeracy.** Only 9 percent of Mongolian children aged 3-5 years could perform simple literacy and numeracy tasks, compared for example to between 30 and 69 percent in Thailand, Uruguay, Belarus, Ukraine, Macedonia, Argentina, Serbia, and Moldova. Within Mongolia, gaps in abilities among young children are also large, with children in rural areas or from households with low socioeconomic status or of ethnic minority status lagging significantly behind in cognitive, language, and socioemotional skills[51]. Coverage of programs for early stimulation expanded significantly in recent years, with formal preschool services now covering about 70-80 percent of children aged 3-5 years. However, enrollment rates in rural areas lag, standing at a mere 46 percent, and among Kazakh households is a full 24 percentage points lower than among those in the majority Khalkh ethnicity.

117. **Uneven quality of basic education services compounds the problem of gaps in access, and undermines production of foundational cognitive skills of literacy and numeracy.** First, and most critically, access to quality early childhood education (ECE) services is low, especially among the most disadvantaged, leading to large differences in school readiness.[52] These gaps in turn interact with low and uneven quality of basic education to undermine formation of foundational cognitive skills. Early grade Mongolian language reading and numeracy assessments conducted in 2017 confirmed that grade-1 and 2 children from herder's families lagged significantly behind others, as did children from ethnic minority households and those from poor households[53].

118. **Benchmarking system performance, as a mechanism for assessing quality of education, is not possible as Mongolia does not participate in any large-scale international assessments.** Mongolia does not participate in international assessments like PISA or TMISS, which makes it impossible to benchmark the system's performance on learning outcomes or improvements in outcomes over time. Nationally, while students take standardized assessments at the end of grades 5, 9 and 12, the micro data for the assessments are not published.

119. **The education system offers little to support formation of socioemotional skills needed for success in school and in the labor market.** A strong foundation of socioemotional skills – i.e. the range of malleable skills that enable individuals to navigate interpersonal and social

[50] (Mongolia, National Statistics Office of 2016).
[51] World Bank. 2017. Pre-primary education in Mongolia: Access, quality of service delivery, & child development outcomes - March 2017 (English). Washington, D.C.: World Bank Group.
[52] (World Bank 2017)
[53] (World Bank forthcoming)

situations effectively – is associated with success both in school and in the labor market. Noncognitive or personality skills rival IQ in predicting educational attainment and labor market success. In Mongolia, these skills are in short supply. Most employers bemoan lack of creativity and skills related to innovation, time management, communication, leadership, interpersonal relationships, adaptability, problem-solving, critical thinking, and teamwork[54]. Employers also report deficiencies in technical, language, and information and communication technology (ICT) skills. The education system offers little opportunity to nurture these skills. Despite emphasis on a "whole-child approach", national curricula and classroom practices remain focused on academic learning only.

120. **The system also has no effective mechanism to facilitate the school-to-work transition, and a large share of graduates are not adequately equipped with skills in high demand.** Nationwide, one-fifth of youth report that the biggest obstacle to securing a job is education-related[55]. Mongolia's senior secondary and tertiary education programs do a poor job of preparing students for work, as evidenced by the low labor force participation rate among youths nationally and a low employment rate of only about 50 percent among graduates of technical and vocational education and training (TVET) and tertiary education. This is in large part due to weak linkages of the system with industries and employers.[56] Higher education and TVET policies remain divorced from labor market needs, leading to poor quality of technical or job-specific skills, low relevance, and mismatches.[57]

121. **Interestingly, the gender gap in educational attainment, at all levels, favors women in Mongolia.** At 79 and 59 percent for women and men, respectively, tertiary education gross enrollment rates in Mongolia are the highest among comparison countries, and among the highest in the World. Similarly, gross enrollment rates for secondary education are 82 and 80, respectively, also very high in international perspective. Pre-primary education gross enrollment rates are the same for boys and girls (86 percent) only surpassed by Peru in the peers' comparison group and among the highest in the World. None of these rates are ranked below code 1 when comparing to peers, or below 2 when comparing against the World in our benchmarking exercise (see Figure A1 5).

122. **Mongolia's Sustainable Development Vision 2030 also puts education at center stage**. It includes specific goals formulated around provision of inclusive and equitable quality education and lifelong learning opportunities for all. Moreover, the Education Quality Reform Project launched in late 2015, the Ministry of. Education, Culture, Science and Sports (MECSS) took a first step towards concretely measuring inequities in reading and numeracy skills through design of early grade reading and math assessments and classroom observations, to be implemented in 2017. The data generated will support development of teacher training to improve classroom practices. MECS is also strengthening school-level planning and accountability through use of school grants under its Talent Program. In the meanwhile, the Government Action Plan 2016-2020 continues to build on the foundation laid by previous plans with a focus on teachers' professional

[54] (Shatz, et al. 2015) and (World Bank 2007)
[55] (Shatz, et al. 2015).
[56] See (Asian Development Bank 2017) and (World Bank 2017)
[57] See RAND Corporation. 2015. Improving the Mongolian Labor Market and Enhancing Opportunities for Youth. Report.; World Bank.2007. Mongolia - Building the Skills for the New Economy. Report, and De Gorpello, E., P. Tandon, and S. Yousuf. "Putting higher education to work." (2011).

development and on improving preschool enrollments and quality of dormitory facilities for herders' children.

123. **Low school autonomy constrains efficiency, leaving much room for improvement.** The Mongolian government provides primary and secondary schools with school budgets comprised of three components (i) A normative amount based on a per student allocation, whereby the amount per student varies according to grade and location of the school; (ii) a so-called 'fixed budget' to cover utility costs; and (iii) funding for targeted social assistance to support children of low-income families. In principle, this system of financing provides resources where they are needed, as "funds follow students." However, the system leaves almost no scope for school managers to plan and budget as they see fit for the circumstances of their school. Without school autonomy, as is the case in Mongolia, per capita financing alone has limited impacts in improving efficiency and school accountability.

124. **Tertiary education has had a rapid expansion that has led to poor quality and low relevance of some programs of study.** Mongolia's higher education and technical and vocational education and training (TVET) systems have rapidly expanded since the transition to meet the rising demand for skills and innovation in a market economy.[58] Access is unequal and graduates have low employment prospects due to a mismatch of the supply (a high proportion of students graduate mainly in the social sciences) and demand of skills (mostly in the scientific and technical areas, particularly mining). Moreover, outreach from Mongolian universities to private sector remain extremely limited. Enterprise surveys show, for instance, that universities are mentioned as having a leading role in acquiring technological innovations in a broad sense by only 1–2 percent of firms.

125. **In terms of labor markets, career information and guidance has been provided since 2016 to junior secondary students as part of civic education in secondary grades, but the system employs no practical strategy to support students' transition from school to work**. MECSS recently developed a curriculum for a school-based business course, and schools were given the option to implement the curriculum as an elective subject at the secondary level. While introduction of the course reflects recognition on the part of the government for the need to nurture skills relevant for the labor market at an early age, the curriculum is constrained due to limited relevance to community-specific conditions and a focus on abstract business concepts with little guidance on how schools and teachers can support socioemotional skill formation.

126. **There is a connection between urban policy and supply of education services.** Lack of long-term planning to meet the needs of rapid internal migration and urbanization has overwhelmed capacity to provide education services in urban areas, especially Ulaanbaatar (UB), home to half the country's population and where most now live in low-income ger areas.[59] Low kindergarten enrollment rates persist, many schools have multiple shifts, and overcrowded classrooms exacerbate quality issues. Left unaddressed, these trends threaten to erode progress in poverty reduction and human capital accumulation, especially in UB, where the number of poor is rising.

[58] (De Gorpello, Tandon and Yousouf 2011)
[59] See (Baker, Nguyen and Mason 2016).

Access to public utilities and housing: 45 percent of the population live in gers

127. **Access to electricity has increased rapidly and nearly full coverage has been attained.** While the national electrification rate stood at 65 percent in 2005, today over 90 percent of all households are connected to the national grid, including all but one of the 331 soum centers are connected to the national grid and their customers receive electricity at affordable price. In addition, virtually all herder families now have electric light, television and cell phones through a massive deployment of solar home systems (SHS) in the period 2008-2012, aided by a government subsidized program.[60]

128. **In contrast to electricity, access to water and sanitation is one of the areas where Mongolia lags significantly in international comparison.[61]** As of 2015, a reported 64% of the population had access to an improved water source. This included 66% of the population living in urban areas, and 59% of the population living in rural areas. 60% of the population reported using an improved sanitation facility. In the urban areas, challenges in water supply provision include low tariff rates that do not cover recurrent costs of utilities, high rates of non-revenue water (although there are programs ongoing to address this), low water supply and sanitation coverage rates in informal settlements and Ger areas, as well as operations and maintenance issues related to the extreme cold. Most population living in ger districts do not have formal access to clean water. Treated water is delivered through kiosks or trucks at 1000 MNT (roughly US$0.4) per cubic meter. Some have wells from which untreated water can also be sourced. Ger residents typically transport 10-30 liters of water per day from the kiosks to their houses. This is especially difficult during winters. It is estimated that ger residents consume only about 5-10 liters of water per person per day, which is far below WHO standards. Sanitation in urban areas is becoming an increasing problem, with the sanitation facilities in Ulaanbaatar unable to treat current wastewater volumes. A recent report shows that water quality declines in the Tuul river after waste water treatment plant discharges enter the river.[62] Finally, a waste generation of 1.1 kg/person a day, makes UB a "higher waste generating" city, but important efforts have been conducted in recent years so that UB has surpassed the levels of low- and lower-income countries and is in position to improving its waste management system, particularly in terms of more inclusion of ger areas (where collection is infrequent) and management of public health issues.[63]

129. **Moreover, less than a quarter of the population has access to central thermal energy provided by Combined Heat and Power plants and Heat-only-Boilers through district heating (DH) networks**. Most households rely on decentralized heating sources, either coal-fired boilers in buildings in urban areas or individual coal-burning cook stoves in suburban and rural areas. The Government has acknowledged that these solutions are unsustainable, but also that their use in suburban Ulaanbaatar (UB) is the main cause of the extremely high level of air pollution in the entire city (see paragraph 169 in section IV below). The rate of households supplied by DH in UB has now declined from over 50% in the 1990s to under 40% today. DH coverage has not been able to keep up with the population increase because (i) heat tariffs, which are kept low for affordability reasons, makes it very difficult for the DH sector companies to recover investments,

[60] (World Bank 2014)
[61] In our benchmarking exercise -using indicators of access to improved water and sanitation, both in urban and rural areas- Mongolia ranks at either the bottom 50 or 25 percent of the distribution when compared to peers and to the World (see Figure A1 5).
[62] See (2030 Water Resources Group 2014)
[63] See (Byamba and Ishikawa 2017).

and (ii) it is technically and economically unfeasible to expand heat networks into areas with widely-spread, scattered housing units which rarely conform with building codes.

130. **Rapid urbanization has not been accompanied by adequate housing conditions.** Since 2000 the city's population has nearly doubled: Ulaanbaatar's population has grown from 600,000 to 1989 to about 1.4 million today. According to analysis of satellite data, its built up area grew by an additional 73km2 of which 87 percent is categorized as low-density ger area development. Ger areas comprise 83 percent of the UB's built up area and about half of the city's population. Ger residents account for majority of this growth. Improvements in access to public utilities will be difficult without an over-arching housing and urban plan or policy.

131. **The problem of deficient housing is compounded by inadequate urban transport which worsens living conditions and economic opportunities for urban dwellers.** With roughly half of the country's population and over 60% of the country's registered vehicles, UB is experiencing more and more severe traffic congestion due to rapid urbanization and even faster motorization, lack of land use and transport planning, poorly designed street network with very few secondary and local access roads, inefficient traffic management, and lack of travel demand management policies including lack of parking facilities. Jobs and services are concentrated in the city center, while peripheral areas lack adequate infrastructure and access to schools and health facilities. A recent survey found that 32 percent of ger area residents have a single-direction commute of between 1 to 2 hours. Overall commuting times like that of much larger cities such as Bangkok and Manila.[64] Public transit users suffer longer delays than car users as buses are slower to navigate congested streets. Residents of ger areas either do not have access to public transport services or face significantly longer travel times in buses that travel much of their way on roads that lack pavement, which contributes to the severe pollution problem of the city (see paragraph 152.in section IV below).

132. **Lack of transport infrastructure also affects the rural population**. The incomplete road network and low-quality roads restrict the rural population' ability to access basic services such as healthcare and education. The Rural Accessibility Index (RAI), i.e. percentage of rural population who live within two kilometers of an all-season road in Mongolia was only 36% in 2003, ranking among the lowest in EAP.

133. **Regulations and institutions for urban development in Mongolia have evolved over the years, since the country began a shift away from a command economy in 1991**. The 1992 Constitution allows the right of fair acquisition, possession and inheritance of immovable property. This was refined in further land legislation in 1994, 1996 and 2009, which clarified property rights and enabled collateralization of land for securing investment. However, perhaps most consequential for UB, the 2002 Land Law allowed for the privatization of plots of up to (700m2) for residential purposes free of charge to city residents, a practice which has been suspended as of 2014. This free distribution of urban land for private possession is likely without any other parallel in the world and has direct impacts on sprawl, as well as residents' quality of life, access to basic services and exposure to natural disasters such as flooding (more about the latter in paragraphs 185 in section IV below).

[64] (World Bank 2016)

134. **UB's Master Plan 2030 document promotes further urban expansion but does little to promote access to infrastructure and services.** The plan describes measures to deconcentrate the city's population into to-be developed satellite cities and to develop a comprehensive regional highway system to connect them to the city. Besides, proposed land use and zoning standards for UB do not allow for mixed use zoning or higher population densities. This would do little to reduce the city's low-density expansion or promote in-fill development and services in existing built up areas while also incurring high costs and potential risks by focusing investments outside of the city.

135. **The implementation of regulations and plans face three main challenges: first the weakness in the registry and legal cadaster**. Many government buildings are not fully surveyed, mapped or registered. There is also no distinction between land allocated for streets, rights-of-way, public spaces and land for facilities such as schools and clinics. Due to this, public facilities such as schools, clinics and hospitals have been subject to property "carve-outs" where a part of the parcel is transferred and developed for private purposes. These problems have been compounded by the practices of direct land allocation based in initial prices that were much lower than the likely market value of land.[65]

136. **Second zoning and land use codes in the city need revision to better accommodate investment based on urban land market trends**. Much of the city is subject to single-use zoning regulations which distort the location of property investment in the city. There is also a lack of clarity about the application and enforcement of zoning and land use controls, which can result additional costs and delays for private investors. Recent changes in laws and regulations related to land and property have created considerable public confusion and uncertainty about protections and procedures. For example, there are three tenure types (possession, ownership and use) each of which are applicable to different groups and different land use types. Obtaining an ownership certificate requires dealing with nine entities and can take up to 113 days. Requirements and procedures are not well understood and approvals are granted by the governor, rather than through consistent, explicit and transparent criteria. Foreign and domestic legal entities applying for possession rights are subject to an uncertain approval process and may be granted certificates for terms that are too short (as low as 5 years), which in turn deters investment.

137. **Third, the current tax and fee structure does not allow the city to gain a significant amount of revenue and hence limits the ability of the city for urban development**. As evidence of this, property tax comprised only 2.8 percent of the city's revenues in 2012 (less than the 25 percent in Cape Town and the 12 percent share in Madrid, for example). The current structure of fees and taxes discourages accurate reporting of prices on transactions with the registry (many are conducted in cash). It also provides broad exemptions for annual fees on residential plots, which are often not collected. Finally, valuation for non-residential properties are fixed according valuation rates determined in 1997 under the Law on Land Fee and not reflective of market values.[66]

138. **Regulatory policy has also had a large impact on access to electricity and heating in Mongolia**. With electricity tariffs under government control and through subsidies for SHS the

[65] Recent reports estimate that since 2000, the city has foregone an amount of revenue equivalent to at least 20 city budgets from the year 2012. Since 2012, however, the city has begun to use an auction mechanism for future sales in and parcels have been competitively auctioned. See (World Bank 2015) and (World Bank 2016).
[66] (World Bank 2016)

population can largely be said to have access to affordable electricity, leading to electricity access in Mongolia reaching almost the entire population by 2016. What drove this success was pro-active government initiatives to expand the electricity grid by pumping equity into distribution companies while tariff levels were kept low through government fiat. With respect to heating, several programs have been implemented to address air pollution from traditional cooking and heating stoves including promotion of cleaner fuels and introduction of around 175,000 clean stoves throughout the UB ger districts and beyond. However, these efforts have only been partly successful with many low-income households unable to afford the cleaner alternatives. The government has recently issued a regulation prohibiting the production and sale of traditional stoves in UB and free night time electricity to promote the use of electric heating may have the potential to address some of these issues, but without a sensible regulatory and policy framework for the energy sector - in economic, social and environmental terms- the standing problems of sustainable access to electricity and heating for all will remain.

139. **The institutional set-up of water supply and sanitation in Ulaanbaatar is fragmented and fails to address the problems described above.** The institutional reform has been challenging with limited success, mainly due to the political vested interests around different institutions that provide services. There are two main organizations, the Water Supply and Sewerage Authority of Ulaanbaatar (USUG) and the Housing and Communal Service Company (OASNAAG). Both are public companies owned by the UB City. They are delegated O&M of water supply and sewerage assets, owned by the City. USUG provides bulk water to OASNAAG, and OASNAAG distributes to its apartments and institutions. Both companies are in deficits and cannot recover operation and maintenance costs. Although it makes more sense to combine USUG and OASNAAG services for water supply and sanitation, it has not been successful. Though customers of the water kiosks in peri-urban areas pay higher tariff than apartment users, USUG still cannot cover operating costs for water kiosks from tariff revenue.

140. **Both the National Government of Mongolia (NGM) and the Municipal Government of Ulaanbaatar (MGUB), have explored the expansion of various public transport infrastructure for UB.** This even includes construction plans of a metro system and a BRT system. However, neither project has commenced yet. The city has also implemented a series of reforms to improve the quality of bus services, including the introduction of an integrated fare collection system and regulatory reform with limited success. Despite some new addition of sidewalk and bike lanes, the walking and biking environment in UB is unpleasant and dangerous especially at intersections due to lack of protection or signal for pedestrians and bicyclists. On the other hand, NGM and MGUB tend to see congestion as something to be solved by investing in more road infrastructure. Currently evolving solutions focus on extensive road infrastructure such as elevated urban highways, flyovers and road widening, which are being planned and built in a more prominent manner.

141. **Housing policy has been limited to subsidies mortgages or their interests, which is bound to have limited impact.** A World Bank study underlines that the mortgage market is still emerging in Mongolia, with only 10 percent of house owners using mortgage loans (as of 2010). Fewer than 20 percent of apartment residents use mortgages. The main problem of this type of policy is that most residents in the ger areas of Ulaanbaatar will not be able to afford to live in any

of the apartment buildings that the government is helping to finance through subsidized schemes.[67] Given this affordability issue, alternatives such as low-cost housing and/or low-income public rental housing should further be examined.[68]

It is not only a matter of spending: Public Funding for Health, Education and Housing

142. **Expenditures in Health and Education in Mongolia are in the mid-range of comparison groups.** Total expenditures on health in Mongolia reach 4.4 percent of GDP, close to the middle of the range among peers (from 1.1 in Timor Leste to 10.0 percent in Serbia) and across the World (from 1.1 in Timor Leste to 11.9 percent in Sweden).[69] Private expenditures represent 45 percent of this total, which is in the middle range among peers (from 10 percent in Timor Leste to 79 percent in Azerbaijan) and the World. However, despite similar spending patterns to comparable countries, Mongolia has higher incidence of non-communicable diseases and hence spends less than would have been needed given its burden of disease.[70]

143. **Similar ranking occurs in terms of public education expenditures**. These reach 4.6 percent in Mongolia, again in the middle of the peers' range (from 2.4 percent in Azerbaijan to 8.1 percent in Moldova) and the World (from 1.2 percent in Central African Republic to 8.4 in Zimbabwe).

144. **Investment in infrastructure, however, seems to be well below the levels observed in comparison countries.** The share of construction within total value added is 2.0 percent in Mongolia, the lowest level in the peer comparison group and far from top performers: 13 percent in Armenia and Azerbaijan, 18 percent in Timor Leste and 20 percent in Zambia. This very low level of value added in construction is linked to the very low levels of access to public utilities and appropriate housing, described above, and limited transportation and logistics infrastructure (discussed in foregoing section II).[71]

145. **During consultations, most stakeholders have underlined the importance of education.** The problem of skills mismatch (i.e., lack of graduates with skills to rapidly find productive jobs in the labor market) was mentioned by several groups of stakeholders in Ulaanbaatar, Darkhan, Orkhon and Khentii. Some of these, have also mentioned a problem of lack of civic education which seems to be more related to general concerns with governance and perceived corruption. Surprisingly, health issues were not often mentioned during stakeholder consultations. The exception being meetings in Khovd where stakeholders mentioned growing health problems associated to specific occupations: herders and miners. Finally, Ulaanbaatar city officials are the ones who stressed the importance of urban infrastructure and access to public services (see Annex 2: Consultations with Stakeholders). Furthermore, education, employment and health appear among the most often voted development challenges in consultation surveys, whereas water and sanitation, roads and transport and urban development are among the least frequently voted (see Figure A2 1).

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[67] An ongoing World Bank study on the progressivity of the tax-and-transfer system finds that -as of 2016- the subsidy to interest rates for mortgages (which involves a subsidized interest rate of 8 or even 5 percent, vis-à-vis a market rate of around 20 percent) is one of the few programs that is regressive in both absolute and relative terms (Freije and Yang 2018). See Figure 17.

[68] See (Kamata, et al. 2010)

[69] 5-year average for period 2011-2015, using data from WDI. We exclude outliers (i.e., USA, Marshall Islands, Micronesia and Tuvalu all above 13 percent in health expenditures and Micronesia at 12 percent in education expenditures).

[70] See (Dugee, et al. 2017)

[71] 5-year average for period 2011-2015, using data from WDI.

Box 3: Governance in Mongolia: *Crisis of clientelism and perceptions of corruption*

Since the 1990s the Mongolian political settlement moved closer to clientelistic competition rooted in rent-seeking networks often crossing party lines. This has produced powerful developmental effects. First a competitively driven populist politics reflected in unsustainable cash transfer programs. Second, an expanded resource nationalism – expressed most directly in new contracting arrangements and rents in relation to foreign mining capital –to preserve state revenues and business opportunities through tenders and through new financial instruments such as Chinggis and Samurai bonds. Third, enhanced pressures for state-funding of overfunded ('pork barrel') smaller projects permitting MPs to benefit the local constituencies. Fourth, expanded off-budget expenditure streams marked by a lack of fiscal restraint and a reluctance to restrain pro-cyclical fiscal policies in spite of the passing of the Fiscal Stability Law in 2010 designed to precisely act as a source of restraint. Fifth, the underspending on large infrastructural because of the political risks associated with any one faction controlling a ministry having access to huge rents. As often transpires in clientelistic settlements and pacting arrangements associated with resource boom and bust cycles, the ordering of power produced endemic patterns of capture, exclusion and clientelism (World Bank 2017).

The 2017 Asia Foundation corruption survey documented sharp increases in the lack of trust in many state institutions, and in Mongolia's political institutions in particular. 86.7% of respondents felt that corruption was a common practice; a similar proportion felt that politicians have no will to fight corruption and benefit from; and finally, that the most important cause of grand corruption was the merger of political and business interests. More significantly still, in sharp contrast to 2010, national government, the legislature and political parties (along with mining and the land sectors) were now ranked as the 'most corrupt institutions'. In a country in which the privatization of the pastoral economy, rapid urban growth and land speculation, and large-scale extraction were proceeding apace, it is no surprise that the mine and land allocation processes (contracts, licensing, permits) were especially attractive as sources of rent capture. But the rise of the political institutions as primary sources of perceived institutional corruption – parties, government and legislature were not ranked in 2006 – could indicate lack of faith in the political apparatuses and a public perception of the weakness of state institutions. The survey underscored that almost two thirds of respondents believed corruption had sharply increased during the previous three years.

The costs associated with competitive clientelism are clearly visible in the core governance challenges surrounding public investment, social transfers, and resource (ecological) sustainability. One of the consequences of the post-2004 resource boom was an extensive and extended parliamentary debate on managing resource booms and social targeting. Rising prices prompted democratic party initiatives in its 2004 election campaign to propose a targeted child benefit which, upon their ascent to power in the coalition government, was passed into law in 2005. In the wake of the Windfall Profits Tax of 2006 (imposed on copper and gold production), the government moved toward a universal benefit to be received by all children (the Child Money Program, CMP). Social programs did point to both a credible commitment by elites to share benefits with citizens, and to in principle an effective capture, centralization and distribution of resource rents. In sum, cash transfers proposed a form of social contract emerging from the political settlement, and important forms of credible commitment and cooperation. Yet cash transfers also fulfilled a number of political purposes: one the one hand fulfilling populist demands to spread public wealth in light of the country poverty profile, while also MPs and party candidates within the overrepresented rural districts enhanced their appeal through social benefits. Social and cash transfers in particular were targeted to win votes in a competitive environment but they exhibited a high degree of volatility in terms of both policy and payments (Fritz 2014). Elections and factionalization produced expanded pressures on the social program budget – new

programs and transfers were offered for each election – while the shifting fiscal space and revenue volatility compelled period reductions in benefits during the downturn in 2008-2009.

Political maneuvers to increase mining revenues to fund a growing social transfer bill proved to be unstable and self-defeating. After the Oyu Tolgoi mine contract was signed, royalties provided the basis of a new Human Development Fund in 2009. During 2010-2012, the HDF distributed in total MNT 0.5 mln in cash to every citizen and another MNT 1 mln in in-kind benefits to students, elderly and disabled. While the universal CMP was discontinued during the HDF cash benefit provided until June 2012, it was reintroduced from October 2012 instead of a poverty targeted benefit legislated in 2012 Social Welfare Law. The latter remains unimplemented until now. There is little doubt that these social programs contributed to poverty alleviation but the impacts on poverty reduction could have been much stronger if the resources were used for poverty targeted programs.

Mongolia's cash-transfer programs were deeply politicized from the outset and departed from the resources-to-cash ideal in several respects. The link to resource revenues was weak since payments were based on election promises and as a consequence cash transfers actually exceeded mineral revenue; the HDF had to be topped up by borrowing. In 2010, when the universal transfers began, total cash transfers amounted to 324 billion MNT, more than treble the amount distributed in the previous year and almost twice the amount of HDF revenue from dividends, taxes and royalties collected from mining operations. In 2011, when regular monthly transfers began, annual HDF expenditures more than doubled again to almost 800 million MNT, while HDF revenue from dividends and taxes stood at 300 million MNT. In both years, the gap had to be met by borrowing (Yeung and Howes 2015). In 2016 the new Future Heritage Fund (investment driven sovereign wealth fund) was introduced dissolving the Human Development Fund effectively from 1 January 2017. The CMP continued with state budget funding. A record of profound co-operation and co-ordination failures – the failure of core institutional functioning for political reasons – have blighted the potential of Mongolia's ambitious social welfare program.

Policy Effectiveness cycle in Social Policy

An analysis of the *policy effectiveness cycle* in social policy highlights that the main functional problem is the fiscal unsustainability -due to recurrent deficits and growing public debt- of expenditures in social policy which, in the long term, undermines the achievements attained in terms of human capital accumulation and hence standards of living of the population. This arrangement is due to the pattern of competitive clientelism that characterizes the Mongolian polity, described in foregoing paragraphs of this box. Policy initiatives and reforms should target the strengthening of civil society and independent media to press for effective service delivery, combat corruption and demand for fiscal responsibility.

Functional Problems	Volatile and inconsistent policies, non-credible commitment to regularized payments and weak links to resource revenues, unsustainable growth in expenditures and transfers, with low fiscal constraints, and then heavy borrowing to compensate for insufficient state revenues
Power Asymmetries and Political Coalitions	Elite coalitions deploy populist strategies. MPs and party candidates use cash transfers to garner support in over-represented rural districts, Powerful citizen pressures to share collective resource wealth. Competitive clientelism and the electoral cycle produce expansionary pressures on expenditures
Forces for Reform	Growing citizen engagement around effective service delivery. An assertive media focusing on corruption and accountability. Elite incentives to create a sovereign wealth fund to manage mineral revenues (the Future Heritage Fund)

Source: Excerpts from (Watts 2017)

IV. REDUCED ENVIRONMENTAL STRESS

146. **The main economic activities of recent years in Mongolia can be associated to some indicators of environmental stress**. The growth of mining is the main contributor to the rapid expansion of CO2 emissions in the country and its rapidly declining carbon productivity over the past decade. The large herds that sustain livestock activities have been associated to growing deterioration of pastures. The two activities together are posed to conflict about water use and are responsible for water use stress in some localized areas of the country. The rapid urbanization of the country has been accompanied by increased air pollution, growing flood and exposure to earthquake risk in some parts of the city, and rising morbidity rates in diseases associated to air pollution. Hence, the pattern of economic growth in the country cannot be labeled *green growth*.

147. **This pattern of growth has led to an increase in total wealth but a deterioration of the stock renewable natural resources.** Total wealth per capita in Mongolia, after including measures of depletion of natural resources, has been increasing in recent years. But this increase, has not been experienced in all forms of capital: there is an increase in human capital and in non-renewable natural capital while net foreign assets and renewable natural capital have declined. This involves a decline in natural assets utilized in rural areas and by those working in agricultural activities. In addition, due to growing health risks related to environmental conditions, total environmental and health costs have been increasing since 2005 and are now even higher than in 1990.

148. **There are important and widespread efforts in the country to develop regulations and institutions to stem this environmental stress but increased participation from the public and less short-sighted policies from authorities are needed.** On the one hand, there are legitimate conflicts of interest in the use and benefit of natural resources and these should be discussed transparently with the always difficult consideration of the trade-offs involved. On the other hand, the limited awareness of the public and policy-makers, seems to indicate a myopic behavior that fails to address these grave problems and hence to implement the adequate policies to prevent further dissaving.

Sustainability performance: has there been green growth in Mongolia?

149. **There is no unique definition of "green growth" but a consensus is growing that refers to the impact of economic growth upon the use of natural resources and, therefore, upon sustainability of future economic growth and population wellbeing.** One definition posited by a recent World Bank report is that *green growth* is: "…efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters." There is no consensus about how to synthesize all these objectives into a single indicator so several indicators have been proposed and the debate goes on about how to gauge *green growth*.[72] This diagnostic use a few indicators to give a general picture of main indicators

[72] See for instance the World Bank, OECD, United Nations Environment Program and the Global green growth Institute initiative on data and information: Green Growth Knowledge Platform.(http://www.greengrowthknowledge.org/). Another attempt to gauge how economic growth affects the stock of natural resources is in the World Bank's publication, the Changing Wealth of Nations (https://openknowledge.worldbank.org/bitstream/handle/10986/29001/9781464810466.pdf)

about the matters that the concept above entails: carbon efficiency, use of land, water and air resources, and environmental or disaster risks upon the population.

150. **Carbon print of the Mongolian economy has worsened significantly over the past decade.** The volume of carbon dioxide emission per capita almost doubled the emission of peer countries for most of the 90s and first half of the 2000s, but from 2005 have increased almost fourfold and is now among the highest across peer countries (Figure 18, top left panel). In parallel, the carbon productivity (i.e., the value of real GDP produced by kg. of CO2 produced) has declined rapidly and the country is now the less carbon productive among its peers (Figure 18, top right panel). The successful expansion of mining exports over the last decade is clearly the main factor explaining this evolution of the carbon footprint of the country which now makes it like other mineral exporters among some its peers (e.g., Kazakhstan) but not others (e.g., Azerbaijan, Bolivia, Colombia).

151. **In terms of land use, Mongolia is a vast country of yet untapped potential, but there is evidence of vast erosion of pasturelands**. It has not suffered increased deforestation in recent years, in which it differs starkly from most of its peer countries (Figure 18, middle left panel). This picture, however, may be misleading because rather than forestry, it is pasturelands which is at risk in the country (more will be discussed about this in the rest of this section). In addition, it has a large share of its territory under protected status, although, as will be explained later in this section, a lot of it collides with prospective expansion of mining activities (Figure 18, middle right panel).

152. **Water use and air pollution indicators do not single Mongolia as a weak performer in international comparison, but national averages and cross-country comparisons may be misleading.** In terms of water use, Mongolia has very low freshwater withdrawals per capita when compared to main peer countries (Figure 18, bottom left panel). But some areas of the country - particularly the capital city and the area of southern Gobi Desert- have a serious deficit of water when compared with local supply in the short term, the former, and the medium term, the latter. Similarly, air pollution as measured by exposure of a nation's population to concentrations of suspended particles measuring less than 2.5 microns, which are capable of penetrating deep into the respiratory tract and causing severe health damage, is in the middle of the range among peer countries (Figure 18, bottom right panel). However, given the low density and vast territorial expanse of the country this figure is somehow misleading. As we will explain later in this section, air pollution in the capital city is one of the worst in the World and poses the potential of severe health impacts in the population as well as clear hindrance to economic development. Air pollution has been singled out as one of the ten top causes of DALY (disability-adjusted life year, a measure of burden of disease in terms of numbers of years lost due to ill-health, disability or early death) in Mongolia in 2015.[73]

153. **In recent years Mongolia has also experienced growing frequency of natural disasters and climate change.** There is some evidence that dzuds, *"a Mongolian term for a winter weather disaster in which deep snow, severe cold or other conditions render forage unavailable or inaccessible and lead to high livestock mortality"*[74] have increased in frequency over the last two

[73] Institute for Health Metrics and Evaluation, http://www.healthdata.org/mongolia (accessed July 9, 2017).
[74] (Fernández-Giménez, Batkhishig and Batbuyan 2012)

decades (Table 6). There is also evidence of growing average temperature, attributed by some researchers to climate change, and that also poses serious risks to economic activity associated to agriculture and, hence the means of living of rural population and herders.[75]

Challenges to sustainability: Is Mongolia preserving its capital in natural resources?

154. **Growing environmental stress is one of the three main challenges of the Mongolian economy.** The previous section has shown that Mongolia has decreased its carbon efficiency, has lost pasturelands, suffers water stress and has one of the most air-polluted cities in the world. In addition, the country is facing growing disaster risks, some of them perhaps related to climate change. Again, following the postulates of the Diversified Development analytical framework, the economy needs to create genuine savings. Given Mongolia's natural riches, this means avoiding the loss of natural capital or transform it into new financial, physical and human capital. Furthermore, the complexity of these problems calls for competent institutions that manage these intricate problems that have no easy solution.

155. **Environmental sustainability necessitates far-sighted policy makers, business people and society organizations, all of them willing to carry out the existing or new regulations and solve legitimate conflict of interest in the benefit of long term prospects for the society and the economy**. There is a generalized opinion -as well as empirical evidence- that enforcement of plans and regulations on environmental protection and natural resources management is weak in Mongolia. The depletion of water sources, growing air pollution, pasture degradation and increasing disaster risks described in the previous section, call for questions about the actual impact of plans and enforcement of laws and regulations. In some cases, the sheer size and cost of the problem (e.g., air pollution in UB) hinder rapid progress. In other cases, lack of coordination and complex political economy conflicts among divergent interests of different social groups (e.g., water use in South-Gobi) also play a role in impeding progress in preserving the value of natural wealth of the country.

156. This SCD discusses the limitations the Mongolian economy has experienced in each of these areas. Continued deterioration of air, land, water and energy resources would not only affect the health of its inhabitants, but also their future economic opportunities.

Water: agriculture, mining, cities, everybody demands a lot of water

157. **Mongolia is a water scarce country, with total water withdrawals outstripping renewable water supply, often by at least 50% annually**.[76] Groundwater reserves are supplying needed water, but as they are not being replenished, water scarcity will increase over time. Demand for water is expected to increase as more permits for mining and heavy industry are granted. About 3,000 water sources, including 680 rivers and 760 lakes, were recorded as having dried up by the beginning of this century. The Gobi Desert steppe zone is moving further northward every year. Scientists predict that more areas will become part of the Gobi Desert, particularly in the eastern region, and the dry steppe zone will probably spread north into the current forest-steppe zone (ADB, 2014).

[75] (Batima 2006).
[76] See http://www.fao.org/nr/water/aquastat/countries_regions/MNG/

158. **Several studies warn of growing stress on water resources due to economic activity and urbanization.** The WRG 2030 Group developed an overview of water resources availability in Mongolia, which projects that variability of water supply and demand over the territory creates areas of potentially very serious water deficits. This study includes a review of water resources availability in Ulaanbaatar, which shows that Ulaanbaatar could reach its available resources and face water shortages in 2024 under a moderate growth scenario, and earlier under a high growth scenario. In the southern Gobi region, the same study indicates that demand will barely be covered by supply by 2030, under a moderate growth scenario, but would be insufficient by 2025 in a high growth scenario. (see Figure 19, top left and right panels) Also in the Gobi region, the World Bank Mining Infrastructure Investment Support (MINIs) project is supporting the Government to establish water resources management plans for three basins in the South of the country, as well as to improve the information available about groundwater availability and use. While not yet public, the plans show predicted water shortages in areas of large industrial water use in some sub-basins in the Gobi region, even for industrial actors where water use permits have been issued. WRG 2030 Group study also stresses that further exploration of groundwater resources is expected to be required in 22 out of the 29 basins," given the limited information available on groundwater availability.

159. **Mining appears to have a special impact on water resources**. In May 2006, the World Bank reviewed the environmental and social impacts in the mining sector and identified changing hydrological regimes as a significant problem, where on balance, mining practices were inefficient and used excessive process water, thus overtaxing surface waters and underground supplies, and generating excessive effluent[77]. Increasing activity of small scale miners contributed to deteriorating water quality while waste-rock piles and tailing repositories were a significant concern at large- to medium-scale mining operations. In April 2016, the media reported that mining has left water reserves overexploited and that while some mining companies claim to use separate, deep-underground 'fossil water' water that is saline, in reality many do not[78].

160. **Apart from water scarcity, water quality is also a worrying concern**. Herding, mining, and urban development pose threats to public health. In the northern province of Mongolia, Khuvsgul, home to one of the largest fresh water lakes in Asia as well as a wide network of rivers, many communities live in remote areas that lack basic water supply infrastructure. Most unprotected sources are exposed to significant levels of contamination from proximal human waste, livestock, and seasonal flooding.[79] In Ulaanbaatar, ensuring that there is sufficient and safe water for everyone is a challenge. As a result of climate change and increased water abstraction, the streamflow of the Tuul river, which feeds the aquifer that supplies most of the water for Ulaanbaatar, is shrinking. Especially in the outer districts, many residents lack a connection to the central water supply network and have to make use of water kiosks to purchase water or get their water directly from the river.

161. **Devolution of water management responsibilities has created new problems of implementation.** In compliance with the Water Law of 2012, Mongolia is in the early stages of creating new devolved river basin institutions in the form of River Basin Administrations, in

[77] (World Bank 2006). More recent studies also find growing water stress in specific localities under high-growth scenarios for mining activities see (Sustainability, East Asia LLC 2014) .
[78] Woods, Lucy, April 2016. Mining threatens Mongolia's fragile environmental balance. https://www.chinadialogue.net/article/show/single/en/8849-Mining-threatens-Mongolia-s-fragile-environmental-balance
[79] (Theunissen 2014)

addition to the River Basin Commissions created under the 2004 law. The devolution process contains uncertainties and tensions that are often typical of decentralization efforts, including tensions over allocation of financial resources. Water fees are not automatically transferred to the River Basin Administrations, who are undertaking the management planning functions, nor to the local authorities, who would be the implementer of some of the projects in the new water resources management plans.

162. **Information collection, regulations and its enforcement need revamping for better water management.** Information levels on water resources remain relatively low in some areas, with monitoring networks needing to be established to measure both water quality and water quantity. At the same time, while there are regulations and standards on the discharge quality of treated wastewater to the environment and on the discharge quality of industrial effluents to the municipal sewerage system, there is uneven enforcement of these regulations. Enforcement is hampered by the lack of monitoring networks, mentioned above. Finally, water regulations will need to be updated and enhanced to provide guidance on emerging needs, in particular increased need to reuse wastewater[80] and need to refine the regulations that dictate how much groundwater is "exploitable" taking into account sustainability given extraction rates.

163. **The problems of water supply in South-Gobi region needs revision of current policy options.** The current model that allocates shallow groundwater to herding and small scale rural water supply is not sustainable, both for quantity and quality concerns. Treatment is not a viable option for the more than 10,000 water points in the region tapping the shallow groundwater. Supply from distant surface water resources is also not feasible due to distribution challenges to scattered water users in this 500,000 km2 region. On the other hand, deep groundwater is the most suitable and most economic resource for water supply to rural population centers (soum centers), livestock and agriculture but in many parts of the South-Gobi region such uses would be competing with mining permits. Therefore, the current development model that allocates entire deposits of strategic non-renewable groundwater to mining permits may have to be reconsidered, not only in view of the medium and long-term perspective of human presence and economic activity in the South-Gobi region but also considering the immediate water supply challenges of possible investment options.

Air: Ulaanbaatar, the most polluted air in the World

164. **Outdoor air pollution is a current threat for the population in Ulaanbaatar**. Ambient annual average particulate matter (PM) concentrations in Ulaanbaatar (UB) are 10–25 times greater than Mongolian air quality standards (AQS) and are among the highest recorded measurements in any world capital (see Figure 19, bottom left panel). Recent levels of particulate matter in Ulaanbaatar have risen to almost 80 times the recommended safety level set by the World Health Organization -- and five times worse than Beijing during the week's bout with the worst smog of the year (see Figure 19, bottom right panel).

165. **The main sources of ground-level air pollution are coal and wood burning for heating of individual residences in ger areas and the suspension of dry dust from open soil surfaces and roads**. These represent 75–95 percent of PM concentrations. There is a close, quantitative relationship between exposure to high concentrations of small particulates and increased mortality

[80] See (2030 Water Resources Group 2014)

or morbidity, both daily and over time. Air pollution is associated with cardiovascular diseases, lung cancer in adults, and acute respiratory diseases (particularly in children), as well as with mortality from diseases such as pneumonia. The magnitude of the estimated negative health impacts is large. The current health damage corresponds to 18.8 percent of GDP in Ulaanbaatar and 8.8 percent of GDP in Mongolia in 2008, one of the highest in the World (World Bank, 2011).

166. While the estimated health effects from PM pollution in Ulaanbaatar presented here are significant, it should still be noted that the calculations do not consider the exposure to indoor air pollution in gers, traditional Mongolian dwellings consisting of wooden frames beneath several layers of wool felt and with no partition separating kitchen from living/sleeping areas. Ulaanbaatar is the coldest capital in the world where most of the families live in gers. Heating and cooking is typically conducted by metal stoves with chimneys and for many homes bed stoves are also popular sources of heat. The most widely used fuel in the ger district is coal, although wood is also used for some tasks (ESMAP, 2005). Given the use of coal, indoor air pollution impacts on health are non-negligible, however no estimates are available.

167. **There is no single policy that could solve the extremely serious problem of air pollution in Ulaanbaatar.** A 2011 World Bank study on air quality and health indicates that a reduction of 80 percent of emissions due to ger area heating, heat-only boilers and suspended dust would reduce ambient concentration in 69 percent, but still would not reach Mongolia air quality standards (which are less stringent than WHO air quality standards). Only an abatement of 94 percent in these sources would be needed to reach minimum standards. This means that very substantial policy changes need to be adopted to just start denting the problem. The same study offers a series of policy scenarios from changes in stoves and more use of electric heating, to relocation of ger households to apartments, paving roads and sidewalks, and even greening the city with active vegetation policies.[81] The net benefit of each option varies significantly, due to different costs of implementation, but the varying conditions (PM2.5 concentration actually went down and then back up in the past 8 years) indicate that government policies have to be more consistent and effective in terms of air pollution abatement.

168. **In this regard, the country should implement an Air Quality Management plan, covering the power and transport, industrial sectors, and the ger consumption of coal.** This should also lead to adopting fuel policies (lower content of pollutants), and to developing projects on households clean heating as well as clean cooking (using clean stoves with suitable fuels and proper use of these), green transport, road improvement and renewable energy. In addition, all commercial/ industrial consumption of coal should adopt measures to decrease emission of pollutants. That is, policies to revert air pollution in Ulaanbaatar are mostly linked to policies in the Energy sector.

Energy and emissions

169. **Electricity and heating services mostly rely on outdated, coal-based production units leading to economic and environmental inefficiencies.** GHG emissions from the energy sector have increased by roughly 50% to over 17,000 Gg CO2e during 1990-2016. To date, GHG emission from energy industries, including electricity generation, and electricity and heat production in CHP plants are about half of the country's total and growing. Local pollution is also

[81] (World Bank 2011). A more recent study (Guttikunda, et al. 2013) reaches similar conclusions.

growing with high PM 2.5 concentration levels, largely due to solid fuel combustion by households to meet their heating needs. The ever-increasing energy demand is the driving force behind much of the trends for GHG emissions and local pollution.

170. **There has been progress in renewable energy (RE)** which, when ongoing construction is finalized, will account for about 400 GWh or close to 7 percent of the total electrical output, up from a mere 1 percent in 2013. This rapid increase in RE share is mainly due to the contributions of wind and solar, first and foremost driven by the introduction of generous Feed-in -Tariffs (FiTs).

171. **Moreover, the transport sector contributes to more than 10% of annual GHG emissions in Mongolia, and is expected to grow with the fast motorization**. The CO2 emission from transport relative to GDP (PPP) was 0.062 kg/dollar in 2013, significantly higher than the EAP country average (0.056). Motor vehicle ownership is relatively high for its income level and vehicles are old and polluting in general. As discussed previously, congestion in UB is adding emission, air pollution, and noise problems. Demand for green modes such as walking, biking, and public transport is low due to harsh climate and cultural tradition, and more importantly, poor infrastructure and poor quality of services for these modes.

172. **Mongolia's electricity and heating sectors are in a weak financial state and rely heavily on government budget for needed investments to maintain and expand its services** – and mostly such budget allocation is not forthcoming resulting in a deterioration of assets across the value chain. Most generation, transmission and distribution companies even struggle to cover their operating costs. Meanwhile, the lack of financial sustainability has greatly constrained the ability of the sector to attract private sector participation and raise commercial financing. With energy demand growing steadily, this situation will lead to increased technical losses and unmet demand, resulting in an ever-increasing fiscal burden as well as quasi-fiscal deficits.

173. **Moreover, if the demand growth outpaces the new capacity addition, Mongolia will be facing serious challenges in meeting demand for electricity and heat and ensuring energy security.** As of June 2015, the total installed capacity of Mongolia is estimated at 1,082MW according to the Energy Sector Development Policy 2015-2030. Most of Mongolian electricity generating capacity comes from coal-fired thermal power plants, accounting for 85 percent of the total. Most of these plants were built from 1960 to 1980 and would likely be retired in the coming years. The Energy Regulatory Commission has granted licenses for construction of facilities to produce more than 1,500MW, including five wind farms with total installed capacity of 502.4MW. In 2014, the peak load was 960MW accounting for 93 percent of the national total installed capacity. The maximum available capacity of importing electricity from Russia is about 250MW. With the heating demand projected to grow rapidly largely due to urbanization and economic development, the heat production capacity will need to be expanded in the short to medium term. Moreover, the obsolete and inefficient power and heating networks are cause of significant distribution losses and frequent interruptions, compromising reliability of energy supply.

174. **To ensure reliable supply of heat and electricity increasing the Combined Heat and Power (CHP) capacity and upgrading electricity and district heating networks are critical for Mongolia**. However, as the country's CHP is coal based, Mongolia has difficulty in attracting sufficient donor support for upgrades although recent progress is being made with Russia on financing rehabilitation of existing CHPs. Within Central Energy System which is the main grid providing more than 90 percent of the national electricity supply, the load is concentrated in the

capital city, UB. However, UB has two distinctive parts - the inner quarters where Soviet-era CHP distributed heat and electricity serves relatively affluent districts and the poorer outskirts which remain unserved. Since upgrading the ailing existing CHP has stalled, it is not easy to consider extending the grid and district heating infrastructure to the outskirts of the capital city.

175. **Several factors have prevented the sector from becoming more financially viable and less dependent on the state budget**. First, the existing electricity and heat tariffs are set below cost recovery level and encourage wasteful consumption while discouraging investments. ADB, in their 2013 Master Plan, estimated that a 70 percent tariff increase for electricity and 130 percent for heating was needed to achieve full cost recovery. No newer estimates are available, but there is little reason to believe that the situation has improved. Second, the current market structure tends to constrain efficiency and long-term investment planning due to the lack of incentives for efficient operation. As an example, there is no economic merit order for the least-cost dispatch of power and heat from CHPs. Third, at the company level, the lack of a commercial focus and reduced funds for proper maintenance result in high technical and commercial losses in the power and heating systems.

176. **The electricity and heat market in Mongolia is state-dominated and tariffs for coal based electricity and heat are kept at a low level.** Therefore, income is low, making little financial sources available for maintenance and investments. Mongolian law requires that electricity tariffs are set at cost recovery levels, but they are often kept low to ensure affordability by the poor segment of the population. In recent years, tariffs have been frequently raised primarily to counter this trend as well as in a response to inflationary pressure. Nevertheless, due to delays in tariff adjustments the financial situation of distribution utilities, both public and private, has not improved. Given that private utilities are fully regulated, in practice they operate like the public ones.

177. **Mongolia has substantial unrealized RE potential in wind and solar.** However, only a small portion of this potential has been exploited for domestic and export purposes. Following the inauguration of Mongolia's first utility-scale wind farm facility (Salkhit) in July 2013, GoM has demonstrated a strong political commitment to green development by setting the target to increase the share of generation capacity of renewable energy sources to 20 percent by 2020 and to 30 percent by 2030, up from the current 3 percent, and has established Feed-in Tariffs (FiTs) for wind, solar and hydropower.

178. **As a result of the generous FiTs, a substantial number of licenses with power purchase agreements (PPAs) have been granted to developers** of solar power (with a total capacity of 200 MW) and wind power (with a total capacity of 450MW). Unfortunately, these arrangements were made without proper consideration of the ability of the power grid to absorb this much variable power and without regard to the ability and willingness of electricity consumers to accept the necessary tariff increases. For this reason, the licensed developers have run into difficulties in establishing their plants, leaving most licenses in limbo. (As the existing generation assets are very old and fully amortized, the current sector generation costs include only the variable costs – fuel costs. This results in a significant cost differential between RE under FiT (USD 8-9 cent/kWh for wind, 15-18 cent for solar, as opposed to 2-3 cent for the existing CHP) which renders RE uncompetitive.)

179. **These contingent liabilities because of the generous FiTs for RE are an important challenge**. Licenses have been granted to developers for a total of 1142 MW of RE capacity (with the potential to supply about half the total present electricity demand) with little regard to technical absorption capacity of variable power, or the financial implications of all this RE generation capacities coming online. The clear majority of the granted licenses (around 1,000 MW) have not yet resulted in plant construction for various reasons but if these plants were to go ahead they will force the utilities to pay prices up to four times as high as the average consumer tariffs. If these high costs are passed on to the consumers though a "green" levy, as per present regulation, this could lead to serious affordability issue; and conversely, if the high tariffs are to be absorbed by the utilities they would need massive capital injections from the government to survive. Finally, Mongolia's import of electricity from Russia by the Central Energy System (CES) and the Western Energy System (WES) exposes Mongolia to fluctuations in foreign exchange (the share of imported electricity in total electricity consumption has grown from less than 5 percent in 2001 to over 20 percent in 2016).

Climate change and pasturelands[82]

180. **Climate change poses additional risks to sustainability of natural resources, economic activities and human health.** The rising temperature and uncertainties in rainfall associated with global warming are likely to increase the frequency and magnitude of climate variability and extremes. According to weather observations, an increase in average temperature of 2.14℃ is confirmed between 1940 and 2008[83] (see Figure 20, top panel). Recent estimates on Mongolia's future temperature suggest that winter temperature change is projected to increase by nearly 2.1 – 2.30 ℃ in 2016-2035. Precipitation is also expected to increase, but no change in summer precipitation. At the end of this century, winter precipitation is projected to increase by 15.5% up to 50.5%, depending on the assumptions, potentially increasing floods (Ministry of Environment and Green Development of Mongolia, 2014).

181. **Any adverse impact of a changing climate on pasture availability would threaten forage yield, livestock productivity, and, ultimately, local and national food production capacity**. Hence, environment and climate condition play a key role in the sustainable development of the country. During the past 40 years, biomass in the rangeland decreased by 20-30%. About 70% of the grassland in the country is under the influence of desertification (Ministry of Environment of Japan, n.d.). Mongolia's natural resources include forests and a variety of minerals. However, the country's vast population depends on livestock and other climate-dependent sectors. The subsector of animal husbandry employs 47.9 per cent of the total population, produces 34.6 percent of agricultural gross production, and accounts for 30 percent of the country's export: clearly, animal husbandry plays a major role in the national economy (Batima 2006).

182. **In recent years, pasture degradation has increased almost everywhere in Mongolia and pasture yields have decreased**. Many experts claim that this is happening because traditional pasture use practices have been lost, while many herders say that it is caused by a reduction in precipitation. Both factors contribute, and the effects on pasture resources are multiplied by increased herd sizes and overgrazing (see Figure 20, bottom panel). Mongolia has no

[82] Part of the analysis and information in this section is taken from (Asian Development Bank 2014).
[83] (Ministry of Environment of Japan, n.d.)

comprehensive national regulations on pasture land management, which makes it difficult to address the environmental issues on a national level. (ADB, 2014). By 2000, Mongolia had 13 million hectares of forests covering less than 10% of the total land area, of which the area for potential commercial forestry totals about 5 million hectares. Management of the forest resources of Mongolia suffers from several weaknesses such as unregulated over-use and inadequate protection. Some 1.6 million ha of forest area have been lost between 1974 and 2000. The main causes of deforestation in Mongolia are (i) increasing livestock numbers; (ii) increasing demand for fuel and industrial wood; (iii) the impact of forest fires (UNEP, 2001). Grazing and browsing in forest areas are most destructive to plantations and tree growth, causing deformities and stunting growth. Livestock breeding without adequate management system has major negative impacts on remnant forest growth. Between 1992 and 1995, the incidence of fires in forest areas increased because a sharp rise in the number of people using the forest and steppe areas to cut trees, pick berries and nuts, collect firewood and deer horns, and to hunt.

183. **Mining-related infrastructure projects also seem to have impacts on Mongolia's pasturelands and biodiversity**[84]. In semi-arid areas like South Gobi, the extreme dust generated from poorly planned dirt roads built for mining operations is compromising the health of local people, as well as their livestock. These haul roads, which are used to transport minerals to China run through grazing areas, leading to degradation of pasturelands. Land use for mining is also not compatible with the Mongolian culture and the herders blame mining activity for the drying up of wells and increasing health problems amongst the local population. Lastly, with so much mining activity and large-scale infrastructure projects, cumulative impact assessments need to be undertaken. Mongolia's deteriorating environmental situation is exacerbated by irresponsible vested interests, poor coordination among ministries and agencies, inadequate monitoring of natural resource conditions and weak enforcement of environmental regulations[85].

184. **In addition to pasture degradation and deforestation, Mongolia is also facing desertification.** At least 90% of Mongolia's pastureland has experienced some level of desertification, of which 5% has been classified as having experienced very strong desertification, 18% strong desertification, 26% medium desertification and 23% low desertification. It has been found that desertification is predominantly (approximately 87%) caused by human factors rather than natural factors. These anthropogenic factors include overgrazing of livestock, erosion of farmland soils, burning, and climate change (Ministry of Nature, Environment and Tourism, 2011).

185. **The Law on Land (2002) defines and controls of land use in Mongolia.** Among many provisions, it statutes land certification to be undertaken every 5 years to capture changes in land characteristics and to inform land-use planning. The Law on Prevention of Desertification and Soil Protection (2012) regulates responsibilities regarding desertification control and soil conservation and rehabilitation. Several entities such as the Administration for Land Affairs, Construction, Geodesy and Cartography (ALACGAC) and National Agency for Meteorology and Environmental Monitoring (NAMEM) collect data and oversee assessments and certifications of land quality and use. However, evaluation of land management practices has been lacking and insufficient coordination with soums, herders and other organizations makes it difficult both information sharing and able policy implementation.

[84] The University of Queensland, Center for Social Responsibility in Mining, April 2014. Mongolia's mining boom raises environmental concerns. http://www.dw.com/en/mongolias-mining-boom-raises-environment-concerns/a-17534285

[85] World Development book case study – Mining in Mongolia, 2011. Mega-mining in Mongolia – A development bonus or resource curse? https://newint.org/books/reference/world-development/case-studies/mining-mongolia-development-resource-curse/

186. **Land tenure arrangements among herders tend to favor common access to pasture and water resources**. This hinders development of private markets for land -which is not favored by pastoralists- and consequently creates difficulties in financing and development of higher productivity livestock production. Customary rules are insufficient to deal with growing market activities and the environmental pressures that follow. Moreover, post 1990-revolution, multiple institutional arrangements of pasture management, as well as maintenance of infrastructure, have fall in disuse and new ones have emerged. But new legislation on pastureland management has been interpreted differently across soums which weakens the implementation and enforcement of the existing regulatory framework.

187. **The National Livestock Program was introduced in 2010 to improve the legal environment on land use.** The National Livestock Program (NLP) was approved by Parliament in 2010 and has among its many priorities advocating for the livestock sector as the main traditional economic activity of the country and to formulate a legal, economic, and institutional framework for sustainable development. Preliminary evaluations suggest that the NLP has significant climate benefits, both in adaptation and mitigation. Among these, the studies cited indicated that it could help increase the resilience of the herd to extreme weather events such as dzud, and increase the economic resilience of herders in the face of more gradual climate change. In terms of mitigation, the NLP activities may improve pasture quality and have the potential to directly sequester carbon by increasing soil carbon stocks.[86]

Natural disasters: it's not only the dzud [87]

188. **Mongolia is regarded as a natural disaster-prone country.** It is exposed to several geophysical and weather/climate-related hazards, some of which are increasing in frequency and magnitude. These represent additional risks to the accumulatio of genuine savings be it in terms of economic natural resources, economic infrastructure or human capital.

189. **Partly due to climate change, the number and frequency of natural disasters are increasing**. Annually, Mongolia experiences 25-30 atmosphere-related natural hazardous phenomena, of which almost one-third have met the criteria of natural disasters. The frequency of extreme weather phenomena has doubled in the last two decades and an increasing trend of hazards is expected. The most significant weather / climate-related hazards the dzud. 'Dzud' is a multiple natural disaster consisting of a summer drought, which results in inadequate pasture and production of hay, followed by extreme winter conditions with deep snow, strong winds and lower-than-normal temperatures. Recent studies, showing data until 2010, also show an increasing frequency of dzuds and droughts over the past six decades (see Table 6).[88] Dzud events can be highly impactful: causing livestock mortality of more than 30% once per decade5 and an event in 2000 increased national rural poverty from 37% to 47%5. The 'dzud index' has increased in recent years due to a combination of intensified climate dryness (drought) and colder and snowier winters. Storms (including dzuds) constituted 50% of disaster events recorded between 1990-2014 and affected over 1 million people in Mongolia in the beginning of the 21st century3. However, it is uncertain whether dzuds will become more frequent or severe under climate change.

[86] (Asian Development Bank 2014)

[87] Information taken from recent *Climate Change Adaptation & Disaster Risk Country Profile,* prepared by Bradley Hiller, Ana Bucher and Todor Arsovski, and from (World Bank 2016).

[88] See Fernández-Giménez, María E., B. Batkhishig, and B. Batbuyan. 2012. Global Environmental Change 22: 836-851;

190. **Also, related to climate change, river flooding hazard is classified as 'high'.** This means that potentially damaging and life-threatening river floods are expected to occur at least once in the next 10 years. The hazard level is highest in southern-central and select northern regions. Flooding constituted 28% of national disaster events recorded between 1990-201410. Increased precipitation intensity and storm events, coupled with melting permafrost and glaciers, tends to correspond with increases in peak river discharges. In Ulaanbaatar, more than 200,000 people reside in medium-to-high flood hazard areas.

191. **Additional risks to capital accumulation are earthquakes.** Major geophysical risks occur generally on a multi-decadal timescale, but with potentially acute and wide-reaching impacts on infrastructure and people. Primary geophysical hazards in Mongolia is the earthquake hazard. This is classified as 'high', meaning that there is more than a 20% chance of potentially-damaging earthquake shaking Mongolia in the next 50 years. The hazard level is highest in the western and central-western regions. Earthquake secondary hazards include fire, landslides and liquefaction. The capital city Ulaanbaatar experiences 30 to 50 quakes above 5.0 on the Richter magnitude scale, annually.[89]

192. **The Law of Mongolia on Disaster Protection (2003) authorizes the legal framework for disaster prevention, rescue, response, and recovery.** The Law provides the mandates for disaster protection organizations, agencies and activities, including the rights and responsibilities of the State, local authorities, and other stakeholders including citizens. The Law also designates budget sources to finance disaster protection activities. State activities are supported from the State budget, while local budgets are used for the Aimag, Capital City, Soum, District, Bag, and Khoroo.

193. **With this legal basis and the resulting organizational framework, the overall disaster risk management responsibility rests with the National Emergency Management Agency (NEMA)** and its branches, including aimag (province), Capital City and district divisions and departments, and rescue teams and national civil services. NEMA is currently coordinating across ministries to update the Implementation Plan of the State Policy and Program on Disaster Protection 2012-2020 to serve as a new national strategy for disaster risk reduction. This will integrate Sendai Framework implementation and monitoring into national systems and mainstream disaster risk management in development programs, while providing coherent actions for various sectors to take toward reducing disaster risk.

194. **From an economic point of view, the risk of dzud is of special significance.** In past years there is a growing debate on whether dzuds are affected by climate change, whether they are becoming more frequent and what is the human component of their impact.[90] In any case, there is explicit evidence of their severe impact upon the size of livestock -a main component of capital accumulation and hence production for the country- and prevention against these shocks is crucial for economic sustainability of rural populations (the 2009/2010 dzud is associated with a decline of nearly 25 percent of the herd). Differential impacts across provinces show that better information, coordination across communities, better markets for fodder and better policies for

[89] Other geophysical risks are volcano for which potentially damaging eruptions are possible and for which hazard level is high in the eastern provinces. On the other hand, landslide hazard is classified as 'low'.

[90] See (Fernández-Giménez, Batkhishig and Batbuyan 2012), (Du, Shinoda and Tachiiri, Mongolian herder's vulnerability to dzud: a study of record livestock mortality levels uring the severe 2009/2010 winter 2017) and (Sternberg, INvestigating the presumed causal links between drought and dzud in Mongolia 2017)

land management and pasture conservation are needed to avoid the severe impact of this type of disaster.

195. **Because of potential impact on a large number of people, two main disaster risks, flooding and earthquakes, should receive special attention.** On the one hand, like many places around the world, UB city's public facilities (notably schools and administrative buildings) are particularly vulnerable to large earthquakes because most were not built to current international seismic standards, and many have deteriorated due to age. For example, thirty percent of the city's 294 public schools are more than 40 years old and the oldest 75 percent have little or no seismic design consideration, minimizing their ability to withstand a large earthquake. On the other hand, households without residential plots regularly occupy known flood hazard areas because of proximity to services or transportation links, which increases their risk. Other factors include poor solid waste management, which has congested a significant proportion of the city's natural and artificial drainage systems. Many sections of existing levees and drainage structures have been demolished to make way for new construction, while the remaining sections are poorly operated and maintained. Rivers are heavily sedimented, which further reduces the conveyance capacity of the drainage system.

196. **The National Emergency Management Agency has performed a detailed seismic vulnerability assessment of Ulaanbaatar City's public schools**, in cooperation with the Metropolitan Education Department, Ministry of Construction and Urban Development, and other stakeholders. This initiative has identified the schools facing the highest seismic risk, and provided options for a cost-effective risk reduction program. Seismic risk analysis of the design-level earthquake, and the corresponding cost-benefit analysis show that the most vulnerable 100 public schools (34% of total) would account for 70% of casualties. Simple, cost-effective and non-intrusive retrofit options to reduce seismic risk are available for the types of vulnerable public buildings found in UB. Therefore, retrofitting (strengthening) these most at-risk schools could significantly reduce potential loss of life in an earthquake.

197. **Furthermore, the Municipality of Ulaanbaatar has developed key strategic directions to mitigate UB city's flood risk.** Given the many drivers of flood risk in Ulaanbaatar, the historical approach of expanding flood control (structural) measures in the city will not be sufficient to manage the growing risk. High-intensity rainfall in the summer, which used to be the prime driver, is no longer the only cause of flooding in UB city. Based on rigorous flood risk assessment and in-depth consultations with communities, experts and stakeholders from various sector, a Flood Risk Management Strategy was developed in consideration of a range of possible risk management actions. This includes integrated structural and non-structural measures to reduce the probability of flood occurrence, reduce the exposure of people and assets, and reduce physical and social vulnerability.

When nature counts: Natural wealth in Mongolia

198. **Total wealth per capita in Mongolia, after including measures of depletion of natural resources, has been increasing in recent years.** A complete assessment of genuine savings in Mongolia should include economic savings and investment (as described in section II), accumulation of human capital (as described in section III) and conservation or depletion of natural

assets (as described in previous paragraphs).[91] Between 2000 and 2014, total wealth per capita has increased in more than US$ 20,000 (in constant 2014 US$), which represents an average annual increase of 2.8 percent (Figure 21, top left panel). This increase, has not been experienced in all forms of capital. On the one hand there is an increase in human capital (i.e., accumulated years of schooling and job experience in the population) and in non-renewable natural capital. On the other hand, net foreign assets have declined (because of increasing foreign debt) and so has renewable natural capital (Figure 21, top right panel). These losses almost wipe out all gains in human capital making the accumulation of non-renewables the main source of increased wealth per capita. This pattern of accumulation has some distributional consequences. While fossil fuels and minerals have increased natural wealth per capita in more than US$ 21,000 (constant US$ of 2014), forests, cropland and pastureland have declined in US$ 6,000 in total (Figure 21, bottom left panel). This involves a decline in natural assets utilized in rural areas and by those working in agricultural activities, whereas those living in towns and working in mining activities have seen an increase in their stock of capital.

199. **In comparative perspective, the process of total wealth accumulation in Mongolia, shows undue losses in renewable natural capital and net foreign assets**. Table 7 shows the components of total wealth growth for a selection of comparison countries. Mongolia's gains in total wealth sit in the middle of the range observed (ranging from around US$ 6500 in Ghana and Zambia to nearly US$ 60,000 or more in Azerbaijan and Kazakhstan). It similarly occupies the middle range in terms of accumulation of sub-soil assets and human capital. However, it is the country with the largest losses in net-foreign assets, in pastureland and one of the largest in renewable natural assets (only second to Kazakhstan). A more balanced accumulation of assets, with an acceleration of human capital accumulation, a reversal of the decline in renewable assets and better macroeconomic management, should be crucial instruments for Mongolia achieving economic diversification, economic stability and higher standards of living for all.

200. **The use of natural resources has had diverse impacts on wealth accumulation, but also has created growing health costs upon the economy.** Health costs declined in the 1990s, mostly due to a fall in household air pollution from heating with solid fuels. Since year 2000, ambient PM2.5 has more than doubled, and household air pollution has increased again. As of 2016, total economic costs of health risks (in constant US$ of 2011) are three times higher than in 1995 (Figure 22). The growth of the economy has made these trends look favorable in relative terms (economic costs of health risks have declined from 12 to 9 percent of the GDP between 1990 and 2016), but they still increase in per-capita terms: from US$ 160 in 1995 to US$ 365 in 2016 (in constant US$ of 2011). These environmental health impacts show that uses of natural assets not only affect wealth accumulation, but may also have deleterious effect upon human capital

[91] The computation of changes in wealth per capita uses a great deal of socio economic data and follows several steps. The components are defined as follows. Total wealth is the sum of produced capital, natural capital, human capital, and net foreign assets. Produced capital is the value of machinery, buildings, equipment, and residential and nonresidential urban land. Natural capital is a valuation of fossil fuel energy (oil, gas, hard and soft coal) and minerals (bauxite, copper, gold, iron ore, lead, nickel, phosphate, silver, tin, and zinc), agricultural land (cropland and pastureland), forests (timber and some nontimber forest products), and protected areas. Human capital is the present value of future earnings for the working population over their lifetimes. Net foreign assets are foreign assets minus foreign liabilities. For more details on the definition, construction and estimates of changes in net wealth see (Lange, Wodon and Carey 2018).

accumulation (rise in non-communicable diseases such as lung cancer and other respiratory ailments noted in paragraph 103).[92]

201. **Adding other environmental costs to health costs gives a more complete picture of the economic costs of depletion of natural resources in Mongolia.** As explained in the previous paragraph, heath costs declined in the 90's but have increased since in absolute and per capita terms. Large increases have also been seen in GHG emissions from fuel fossils (US$ 125 million to 1324 million, at constant US$ 2011), which represent a ten-fold increase in per capita terms (from 54 to 549 constant US$ 2011) between 1995 and 2015. GHG emissions from agriculture have also increased from 291 to 445 constant US$ 2011.[93] Consequently, total environmental and health costs have been increasing since 1995 and are now even higher than in 1990. [94]

202. **Air pollution and carbon emissions also appear as serious development challenges in our comparisons**. With 75 percent of the population exposed to unhealthy concentrations of PM2.5 in the capital city, Mongolia is again among the worst performers both in the World and among peers. CO2 emissions per US$ of GDP in Mongolia (0.60 Kg per US$ in 2011 PPP terms) get rank 3 when comparing to peers and to the World in our benchmarking exercise (see Figure A1 5). During meetings with stakeholders, air pollution was only mention by representatives of the government in Ulaanbaatar. In general, environmental protection and air quality only get between 3 and 4 percent of the answers in in our consultation polls. Climate change and Disaster even less than 1 percent (see Figure A2 1).

[92] Environment-related health risks in the database include: ambient PM2.5 pollution; household PM2.5 pollution from cooking with solid fuels; ambient ozone pollution; unsafe water; unsafe sanitation; lack of handwashing with soap; lead exposure; residential radon; and workplace environmental risks (occupational exposure to carcinogens such as asbestos, arsenic, and benzene; asthmagens; and particulate matter, fumes, and gases). Data on premature deaths from illnesses attributed to these risk factors are from the Global Burden of Disease Study (GBD), produced by the Institute for Health Metrics and Evaluation (IHME), University of Washington, Seattle, United States. The GBD 2016 Risk Factors Collaborators (2016) paper and its supplementary materials provide a description of the risk factors and methods for estimating health impacts. This health risks are measured as Welfare losses which capture individuals' willingness to pay (WTP) for reduced fatality risk and are estimated using a value of statistical life (VSL). The VSL is an aggregate measure of WTP. VSLs are calculated for individual countries using benefit-transfer techniques, adjusting for differences in average per capita income across countries. The base value for the VSL is drawn form a sample of estimates from 24 stated preference studies done in high-income countries between 1982 and 2014. The VSLs estimated by these studies are adjusted to year 2011 prices using the national consumer price index and then converted to US$ at PPP rates or market rates, depending on the currency unit in which losses are reported. The base VSL is then related to Gross Domestic Product (GDP) per capita for the country and year in which the study was performed. GDP is used as a proxy measure of average per capita income. The ratio of GDP per capita in the study context to the country for which losses are being estimated is then taken to transfer the VSL, assuming an income elasticity of the VSL with respect to GDP of 1.0-1.4 for low- and middle-income countries and 0.6-1.0 for high-income countries. The VSL is age invariant; the same value is assumed for adults as for children. The central value for welfare losses reported in the summary data tables is the mean value from the simulated 95-percent uncertainty interval. For further details, see Narain and Sall (2016) and World Bank-IHME (2016).

[93] GHG emissions damages are estimated at US$ 30 per tCO2e (year 2014 prices) emitted from fossil fuel use and the manufacture of cement. Emissions from agriculture include emissions of methane (CH4) and nitrous oxide (N2O) from enteric fermentation, manure management in livestock production processes, rice cultivation, synthetic fertilizers, manure applied to soils or left on pasture, crop residues, the cultivation or organic soils, and the burning of crop residues and savanna. Emissions from forestry and other land use include changes in terrestrial carbon stocks due to land use change and land management practices. As with fossil fuels, GHG damages from land use are estimated at US$ 30 per tCO2e (year 2014 prices) times tons of CO2eq from net emissions/removals. Emissions for 2015 are extrapolated.

[94] Data and advice on wealth per capita, environmental degradation and environmental health costs kindly provided by Carter J. Brandon, Christopher Sall and Esther G. Naikal. Further access on these estimates in World Bank publication (Lange, Wodon and Carey 2018).

203. **The gravity of the water situation in Mongolia is emphasized in our benchmarking exercise**. With more than 90 percent of the population living in basins of high water stress, Mongolia is among the worst performers both in the World and among peers. Access to improved water sources in urban areas and water productivity (i.e., constant GDP per cubic meter of freshwater withdrawal) is also among the worst performers in both comparison groups (see Figure A1 5). Water management was mentioned as a serious concern during meetings with representatives of the government, particularly from Ulaanbaatar, and international private sector. However, water is voted only around 2 percent of the times as a key challenge in our consultation polls (see Figure A2 1).

204. **Forest loss in Mongolia, in contrast, does not rank bad in international comparison.** Indicators of change in forest area in the long run (1990-2015) and forest cover loss in the last decade have ranks 1 or 2 in our benchmarking exercise (see Figure A2 1). As indicated at the beginning of this section, it is not forests (which are usually gauged in international indexes of deforestation) what weakens Mongolia environmental position, but loses of pastureland due to climate change and overgrazing.

Box 4: Governance in Mongolia: The *long-term consequences of current politics*

Rapid and loosely regulated development of Mongolia's extractive economy has resulted in a poor record of sustainability and a large ecological footprint. The government's overemphasis on the mining sector has come with an oversight of pressing governance issues with respect to the environmental and social impacts of the sector. Some companies investing in copper and coal mining have a reputation for avoiding environment impact assessments – a process very weakly institutionalized in general– while many loopholes in the regulatory frameworks allow corrupt practices to skirt the law's intent. Central government has not shown clear commitment to limiting environmental deterioration as indicated by the political decision in 2011 to overrule a ministerial decision to suspend all coal exports to China from Tavan Tolgoi because of massive ecological damage along the Chinese border area. Mining now accounts for almost 85% of water use in the GUDG Basin, an 800% increase over 2010. Large scale extraction is compounded by activities of over 100,000 artisanal miners (so-called 'ninja miners') whose nomadic ('exploit and abandon') practices have produced large scale mercury and sodium cyanide pollution. Rapid land privatization of ranges has produced widespread degradation of pastures, while massive increases in groundwater use associated with rapid urban growth, irrigation and industrial use (including mining) compromises the recharge of groundwater resources. Air pollution in Ulaanbaatar has assumed health-threatening levels. Global climate change threatens to compound this already bleak picture. Any inventory of contemporary ecological and health challenges suggests that declining natural capital would negative affect Mongolia's asset portfolio index.

Policy Effectiveness cycle in Environmental and Natural Resources Policy

An analysis of the *policy effectiveness cycle* in economic policy notices that both a lack of long term vision and of monitoring scientific data has led to challenges regarding sustainability of several economic activities (e.g. both in mining and herding). Tensions between large multinational corporations, local economic and social groups, as well as national and international governments lead to power asymmetries that make policy about natural resources a very sensitive issue. Forces of change need to gather better information, disseminate knowledge and coordinate efforts to put together the different interests and make them negotiate transparent agreements.

Functional Problems	Government shortsightedness with respect to environmental sustainability. Weak institutionalization and enforcement of mining laws. Limited monitoring of, and scientific data on, key issues of range degradation, air pollution, and groundwater, all of which limit ability to enforce existing laws
Power Asymmetries and Political Coalitions	Regulatory capture by the political classes. Politician-business alliances heavily vested in extraction and related industries. Limited research and civil society engagement with resource management. Pressures from international investors and mining companies.
Forces for Reform	Recognition by urban and middle-class residents of environmental threats. Popular protests and growing NGO capabilities around ecological and resource problems. Growing international visibility of the costs and scale of extraction. International pressures through donors and transnational NGO and advocacy networks. Growing recognition of the challenges of global climate change.

Source: Excerpts from (Watts 2017)

V. DEVELOPMENT PRIORITIES FOR MONGOLIA

205. **The main purpose of a Systematic Country Diagnostic in the World Bank Group is to *"…identify a set of priorities through which a country may most effectively and sustainably achieve the poverty reduction and shared prosperity goals…"***.[95] Consequently, this document ends with a list of development priorities based on examination of benchmarking data, consultations with stakeholders, and deliberation among World Bank Group experts. This chapter has three main sections. First, a summary of the three previous chapters of this diagnostic. Second, an explanation of the prioritization exercise. And third, a selected list of development priorities the country should tackle in the short to medium term to eradicate poverty and share prosperity in a sustainable manner.

Summary of the diagnostic

206. **In the Introduction, three overall development challenges were outlined for Mongolia: unstable economic growth, population wellbeing at risk, and growing environmental stress.** These three challenges/goals have been diagnosed through three main questions: Has the country's economy had an efficient growth performance? Has it been able to generate "genuine savings"? Has it created institutions and regulations of "intangible capital"?

207. **In terms of performance, the Mongolian economy has experienced rapid growth in economic output and population wellbeing.** GDP growth, GDP per capita, labor productivity and earnings, have increased substantially over the last 15 years. After a decade of transition and stagnation (the 90s) the economy opened and the influx of FDI and economic modernization led

[95] IBRD/IDA/IFC/MIGA Guidance: Systematic Country Diagnostic, OPS5.01, GUID.1.04. December 23, 2016.

to a rapid transformation of the country. GDP per capita grew at 5.2 percent per year over the 2000s. The period 2010-2017 has seen an even faster growth of GDP/head of 7.3 percent per year. The size of the economy practically doubled between 1990 and 2015, and standards of living improved. The Human Development Index had a 27 percent increase between 1990 and 2015 and it is now in the high human development category. Poverty rates experienced a rapid decline from 38.7 percent in 2010 to 21.6 percent in 2014, although they rose again to 29.6 percent in 2016

208. **This good performance has been increasingly volatile, which questions its sustainability**. Over the last two and a half decades, the country has experienced three recessions, and entered six IMF programs. The macro-instability has had growing size over the years. The fiscal deficit was 5 percent of GDP in 2009, but 17 percent of GDP in 2016; loss of reserves was null before 2009, but nearly 1 billion US$ per annum the three years before 2016; external public debt grew eightfold between those two years going from around 20 percent to 87.6 percent of GDP between 2011 and 2016. The sudden increase of poverty rates in 2016 is a warning of the social impact of these growing macroeconomic crises. Moreover, the fiscally unsustainable path of the pensions system may hurt one of the main pillars of the social protection system in the country

209. **This unsustainability is also severe in environmental terms because the country has not experienced *green growth***. The growth of mining led to the expansion of CO2 emissions and rapidly declining carbon productivity over the past decade. The large herds of livestock have been associated to deteriorating pastures. These two activities are posed to conflict about water use and are responsible for water use stress in some localized areas. The rapid expansion of Ulaanbaatar has been accompanied by increased air pollution, growing flood and exposure to earthquake risk in some parts of the city, and rising morbidity rates in diseases associated to air pollution.

210. **In terms of generation of "genuine savings", investment and capital accumulation has been limited except for the mining sector.** The financial system -dominated by banks- has failed to mobilize capital for local enterprises, focusing instead in financing consumption and mortgages. In terms of infrastructure, all indexes identify poor transport infrastructure network as one major bottleneck for business environment in Mongolia. Herds of livestock, an important source of capital accumulation for many in the country, endure growing risks due to poor animal nutrition, lower reproductive rates and older age at slaughter, all of which negatively impact the returns of these assets. It is true that the country has experienced a remarkable expansion in FDI, and capital accumulation in mining industry -its main destination- has allowed the country to rapidly expand its output and exports and most productivity gains are related to this expansion. But regulatory treatment of FDI has been irregular, and this has threatened the country's economic stability.

211. **The same can be said about accumulation of human capital and preservation of natural resources.** Low life expectancy, relative to comparison countries, and growing incidence of non-communicable diseases, poses a serious risk to population wellbeing. With nearly half the national population living in gers (45 percent, as of 2015 census) -a third in Ulaanbaatar- inadequate housing is partly explaining population vulnerabilities due to limited access to sanitation, central heating, and transportation. Air pollution in UB is the worst among all capitals in the World. In rural areas, where agricultural activity is the main sustenance of wellbeing, there are reports of pasture degradation and deforestation -due to livestock growth and overgrazing-, as well as desertification with at least 90% of pastureland at some level of desertification.

212. **Total wealth per capita has increased in Mongolia, but not evenly**. On the one hand, non-renewable resources (e.g., minerals, oil) and human capital have increased. On the other hand, capital accumulation in terms of renewable resources (in particular, pastures) and net international assets have declined. The latter two are almost as big as the gains in human capital, making all total wealth gains accrue to the growth in non-renewables. This implies that Mongolia has only partly transformed the exploitation of its natural riches into new forms of capital (e.g., infrastructure, skills) with two main additional consequences: first, a concentration into a less diversified productive assets base and, second, uneven distribution of assets that favors those related to the mining economy and is detrimental to those working in agricultural activities.

213. **Finally, in terms of "intangible capital", the country has many good and modern laws and regulations but enforcement institutions suffer an "implementation gap"**. To counter the inherent instability of commodity prices and its impact on the budget, the country introduced a Fiscal Responsibility Law in 2010. Similarly, for the financial sector in general, a Financial Sector Medium-Term Development Strategy is in place, prudential standards towards Basel II and Basel III accords have been implemented, a Financial Stability Council Bank Deposit Insurance Law were adopted by 2013. More recently, a Law on Pledge of Movable Properties and Intangible Assets, and new Banking, Bank of Mongolia and Deposit Insurance Laws have been approved in 2017. However, the government did not follow the rules of the Fiscal Sustainability Law -which it postponed and modified on multiple occasions since 2012- and regulatory forbearance in the financial sector was pervasive before 2017, allowing bank vulnerabilities to grow.

214. **There are also multiple plans and policies for health, education and urbanization, but implementations challenges remain.** The National Health Sector Strategic Master Plan 2006-2015, the State Policy on Health 2017-2026, the Mongolia Sustainable Development Vision 2030, among others delineate objectives and policies for improving the quality of health services but these plans face insufficient funding and fragmented financing. Total expenditures on health in Mongolia are like comparable countries but since it has higher incidence of non-communicable diseases then it spends less than needed given its burden of disease. The out-of-pocket payments (OOP) have been persistently high: nearly half of total health expenditure. The Ulaanbaatar Master Plan 2030 promotes urban expansion but faces implementation difficulties due to incomplete or burdensome regulations in terms of cadaster, land use and urban taxation. Water, electricity and transport companies run deficits and cannot recover costs, while facing regulations that limit opportunities for new investments and modernization.

215. **There are also several important regulations to protect natural resources, but there is some evidence that enforcement of these plans and regulations can be improved.** For instance, the Green Development Policy (2014-2030), the Water Law of 2012 or the Law on Prevention of Desertification and Soil Protection of 2012. However, the depletion of water sources, growing air pollution, pasture degradation and increasing disaster risks, call for questions about the actual impact of plans and enforcement of laws and regulations. In some cases, the sheer size and cost of the problem (e.g., air pollution in UB) hinder rapid progress. In other cases, lack of coordination and complex political economy conflicts among divergent interests of different social groups also play a role in impeding progress in preserving the value of natural wealth of the country

216. **The problem of an "implementation gap" -the need to implement, enforce and monitor regulations- can partly be addressed by improving the civil service and public-sector management.** The numerous regulations need to be implemented by a motivated and

competent civil service. In contrast, there is consensus that the meritocracy of the civil service has been undermined through repeated rounds of patronage-driven recruitment. This may lead to loss of talented staff with valuable professional skills which will exacerbate existing skills gaps, reduce the overall capacity and capability of the civil service and compromise its ability to deliver public goods and services to the citizenry. Moreover, budgetary information, financial management and public procurement, have drawbacks that need to be overcome to make public expenditures more efficient. These problems are the manifestation of a deeper governance problem of political competition leading to clientelistic practices and growing social perceptions of corruption.

A ranking exercise

217. **Further direction is needed for ranking more specific problems according to their influence upon attaining inclusive and sustainable growth**. The previous diagnostics gives a general analysis of the main problems of the Mongolian economy and its general causes. This SCD proposes a list of development priorities for Mongolia based on a combination of quantitative benchmarking, stakeholders' consultations and WBG experts' deliberation.

218. **The benchmarking exercise gauges Mongolia's performance in comparison to the rest of the countries of the World -and a few comparison countries- through a selected number of development indicators**. Mongolia has three distinctive characteristics: it is a landlocked country, it has a democratic regime, and it is a mining-driven economy. Comparison countries are the ones that share at least two of the three features, and are not high-income countries (Figure A1 2, in the Annex, illustrates the selection of comparison countries). The development indicators were chosen from experts of the World Bank Group (full list of indicators in Table A.1. 1). In most cases, indicators refer to the most recent year available for the period 2013-2015. For each indicator, a measure of distance to the best performer was computed for every country in the set. Ranking all the indicators for a given country provides an indication of the areas in which the country is far (near) to the best performer, and hence an indication of development challenges that require more (less) priority in development policy and reform (see full description of benchmarking exercise in Annex 1: A benchmarking exercise for Mongolia).

219. **The stakeholders' consultations had two forms: face-to-face meetings with diverse social groups and an online/web-based platform to enable participation by a wide range of stakeholders**. Public engagements with diverse stakeholder groups were organized from August 30 till October 6, 2017 in Ulaanbaatar city and 5 provinces. Twenty-five meetings were held in total with close to 400 participants. In Ulaanbaatar, separate meetings were conducted with central government, Parliament, development partners, civil society organizations (CSOs), academia, national and international private sector. To gather various stakeholders' views in four regions of Mongolia, separate meetings with local government, CSOs, and private sector were held in Khovd, Orkhon, Umnugovi, Darkhan-Uul and Khentii provinces. The engagement process included both face-to-face meetings allowed for plenary presentations and discussions and, when needed, small group discussions (e.g. broader CSO meeting in Ulaanbaatar) with reporting by neutral facilitator. For online engagement, an easily accessible online survey in English and Mongolian was published and promoted online. The online survey was accessible on the World Bank webpage and promoted on social media from August 21 to October 20, 2017 to get feedback beyond those people who joined the meetings. This broader survey was filled out by close to 600 people with 91% of respondents taking the survey in Mongolian language. Summary of the meetings and polls is included in Annex 2: Consultations with Stakeholders.

220. **Finally, all the WBG experts that contributed to the elaboration of this SCD (listed in the acknowledgement section) were invited to participate in a seminar to discuss the ranking of development priorities for Mongolia**. Beforehand, each of the experts was requested to select three to five top development priorities that the country needs to tackle in the short-medium term. Based on a draft SCD, the benchmarking exercise, and a statistical description of the development challenges from the poll of stakeholders and WBG experts, the participants of the seminar agreed on a list of development priorities.

A list of development priorities:

221. **The distribution of rankings varies across different sources.** Figure 23 shows the distribution of answers during stakeholders' consultations (as collected from meeting polls as well as online surveys), answers from WBG experts' seminar and ranks from the benchmarking exercise. Although there is some correlation, there are also noticeable differences. For instance, environmental protection ranks much higher among WBG experts than stakeholders. Quality of roads, transport and urban development is rated a more serious problem by benchmarking data than by stakeholders. This variability can be explained by different understandings about what creates inclusive growth, different access to information and different interests. Average local population is more concerned about jobs, economic opportunities and current political events, experts tend to give special importance to their area of expertise, while data -specially in international comparison- may or may not confirm the views of these two groups.

222. **A clustering of answers by areas gives a clearer picture of rankings and defines two types of development challenges.** Figure 24 shows the same information after grouping answers by clusters.[96] The exercise shows two types of development challenges. First, one in which all sources of information -benchmarking, stakeholders and bank experts- coincide in selecting a main development challenge. Second, one in which some, but not all the sources coincide in choosing an area as a main development challenge.

223. **In the first category governance is the development challenge given priority across all sources**. Both stakeholders and WBG experts assign more than 15 percent of their answers to corruption and governance reform as a main development problem, while the benchmarking exercise gives an average code above 4 (the threshold chosen for a range from 1 to 8).

224. **In the second category, there are five areas with different rankings by different groups**. The cluster of jobs/private-sector-development/FDI/finance and the cluster of education/health/social protection/equality-of-opportunities, are highly ranked by stakeholders (well above 20 percent of answers in both cases), but less so by WBG experts and benchmarking. Given than jobs and social protection are the main drivers of poverty reduction and population wellbeing, there is no surprise that these areas receive the highest attention of stakeholders. Data does not show as high a priority because, as explained in several parts of the SCD, despite remaining and important problems the indicators of poverty, inequality and unemployment rates in Mongolia are not worse than in comparison countries, neither are indicators of FDI and population access to finance.

[96] Each group represents the summation of the percentage of answers to different problems, in the case of stakeholders and WBG experts, or a simple average of ranks, in the case of benchmarking data.

225. **There are two areas in which benchmarking data and WBG experts coincide in assigning high priority, whereas stakeholders do not**. These are the cluster of natural-resources/environmental-protection/climate-change/DRM and the cluster of economic diversification/macro stability. In both cases Mongolia has indicators of very deficient performance (e.g., highest pollution in capital city, high water stress, high concentration of exports, high inflation, high public debt) and experts have paid special attention to recent problems in these areas. Stakeholders may have a less complete understanding and information of these subjects, or may be affected by shortsightedness with respect the medium/long term consequences of these problems.

226. **Moreover, there is an area that gets comparatively less attention from stakeholders and WBG experts, but benchmarking indicators underline as of high priority**. The cluster of infrastructure/urban-rural development garners less than 12 percent of answers from stakeholders and WBG experts, but an average code close to 6 in benchmarking. This is due to the very low performance of the country in terms of use of non-solid fuels for heating, generation of renewable energy, quality of roads and access to internet. This coincides with the very low ranking that doing business and logistics indexes give the country in terms of transport and communications infrastructure.

227. **Finally, we add an additional filter based on the analytical framework from *Diversified Development***. Specific problems derived from the analysis in previous chapters are added to each area depending on their contribution to the main strategies *of Diversified Development.*[97] On the one hand, whether solving a given problem would help to accumulate "genuine savings", transforming and diversifying the asset base of the country. On the other hand, whether solving a problem would contribute to the formation of "intangible capital" in the form of more capable institutions to manage the complex challenges of the Mongolian economy. Based on all the above, the following priorities are listed in what follows and summarized in a table at the end.

Improve Governance: a cross-cutting root-issue behind all key challenges

228. **From fiscal stabilization and private sector development, to urbanization and environmental protection, weak governance is widely recognized as the root factor for unsustainable outcomes of recent years**. Thus, improved governance holds the key to tackle today's development challenges with lasting impact. Three broad governance issues are highlighted: pro-cyclical election policies, poor enactment and implementation of laws, and clientelistic political competition, with frequent shifts following changes in parliamentary composition. From a more operational point of view, these issues translate into problems in terms of credibility of fiscal budget, quality and predictability of public investments, and capabilities and consistency of civil service.

229. **Prudent macroeconomic management is perhaps the most urgent of governance problems.** The sudden-stop crisis of 2016, characterized by unsustainable current account and budget deficits, warned about the dire consequences of the boom-bust-bailout cycle**.** The still-pending task to restore prudent macroeconomic management needs continued attention. The authorities should reduce persistent fiscal deficits to sustainable levels and curb public debt

[97] Many of these have already been underlined in (World Bank 2016).

growth. These are pre-requisites to enable fiscal policy to smooth economic volatility by counter-cyclical fiscal policy, if necessary, since the country is still exposed to boom-bust commodity-price cycles and to foreign-investor confidence tests. Monetary policy should stay focused on maintaining price stability, provide adequate liquidity through conventional policy tools and avoid quasi-fiscal interventions.

230. **In terms of governance and prudent macroeconomic management, these are the priority challenges:**

i. Restore meritocracy and reduce the exodus of technical staff, and adopt the design and implementation of modern human resource management methods in civil service;
ii. Increase fiscal budget comprehensiveness and transparency through better control, reporting, coordination and implementation of the budget;
iii. Set the institutional pillars for a sound public investment management (PIM) strategy and strengthen various stages of the PIM cycle, ensuring fiscal sustainability;
iv. Strengthen medium-term debt management;
v. Restore sound and sustainable macroeconomic management framework by fully implementing the fiscal consolidation plan, avoid off-budget programs and assuring independence of central bank.

Box 5: Governance in Mongolia: *A critical juncture*

Mongolia stands at a critical juncture in its post-communist reform trajectory. There is no simple relationship between fiscal crises and the likelihood that fiscal consolidation will trigger new sorts of incentives capable of breaking the political logic of weak management and governance. In a number of countries, the boom and bust cycle associated with turbulent commodity prices has not resulted in new incentives (or threats) capable of producing sustained and institutionalized fiscal consolidation over the medium and long term, while in other it has.

The problem is the implementation and enforcement gap (WDR 2017) even though there are credible commitments and forms of co-operation and co-ordination capable of providing public goods and better service provision in some areas and sectors than others. Mongolia is not without public sector capability and not bereft of pockets of effectiveness. The country's political settlement has given rise to a vibrant political system and asymmetric state capabilities. Its policy cycle, however flawed, has produced through its multi-party system forms of citizen engagement. Civil society groups have pushed back against powerful economic and political interest, and assisted the state in the formulation of policy while popular protest have garnered strength and visibility. A good example of this emerging collaboration between state and non-state actors can be found in Mongolia's South Gobi region, where tensions between mining companies and communities over the issue of water led to the adoption of a new voluntary code of practice (VCP) for common water management and reporting for the mining industry endorsed by the government, the private sector and the local communities.

Source: Excerpts from (Watts 2017)

Jobs and private sector development: the fundamental problem for most Mongolians

231. **Jobs, through employment and earnings are the most important driver for poverty reduction, but need to upskill for higher quality future jobs.** In recent years, employment creation with growing earnings –by the private sector in urban areas, and through farm incomes in rural areas– is the main reason behind poverty reduction. Encouragingly, this employment expansion has also witnessed a structural –and upskilling– shift from agriculture to services, supported by Mongolia's strong basic education system. However, still high unemployment rates and low female labor participation indicate that more can be done in terms of job creation. As the economy grows and becomes more complex, skills mismatch of recent graduates (especially at the tertiary level) is often cited by local stakeholders as a key cause for stagnating employment, productivity, and fulfilment of higher value jobs.

232. **Private Sector Development is the main driver of growth and jobs, but it is constrained by fiscal crowding out and unpredictable investment climate.** Despite undeniable advances in Doing Business indicators, and beyond current limitations in infrastructure -also listed as a priority - private investors still perceive Mongolia as a high-risk environment due to issues such as uneven access to regulatory information, licenses, finance and frequently changing regulations. The country could revert this by strengthening public investment management, improving the quality of the financial sector -particularly for SMEs-, and deepening trade facilitation reform with special focuses on inspection reform, food safety and trade logistics. By promoting a competitive business environment, the authorities lay the ground for areas of potential growth (especially animal products, textiles, apparel and tourism), which will diversify the economy and be crucial for Mongolia's long-term development especially for new job creation and new sources of FX income.

233. **This area involves activities mostly related to creation of job opportunities through expansion of labor demand.** One element of labor supply (modern-skill training) is included, but the rest refers entrepreneurial opportunities:

i. Address specific skills constraints that restrict the labor market prospects of youth and other groups, through modern-skill training programs;
ii. Promote entrepreneurship and self-employment through more access to financing, business development services and training;
iii. Strengthen financial sector stability, with a focus on supporting banking sector soundness and its ability to lend to the local corporate and SME sectors.
iv. Restore investors' confidence, improve implementation of investor protection legislation and develop investment promotion and attraction policies for the sectors such as agriculture, tourism and energy.
v. For the development of the agricultural sector, in particular: implement regulations of Food Product Safety Law and Food law, develop traceability system for meat and dairy and implement investment plan for veterinary services and transboundary diseases control.

Human capital accumulation and protection: turn mining riches into wellbeing

234. **Health: Impressive improvements in wellbeing in past two decades, but need more investment and for higher quality service.** Key indicators of wellbeing – life expectancy, maternal and newborn mortality, infectious disease – have all shown positive trend in the past two decades. However, life expectancy at birth (69 in 2015) is still lower when compared with neighboring countries. Non-communicable diseases are also rising, responsible for 78 percent of

all deaths in 2015, ranking Mongolia in the bottom half of peer countries. Other issues include domestic violence and disparities in rural and urban access to services. These challenges call for an expansion and quality enhancement of primary care, together with better incentives in the hospital system to cope with growing demands to care for NCD.

235. **In this area two elements need to be consider as priority:**

i. Reorganize services (more integration between primary care and hospitals) and improve quality to address the growing burden of non-communicable and chronic diseases;
ii. Reduce fragmentation of funding and quality of service through efforts to pool health funds and introduce evidence-based and systematic priority-setting processes for benefits package revision.

236. **Education: Underpinned impressive progress since market transformation, but needs continual investment and upgrade to fulfill Mongolia's development needs.** Mongolia's strong primary education system, with almost universal literacy, fueled growth over the past two decades. Today, while public spending on education remains at mid-level (compared to peer countries), the supply-demand gap is widening – especially for critical early childhood education – given the country's young demographics and fast urbanization. Moreover, as the economy becomes more complex and linked to the global market, upskilling in poor-quality tertiary and vocational education are much needed to prepare the incoming workforce for higher value jobs. Investment in education builds requisite human capital to generate productive returns (i.e. better jobs and incomes) for Mongolia's future.

237. **In this area three elements need to be consider as priority:**

i. Reduce inequities (urban-rural and socioeconomic divide) in access to quality early childhood, primary and secondary education;
ii. Rehabilitate rural schools and expand urban schools;
iii. Continue reforms of tertiary education subsector, targeting TVET, university - industry linkages, institutional autonomies, private sector incentives, and efficiency of public spending on STEM areas and R&D.

238. **Social Protection: Critical to protect the poorest and provide basic services, but need to be more targeted and fiscally sound.** The social protection system, despite its recognized merits in terms of coverage and equity, has had limited impact on easing macro-shocks or poverty reduction. While generally pro-poor, many programs remain categorical and universal. Main priorities would include:

i. Extend coverage and improve sufficiency of social protection programs;
ii. Improve programs that serve as a buffer to economic shocks in more means-tested and targeted manner; and
iii. Make pensions, Child Money Program and social protection in general fiscally sustainable.

Infrastructure: the groundworks of future diversification

239. **Several indexes show Mongolia at the bottom of global rankings in infrastructure.** This is a clear constraint on country's competitiveness. Mongolia ranked 110 out of 138 countries in Infrastructure according to the World Economic Forum's 2016. Large infrastructure projects,

while necessary for both national development and state revenues, carry the political risk of political capture (a governance issue again), with many core infrastructure (power, heat, water, transport) dominated by the state with limited private sector participation even within PPPs. Being land-locked, transport and logistics are acute concerns, hindering trade (especially tourism and agriculture), and the potential of the country to become a regional hub. The state is heavily involved in core infrastructure such as power, water and transport, and is likely to remain an important factor in these areas. However, more private sector investment and PPP options would ease fiscal pressures and rising pubic debt, as well as provide end-consumers of better technology, governance, and efficiency in the provision of utilities.

240. In this area, investments in transport infrastructure, energy (both electricity and heating) ICT seem most pressing:

i. Implement a national medium-term and long-term transportation plan with feasible financing plan;
ii. Pave access roads to ger areas and build sidewalks, together with sanitation and power infrastructure;
iii. Improving ICT sector policy and regulatory environment, an induce private sector participation to build out backbone networks in rural areas and participate in urban areas.
iv. Strengthen the energy regulatory framework (mostly by modernizing tariffs) and upgrade heat and power transmission and distribution infrastructure (mostly by opening the sector to private investment).

Protection of Natural Resources: shortsightedness would be a grave mistake.

241. **The impact of climate change and recent economic development upon the deterioration of natural resources.** The depletion of water sources in some areas, high levels of air pollution in UB, pasture degradation and increasing disaster risks call for enforcement of laws and regulations on natural resources. There are important efforts to stem environmental stress but increased participation from the public and less short-sighted policies from authorities are needed. On the one hand, legitimate conflicts of interest in the use of natural resources should be discussed transparently, recognizing the trade-offs involved. On the other hand, the limited awareness of the public and policy-makers, seems to indicate a myopic behavior that fails to address these grave problems and hence to implement adequate policies to prevent further dissaving. Policies towards cleaner heating alternatives in Ulaanbaatar, capacity building programs amongst herders to adopt better pasture management, and better administration of new water resources seem key initiatives to undertake.

242. **In this area protection of air in Ulaanbaatar, pasturelands and water in some areas, need priority attention:**

i. Clean air in UB though: promotion of access to cleaner and affordable heating solutions in ger areas of UB, improve air quality emissions controls in power and industry, and improve transport fuels, upgrade vehicle emission controls and control fugitive emissions (as well, already mentioned pavement of roads in ger areas).
ii. Water in UB: promote low-cost on-site sanitation solutions, and update the regulatory and institutional frameworks to support these solutions. And application of affordable and appropriate wastewater collection and treatment to the climatic conditions.

iii. Water in South Gobi: complete the ground water assessment and proper water use and allocation plans to satisfy the various economic demands with consideration to the herders' demand from the shallow aquifers
iv. Promote productive alliances and contract farming, including mechanisms for access to and sustainable management of pasture and water.

243. **In summary, this SCD finds that Mongolia has experienced undeniable progress in the past decade and a half, but it has done it through growing instability and hence in an unsustainable manner because it has generated few "genuine savings" to diversify the future of the economy and has to create more "intangible capital" to manage the volatility of a mineral commodity-based economy**. Given the diagnostics, this needs to be done by managing volatility and accumulating assets. The priorities discussed above are summarized and classified within these two strategic forces, although they usually overlap, in the following table:

	Accumulation of "genuine savings" to diversify productive assets	Formation of "intangible capital" to manage instability of a commodity-based exports economy
Governance	i. Sound public investment management; ii. Strengthen medium-term debt management;	iii. Restore meritocracy and reduce the exodus of technical staff iv. Increase fiscal budget comprehensiveness and transparency; v. Restore sound and sustainable macroeconomic management framework.
Jobs and private sector development	vi. Modern-skill training programs; vii. Promote entrepreneurship training and finance; viii. Strengthen financial sector stability;	ix. Investor protection legislation and investment promotion for the sectors such as agriculture, tourism and energy. x. Implement regulations of Food Product Safety Law and Food law, develop traceability system for meat and dairy and implement investment plan for veterinary services and transboundary diseases control.
Human Capital	vii. Reduce inequities in access to quality early childhood, primary and secondary education; viii. Rehabilitate rural schools and expand urban schools; ix. Continue reforms of tertiary education subsector.	iii. Reorganize health services (more integration between primary care and hospitals) and address growing burden of non-communicable diseases; iv. Reduce fragmentation of funding and quality of health

	x. Extend coverage and improve sufficiency of social protection programs; xi. Improve programs that serve as a buffer to economic shocks in more means-tested and targeted manner; and xii. Make pensions, Child Money Program and social protection in general fiscally sustainable.	
Infrastructure	vii. Implement a transportation plan with feasible financing; viii. Pave access roads to ger areas and build sidewalks, together with sanitation and power infrastructure; ix. … induce private sector participation to build out backbone ICT networks in rural areas and participate in urban areas. x. …upgrade heat and power transmission and distribution infrastructure (mostly by opening the sector to private investment).	xi. Improve ICT sector policy and regulatory environment, … xii. Strengthen the energy regulatory framework (mostly by modernizing tariffs) and …
Natural Resources	iv. Promotion of access to cleaner and affordable heating solutions in ger areas of UB. v. Promote low-cost on-site sanitation solutions, and application of affordable and appropriate wastewater collection and treatment. vi. Promote productive alliances and contract farming, including mechanisms for access to and sustainable management of pasture and water.	i. ……update the regulatory and institutional frameworks to support these heating and sanitation solutions. iv. Complete the ground water assessment on proper water use and allocation plans to satisfy the various economic demands with consideration to the herders' demand from the shallow aquifers

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TABLES

Table 1: The rules of FSF and FHF

Table 1: The rules of the FSF and FHF			
	Rules in - revenue sources	**Rules out-expenditures**	**Fund asset management**
Fiscal Stability Fund (FSF)	• Excess volatile revenue • Structural budget surplus • Unspent budget allocation from some special accounts funds (risk, reserve) in the previous fiscal year • Return on investments of the Fund asset	• Cover any gap in budget revenue if market price drops below the estimated structural price of minerals. • Transfer to the budget if the GDP growth rate equals to 0 or minus. • If there is a force major condition which results in a recovery cost from the budget that exceeds 1% of GDP	• Fund asset shall be more than 5% of the GDP in any fiscal year and it must be liquid and safe. • Central Bank will manage the fund asset until it reaches 10% of GDP. • The amount that exceeds 10% of GDP, should be managed by joint decision of the MoF and Central Bank. It can be invested both in foreign and domestic markets for longer investment horizons. • The Government shall purchase long term securities issued by the state-owned Development Bank with the condition of repurchasing them in accordance with the legislation within the set amount of investment to be made at the domestic market by financial savings.
Future Heritage Fund (FHF)	• State dividends from mineral projects • 65% of royalties from mineral projects, after distribution to the FSF • Return on investment of the fund's assets • 50% of additional, new mining revenues • 20% of excess mineral revenue windfalls starting 2018	• In the years, up to 2030, the FHF will cover operating costs of the fund manager – the Corporation - and its audit fees • Starting in 2030, 10% of net investment income of the Fund will be transferred to the state budget	• The Minister of Finance will be responsible for the overall fund management policy and monitoring of its implementation • A 5-personal supervisory council will provide oversight of the FHF and a 3-person advisory team will advise on the investment mandate • A dedicated Corporation is to be established to act as the operational fund manager • The Minister of Finance will approve the fund's investment mandate while the Governing Board of the Corporation will approve the fund's investment strategy and set the investment ceiling in a single investment

Source: World Bank staff compilation.

Table 2: Consolidated Budget and Central Budget Aggregate Expenditure Outturn: Compared to Originally Approved Budget

Consolidated Budget (in MNT, billions)							
	2010	2011	2012	2013	2014	2015	2016
Originally budgeted primary expenditure	2,80	4,046	6,11	7,04	6,83	6,90	7,007
Actual primary expenditure (2)	3,03	4,960	5,89	5,89	6,64	6,40	8,532
Difference: (3) = (1) − (2)	−238	−914	226	1,15	187	495	−1,52
Overall variance: (3) / (1) (%)	−8.5	−22.	3.7	16.4	2.7	7.2	−21.8
Central Budget (in MNT, billions)							
		2011	2012	2013	2014	2015	2016
Originally budgeted primary expenditure (1)		2,745	4,67	5,57	5,18	4,98	5,049
Actual primary expenditure (2)		3,584	4,27	4,42	4,79	4,33	6,440
Difference: (3) = (1) − (2)		−840	402	1,15	396	651	−1,39
Overall variance: (3) / (1) (%)		−30.	8.6	20.7	7.6	13.1	−27.5

Source: World Bank staff calculations staff using data from The Central Bank of Mongolia, BoP statistics.

Table 3: Mongolia's trade costs are high

between	*and*	**China**	**Japan**	**Korea**	**Russia**
Mongolia	**[total]**	125.7	201.3	189.9	136.1
USA	**[total]**	70.0	73.9	73.1	122.1
Mongolia	**[excl tariffs]**	110.0	188.1	167.4	120.1
USA	**[excl tariffs]**	59.4	68.5	63.7	110.0

Source: World Bank staff calculations
Note: data for 2013 and representing trade costs as percentage of the value of traded goods (average for all goods)

Table 4: Inequality in livestock production

	No of animals	Characteristics	Share of herding hh	Risk Management
Large-scale commercial herders	> 500	Provide full-time employment for family members and adequate incomes. Good access to pastures and inputs.	9%	Can move livestock long distances if necessary, winter preparation with hay and fodder production.
Small-medium scale commercial herders	200-500	Adequate incomes to support herding households but families are of middle or lower wealth levels and have limited access to capital. <300 sheep units is considered subsistence herding.	24%	Vulnerable to dzuds by their limited access to capital.
Small full-time herders	< 200	These herding households often have herds <100 animals, are poor without alternative sources of incomes, and are often dependent on state support. Would like to exit the sector if possible.	67%	Highly vulnerable to dzuds.
Periodic herders	often < 200	This group of herders enters and exits the livestock sector depending on economic circumstances. For this group, herding is a safety net.		

Source: World Bank (2017) Economic and Social Priorities for Sustainable and Inclusive Growth. Policy Notes.

Table 5: Poverty profiles by household head and dwelling characteristics 2016

By household head		poverty rate	poverty share
Gender			
	male	29.5	80.2
	female	30.3	19.8
Age			
	less than 30	27.0	11.0
	30 to 39	36.2	35.5
	40 to 49	30.3	28.6
	50 to 59	26.0	16.2
	60 ad more	20.7	8.7
Schooling			
	none	52.8	5.3
	primary	45.7	11.3
	lower secondary	43.9	23.6
	higher secondary	35.7	30.8
	vocational	27.4	17.3
	technical higher education	19.2	4.3
	higher diploma	9.5	2.6
	bachelor	10.6	4.8
	master	0.8	0.0
	doctor	-	0.0
Employemnt			
	employed	34.9	65.9
	unemployed	46..1	10.5
	inactive	30.6	23.7
Sector			
	agriculture	39.1	21.4
	industry	21.7	21.3
	services	19.8	23.2

By dwelling characteristics		poverty rate	poverty share
Dwelling			
	Ger	44.5	58.9
	Apartment	7.2	5.6
	House	27.4	33.3
	Other	36.3	2.2
Water supply			
	Central, hot and cold	7.9	6.5
	Central, only cold	36.1	41.2
	Protected well	35.5	23.9
	Unprotected well	40.3	11.4
	tanker truck	35.8	6.7
	other	38.9	10.3
Improved sanitation			
	No	41.2	19.9
	yes	27.7	80.1
Heating			
	central	7.9	6.6
	sample unit	37.9	90.2
	other	19.6	3.3
Electricity			
	central	28.1	82.0
	local	43.1	0.3
	solar	38.3	16.5
	other	51.1	0.9
	none	45.5	0.3

Source: (Mongolia, National Statistics Office of 2017), tables D.5 and D.8

Table 6: Increased frequency of dzuds and droughts in Mongolia…

Year	Type of Disaster	Frequency within 20 year period	Average interval between events
1944–1945	dzud + drought	1950–1970: 3	5 years
1954–1955	dzud		
1956–1957	dzud		
1967–1968	dzud + drought		
1976–1977	dzud	1970–1990: 2	9.3 years
1986–1987	dzud		
1993–1994	dzud	1990–2010: 6	2.8 years
1996–1997	dzud		
1999–2000	dzud + drought		
2000–2001	dzud + drought		
2001–2002	dzud + drought		
2009–2010	dzud + drought		

Source: (Fernández-Giménez, Batkhishig and Batbuyan 2012)

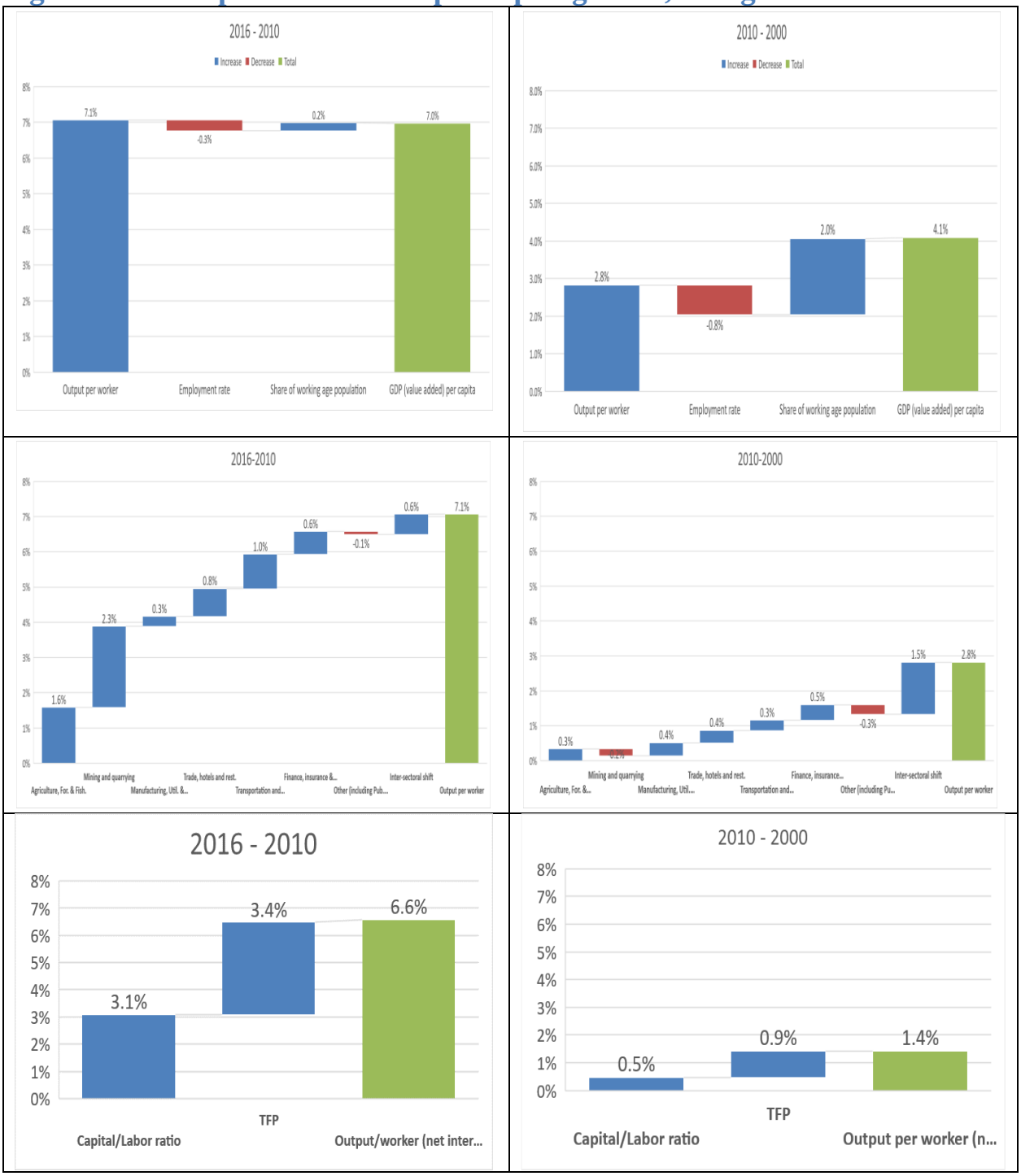
Table 7: Changes in per capita wealth for selected countries: 1995-2014

Per Capita, constant 2014 USD	Mongolia	Kazakhstan	Azerbaijan	Bolivia	Zambia	Ghana	Peru	Moldova	Kyrgyz Rep.
Total wealth	21,321	78,112	57,191	9,751	6,474	6,750	42,786	4,059	8,891
Produced capital	491	-1,373	7,403	1,573	-6,137	-1,294	10,086	591	2,785
Natural capital	15,411	37,001	35,885	4,399	573	1,008	14,013	-3,782	5,599
Forests, timber resources	-349	-11	6	-5	-307	-388	62	-23	0
Forests, non-timber resources	-26	-4	6	-1,729	-695	-53	-1,242	40	-1
Protected areas	1,978	-17	1,634	1,887	-1,137	-556	3,104	47	470
Cropland	-240	-4,456	889	725	340	1,856	1,469	-3,349	739
Pastureland	-5,615	-3,143	2,847	652	-750	-1,416	-477	-493	3,045
Sub-soil assets	19,662	44,633	30,503	2,868	3,122	1,565	11,097	-3	1,346
Oil	784	36,679	27,933	589	0	732	1,002		31
Natural gas	0	1,465	2,443	925	0	0	427	0	-6
Coal (all grades)	8,966	1,453	0	0	-28	0	5	-3	27
Metals and minerals	9,913	5,036	127	1,354	3,151	833	9,663	0	1,295
Human capital	13,164	44,334	6,370	2,090	9,673	7,507	18,880	8,462	1,252
Net foreign assets	-7,744	-1,851	7,534	1,689	2,366	-471	-192	-1,211	-744

Source: World Bank staff calculations using data from (Lange, Wodon and Carey 2018)

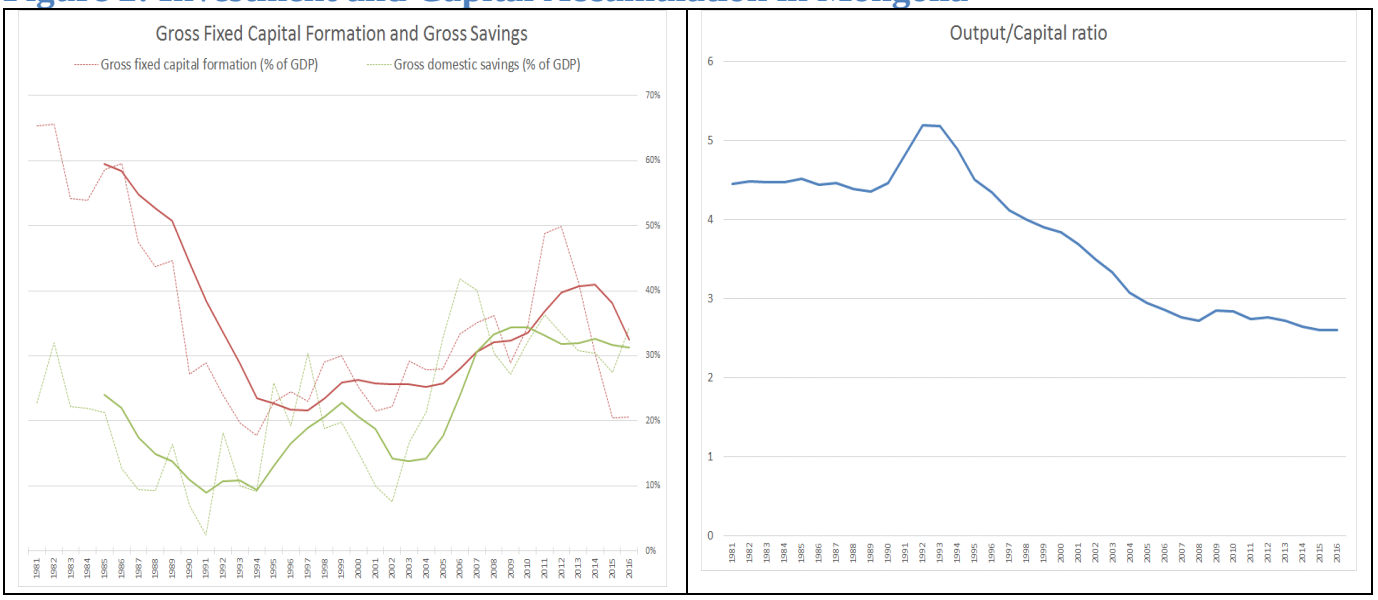
FIGURES

Figure 1: Decomposition of GDP per capita growth, Mongolia 2000-2016



Source: World Bank staff calculations using Job Generation and Growth Decomposition Tool (JoGG) from World Bank's Employment Lab.
Note: GDP (value added) per capita and per worker refers to value added at factor prices (i.e., excluding indirect taxes and transfers). Vertical axes measure average annual growth.

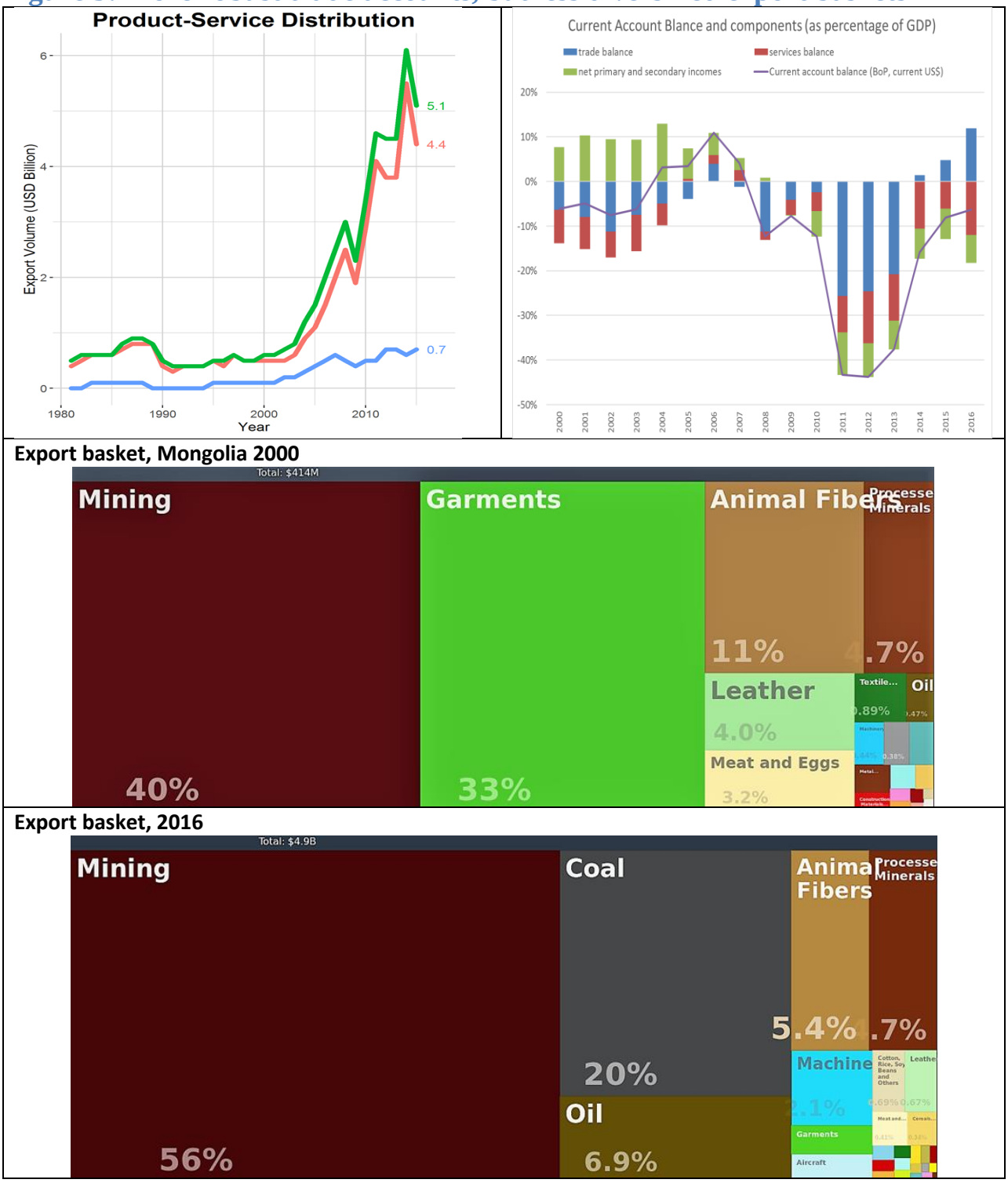
Figure 2: Investment and Capital Accumulation in Mongolia



Source: World Bank staff calculations using World Development Indicators.

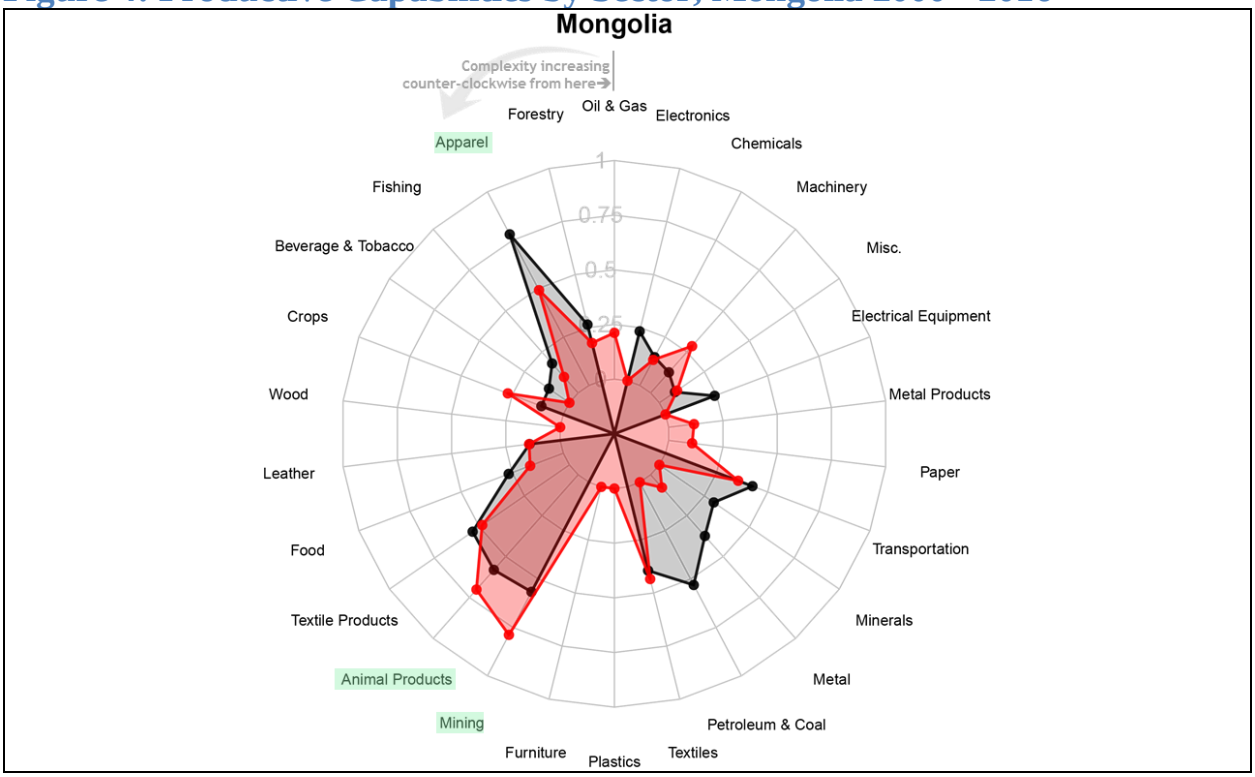
Note: Estimates of stock of capital for capital/output ratio using the perpetual inventory method as explained in (Nehru and Dhareshwar 1993). We use official data of gross fixed capital investment since 1981 (from World Development Indicators) and assume, to define initial conditions, a capital output ratio of 4.5 in 1981 and an annual depreciation rate of 7 percent. For robustness we also use initial capital output rates of 3.5 and 4.0, as well as depreciation rates of 10 percent, which rendered qualitatively similar results.

Figure 3: More robust trade accounts, but less diversified export baskets



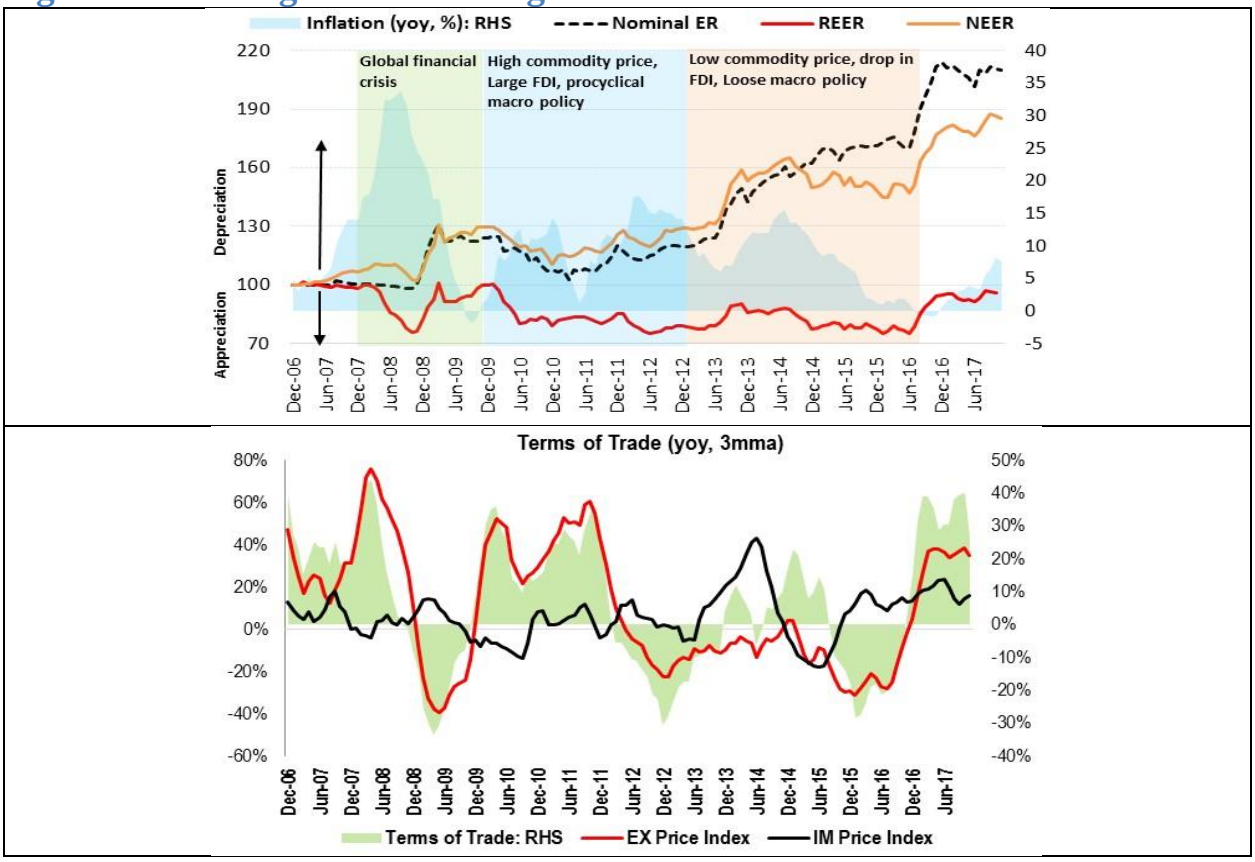
Sources: World Bank staff calculations using data from IMF, WDI and Observatory of Economic Complexity
Note: Export product classification as per SITC2.

Figure 4: Productive Capabilities by Sector, Mongolia 2000 - 2016



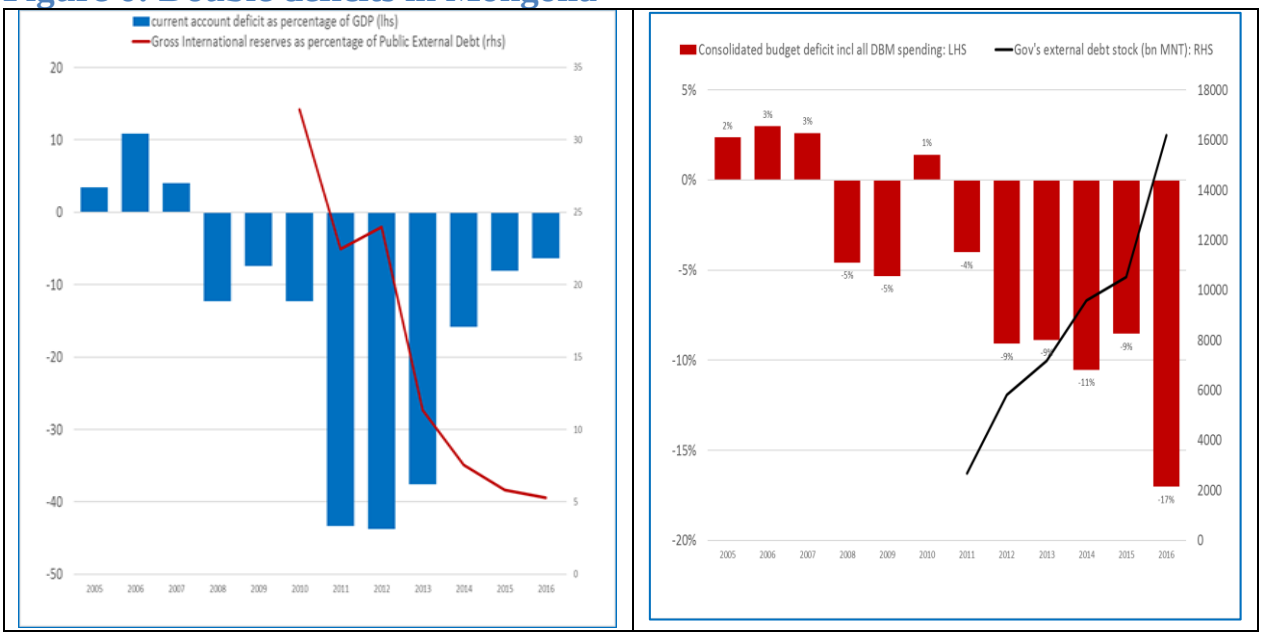
Source: (International Financial Corporation 2017)
Note: Red area represents normalized fitness rank in year 2016. Black area, year 2000.

Figure 5: Exchange rates in Mongolia



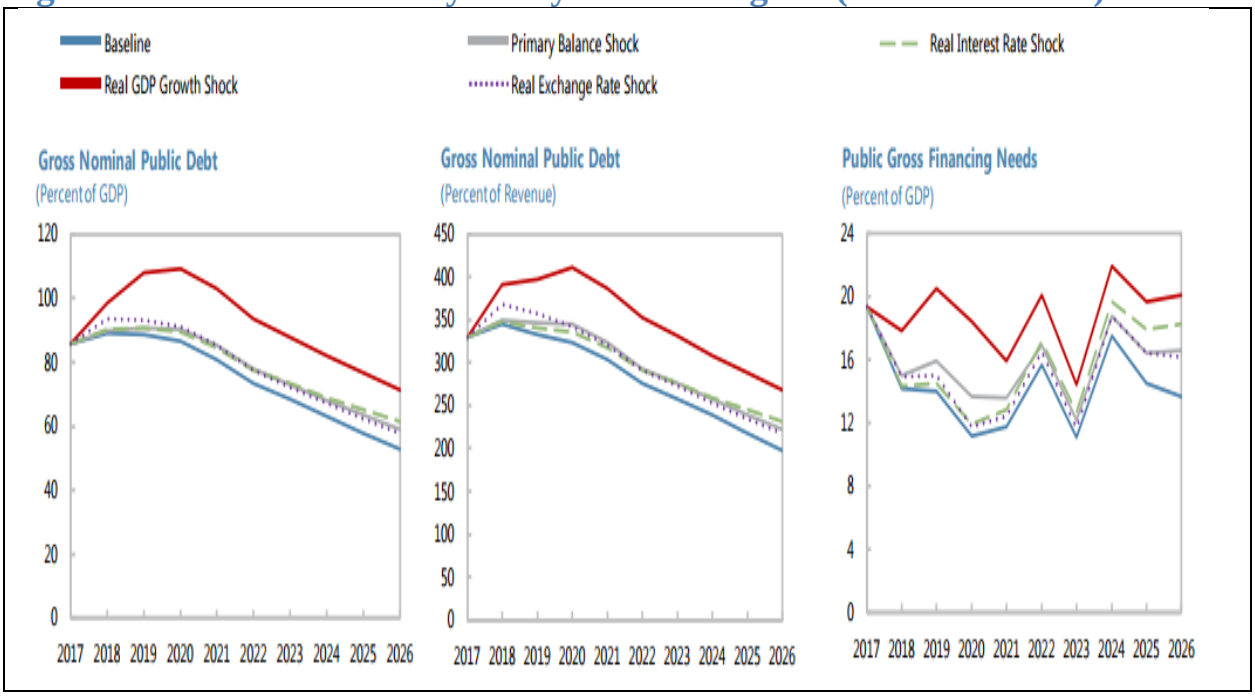
Source: World Bank staff using data from The Central Bank of Mongolia, BoP statistics.

Figure 6: Double deficits in Mongolia



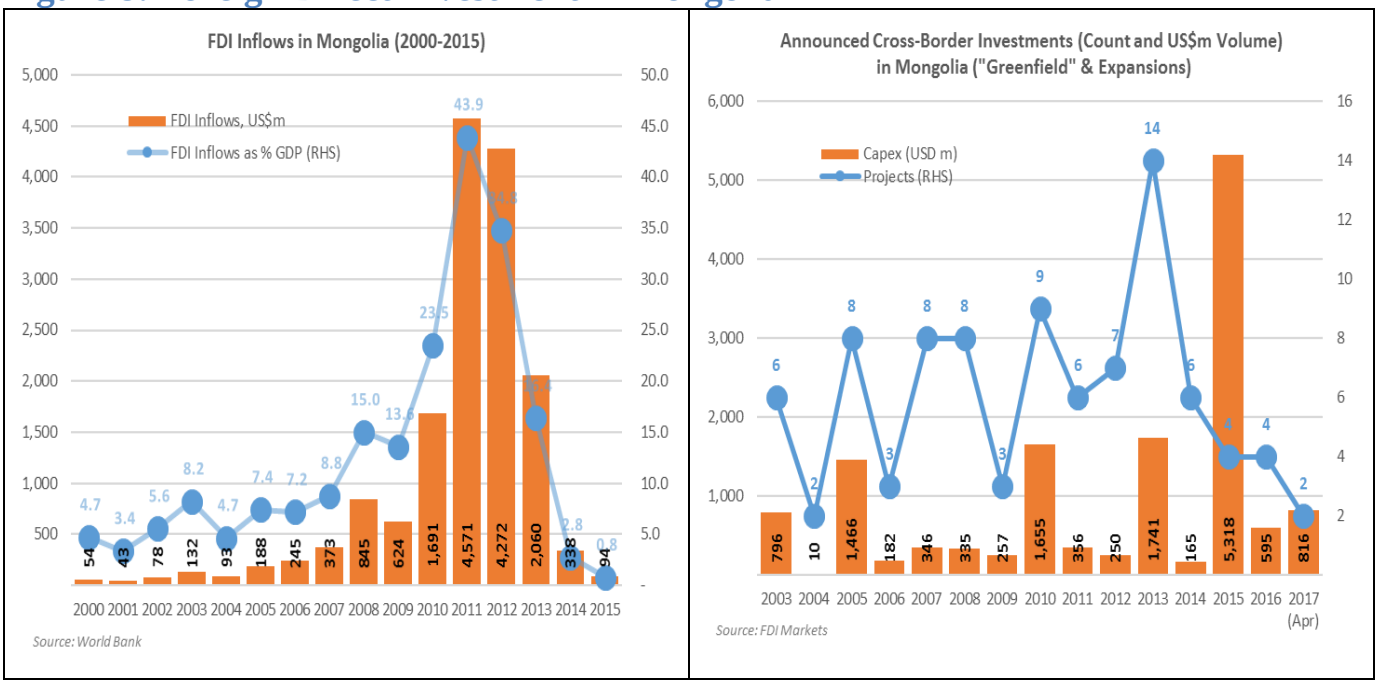
Source: World Bank staff own calculations staff using data from The Central Bank of Mongolia, BoP statistics.

Figure 7: Debt Sustainability Analysis for Mongolia (December 2017)



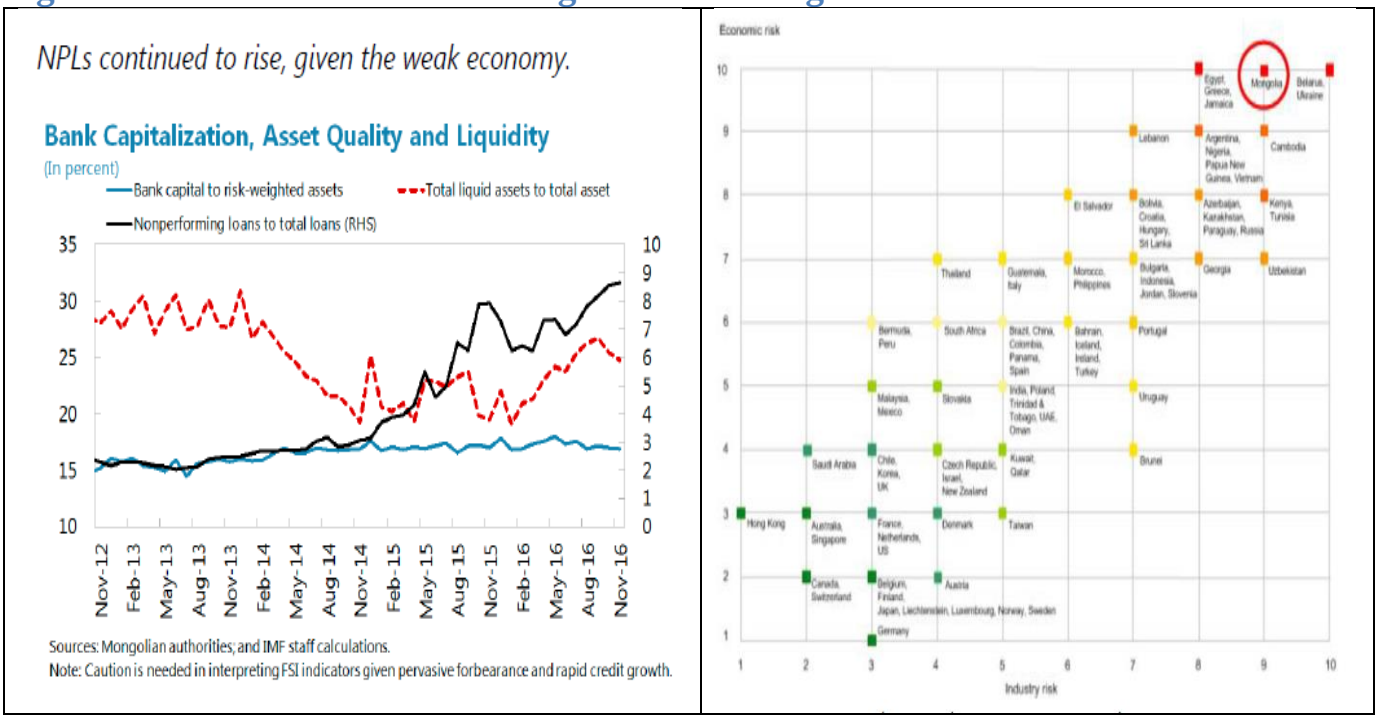
Source: IMF (2017)

Figure 8: Foreign Direct Investment in Mongolia



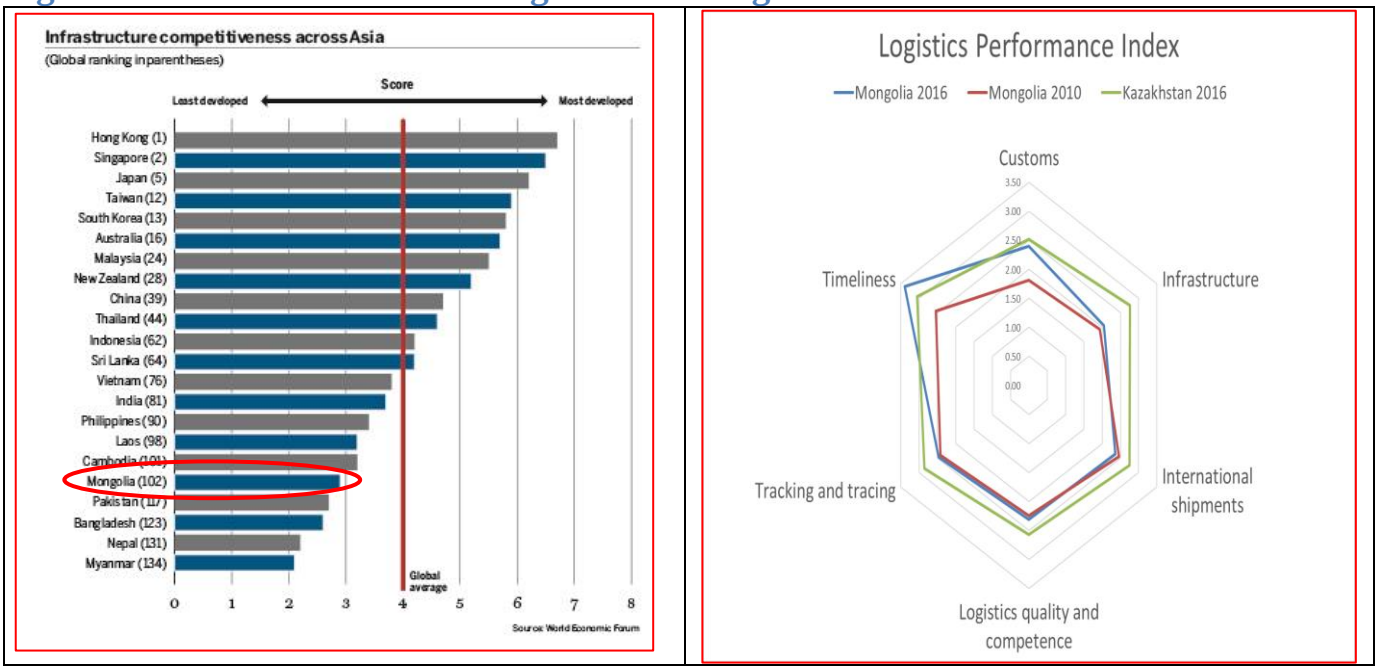
Source: World Bank staff using data from The Central Bank of Mongolia, BoP statistics.

Figure 9: Conditions of the Banking sector in Mongolia



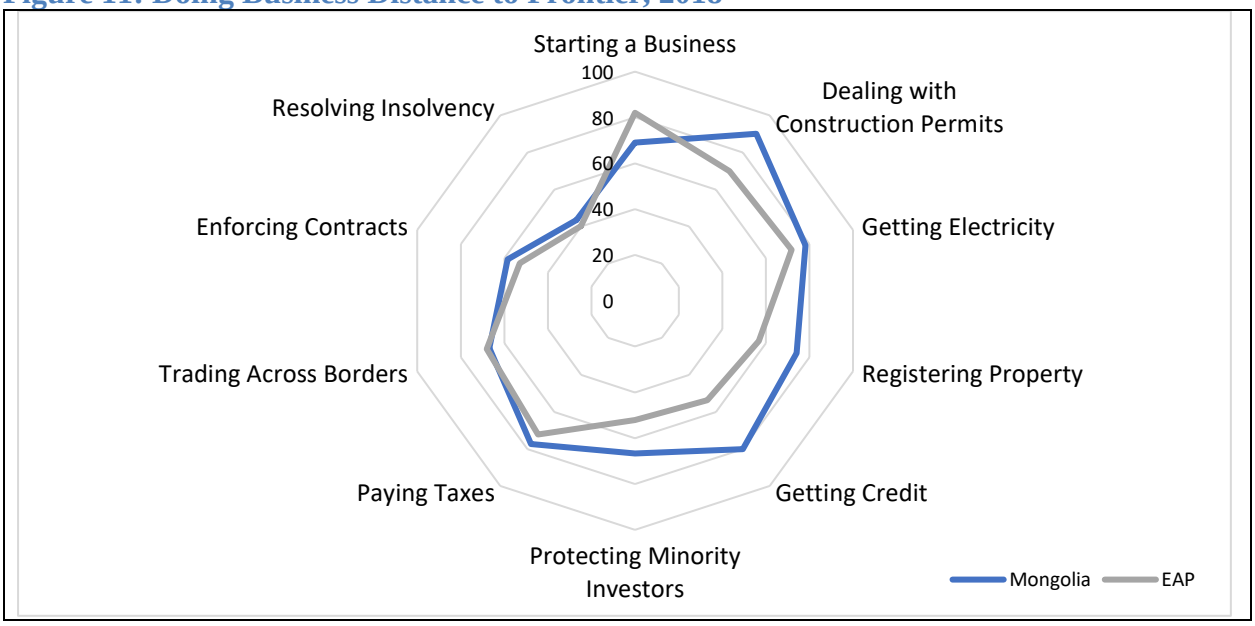
Source: S&P Banking Industry Country Risk Assessment, Nov.2015 and IMF

Figure 10: Infrastructure and Logistics in Mongolia



Source: World Bank's Logistics Performance Index (http://lpi.worldbank.org/) / World bank's WDI and ADB (2011) Mongolia Road Sector Development 2016

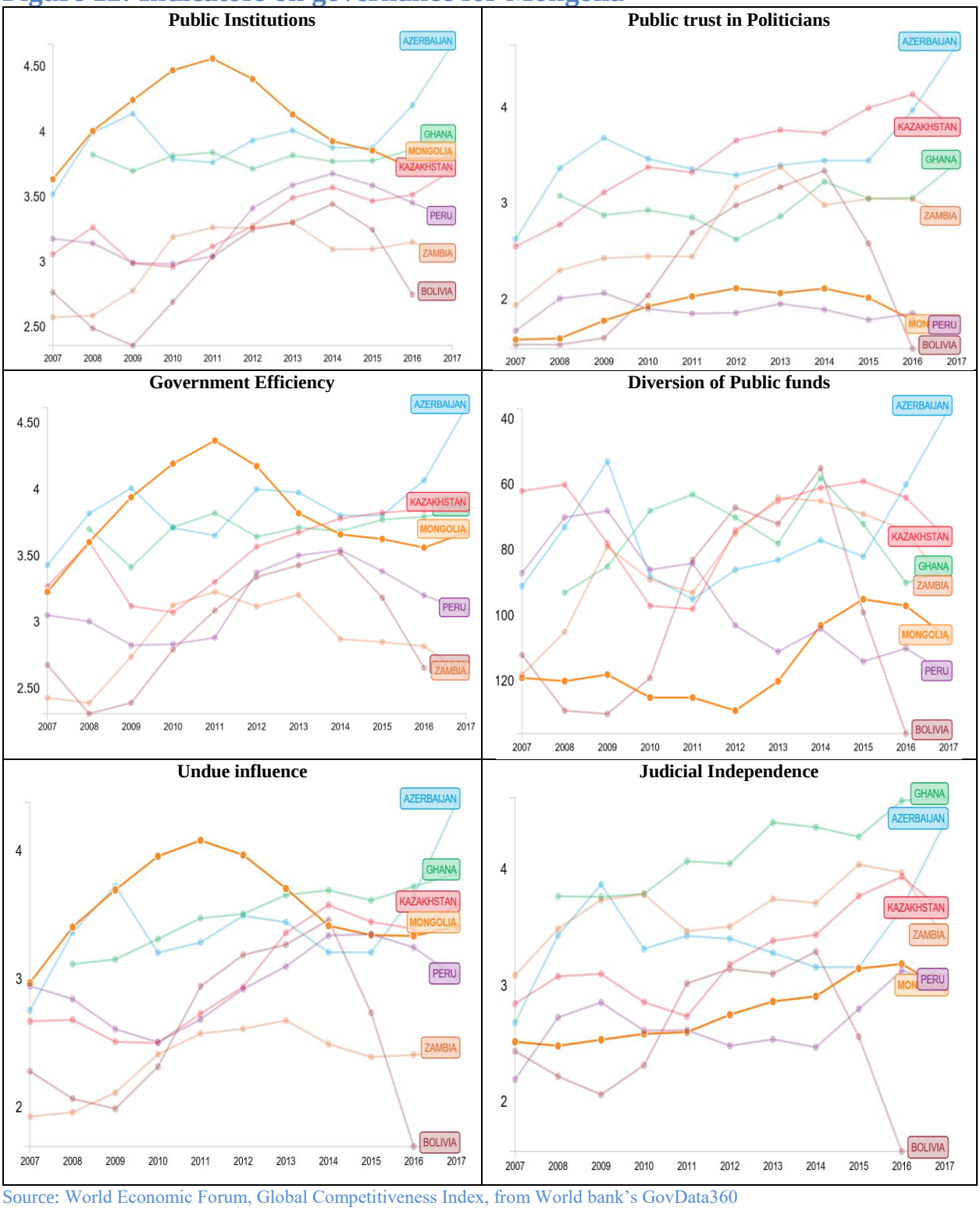
Figure 11: Doing Business Distance to Frontier, 2018



Source: World Bank staff using data from Doing Business 2018

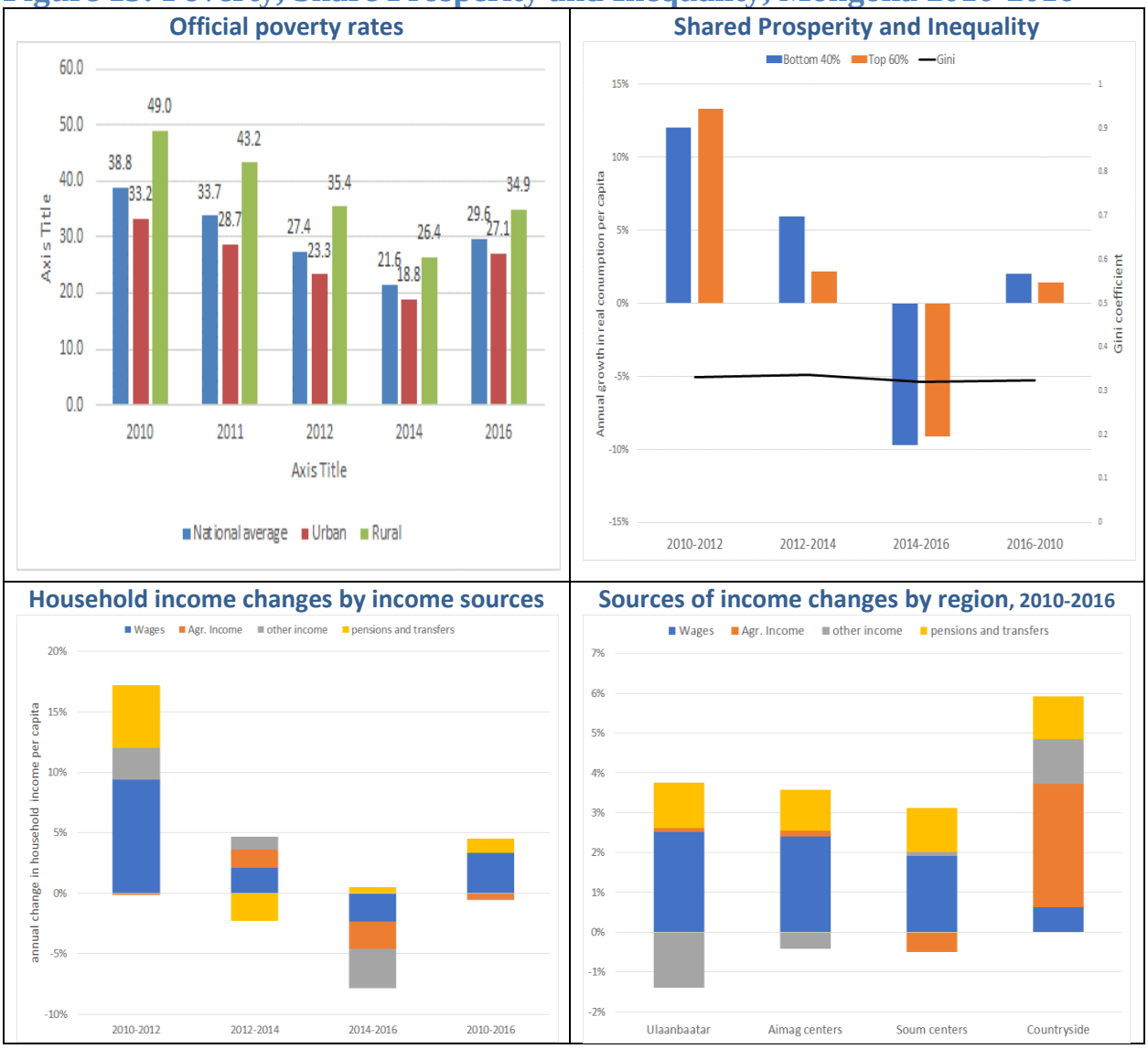
Note: Scale: Score 0 center, Score 100 outer edge.

Figure 12: Indicators on governance for Mongolia



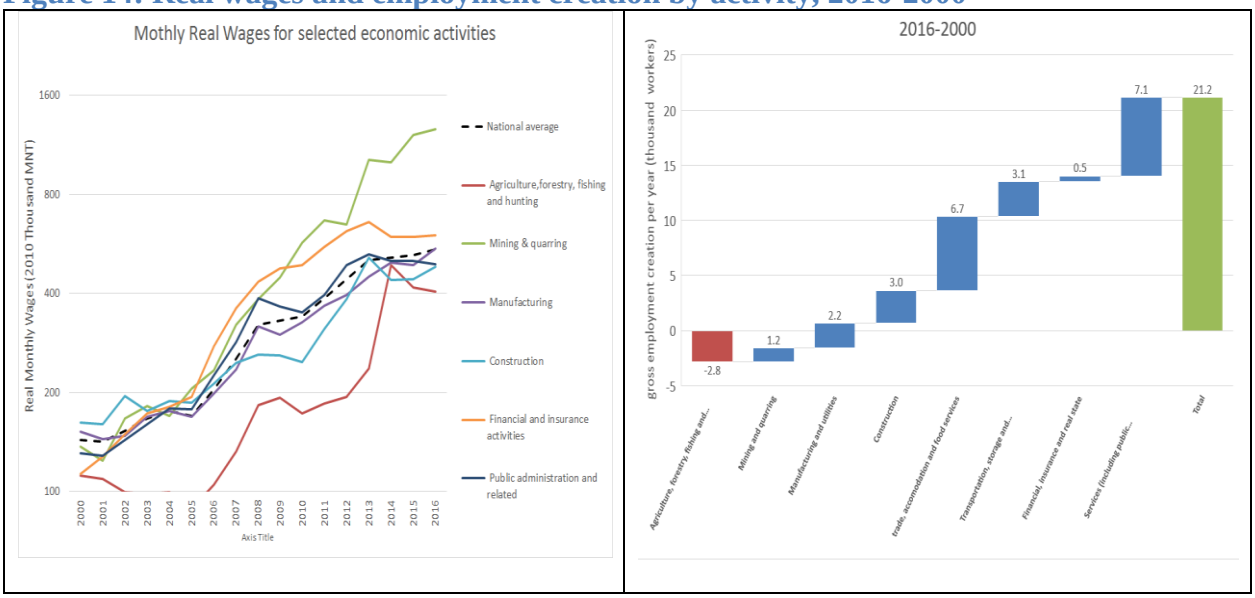
Source: World Economic Forum, Global Competitiveness Index, from World bank's GovData360 (https://govdata360.worldbank.org/) accessed on July 30, 2018.

Figure 13: Poverty, Share Prosperity and Inequality, Mongolia 2010-2016



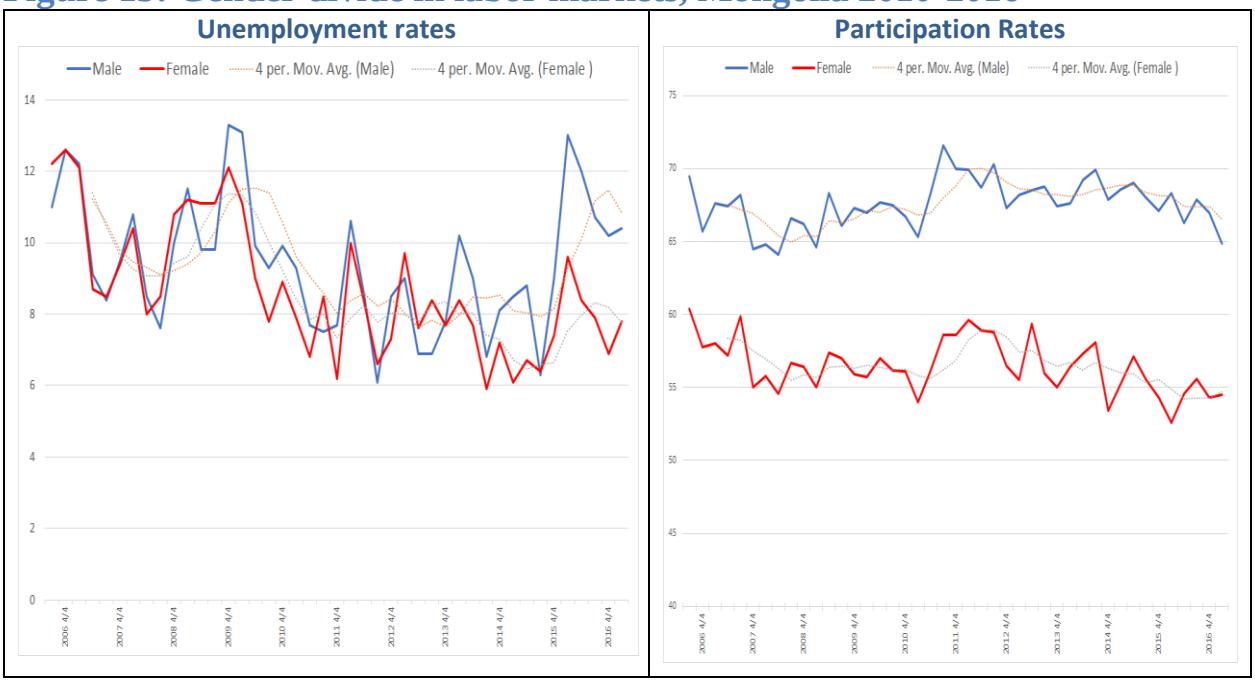
Source: Own calculations using Mongolian Statistical Information Service (http://www.1212.mn/en/)..
Note: In the decomposition of income changes (i) agricultural income includes production for own consumption, and (ii) other income includes private transfers.

Figure 14: Real wages and employment creation by activity, 2016-2000



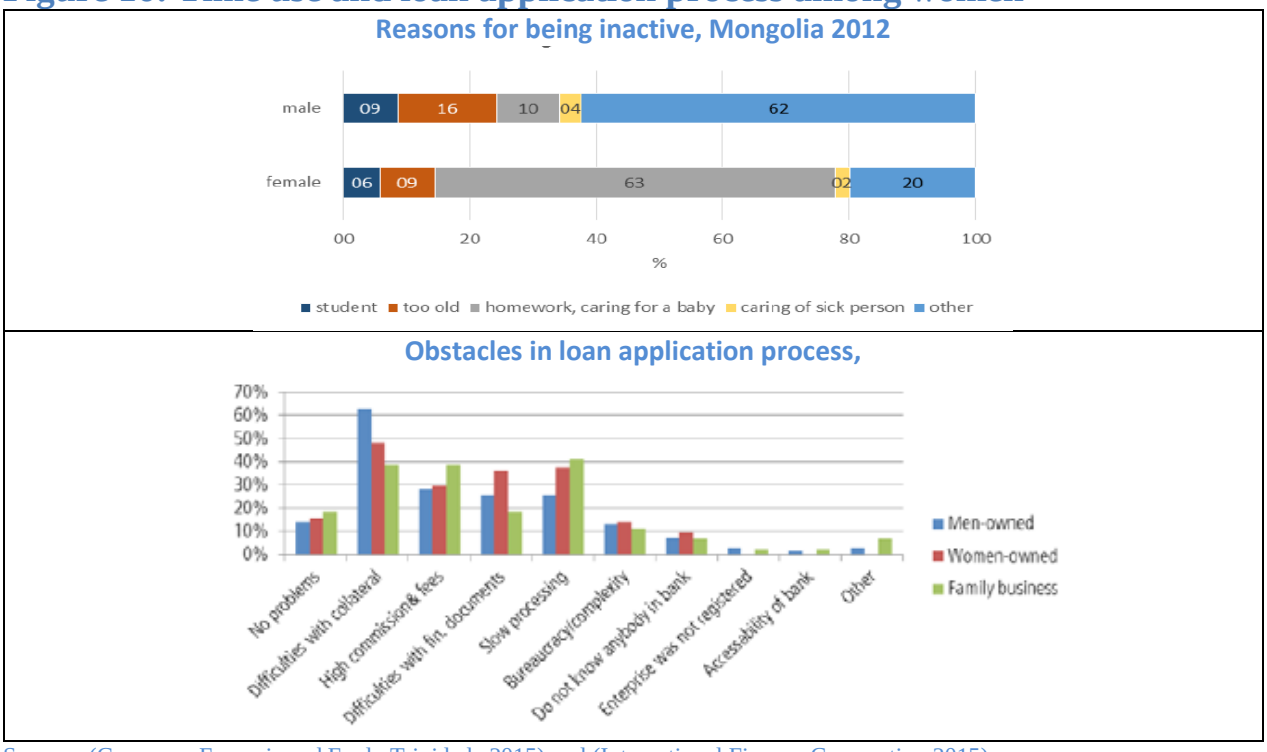
Source: Own calculations using Mongolian Statistical Information Service (http://www.1212.mn/en/) accessed on March 15, 2018.

Figure 15: Gender divide in labor markets, Mongolia 2010-2016



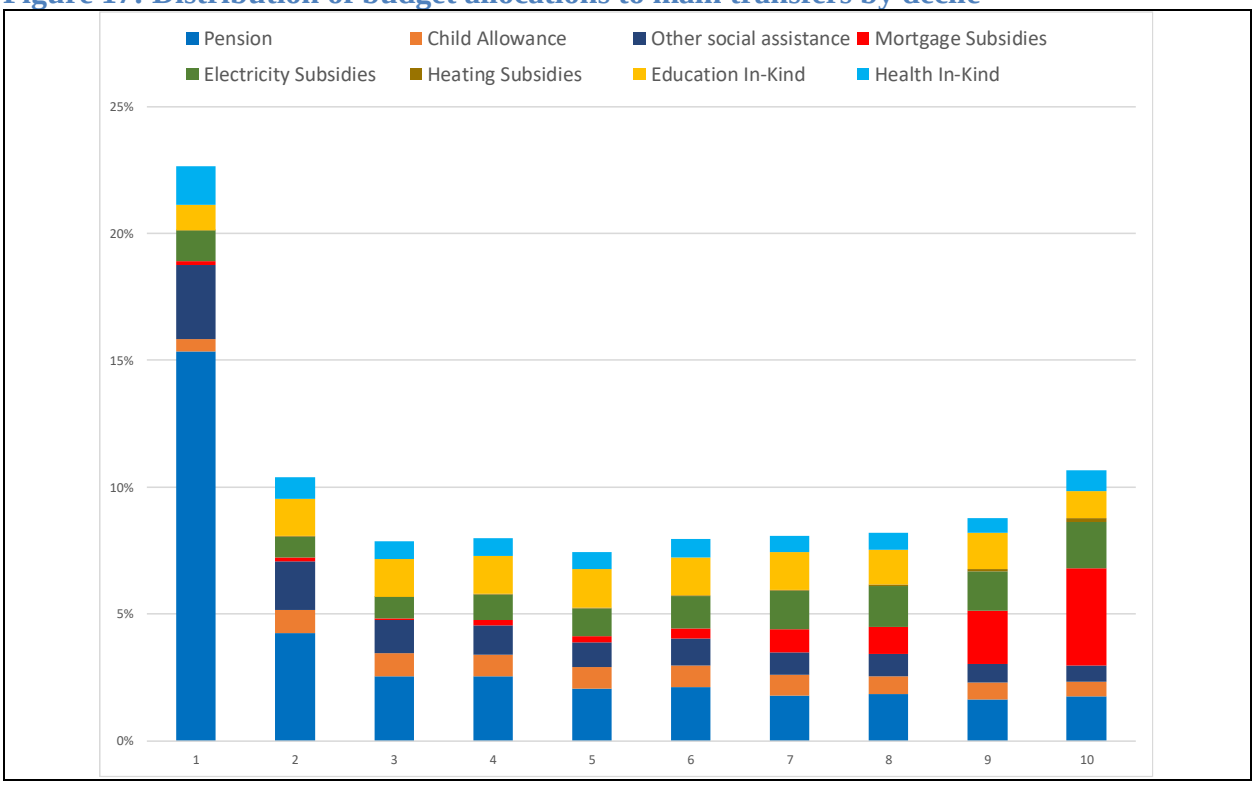
Source: Own calculations using Mongolian Statistical Information Service (http://www.1212.mn/en/).

Figure 16: Time use and loan application process among women



Source: (Gasmann, Francois and Fardo Trinidade 2015) and (International Finance Corporation 2015)

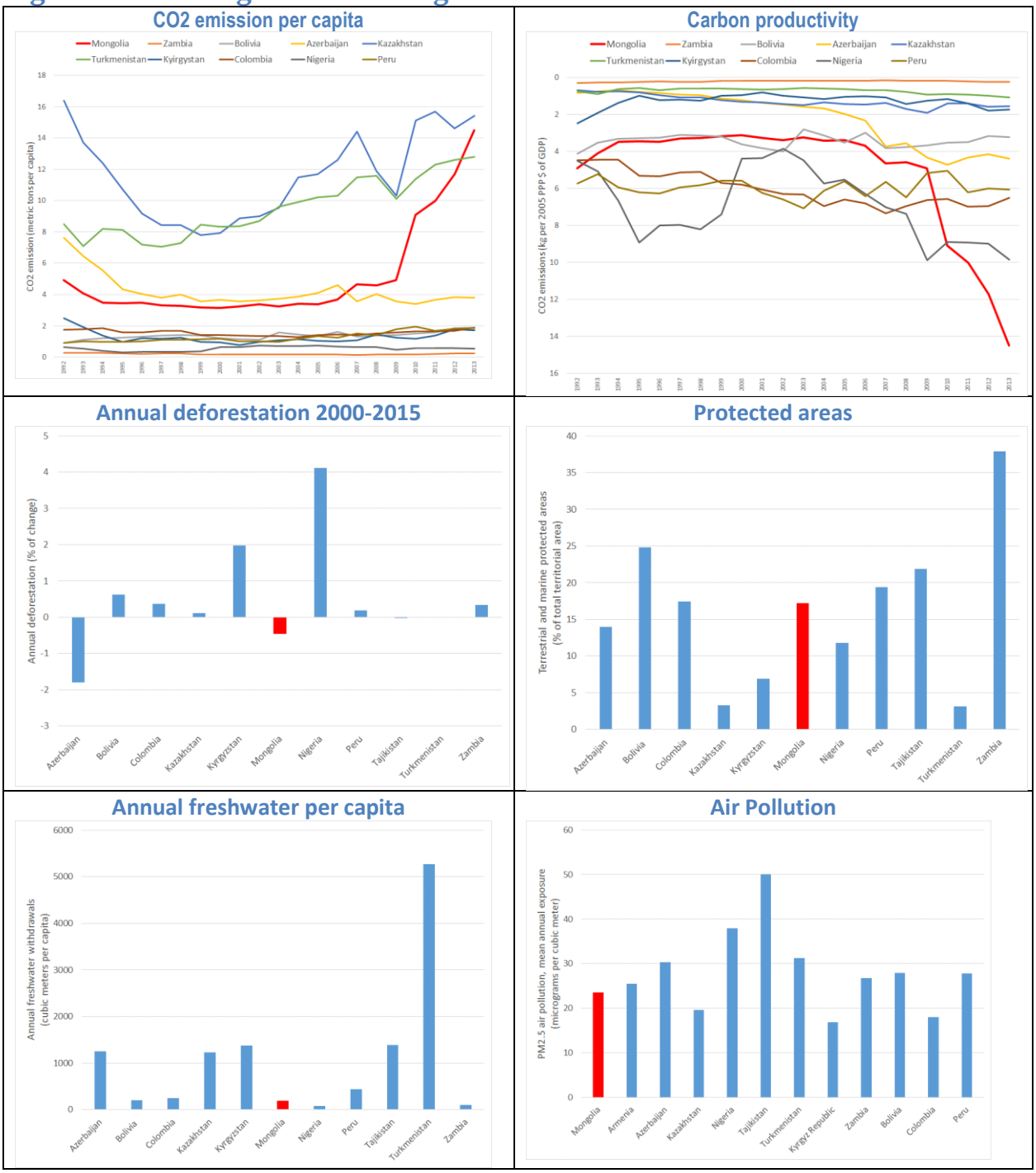
Figure 17: Distribution of budget allocations to main transfers by decile



Source: (Freije and Yang 2018)

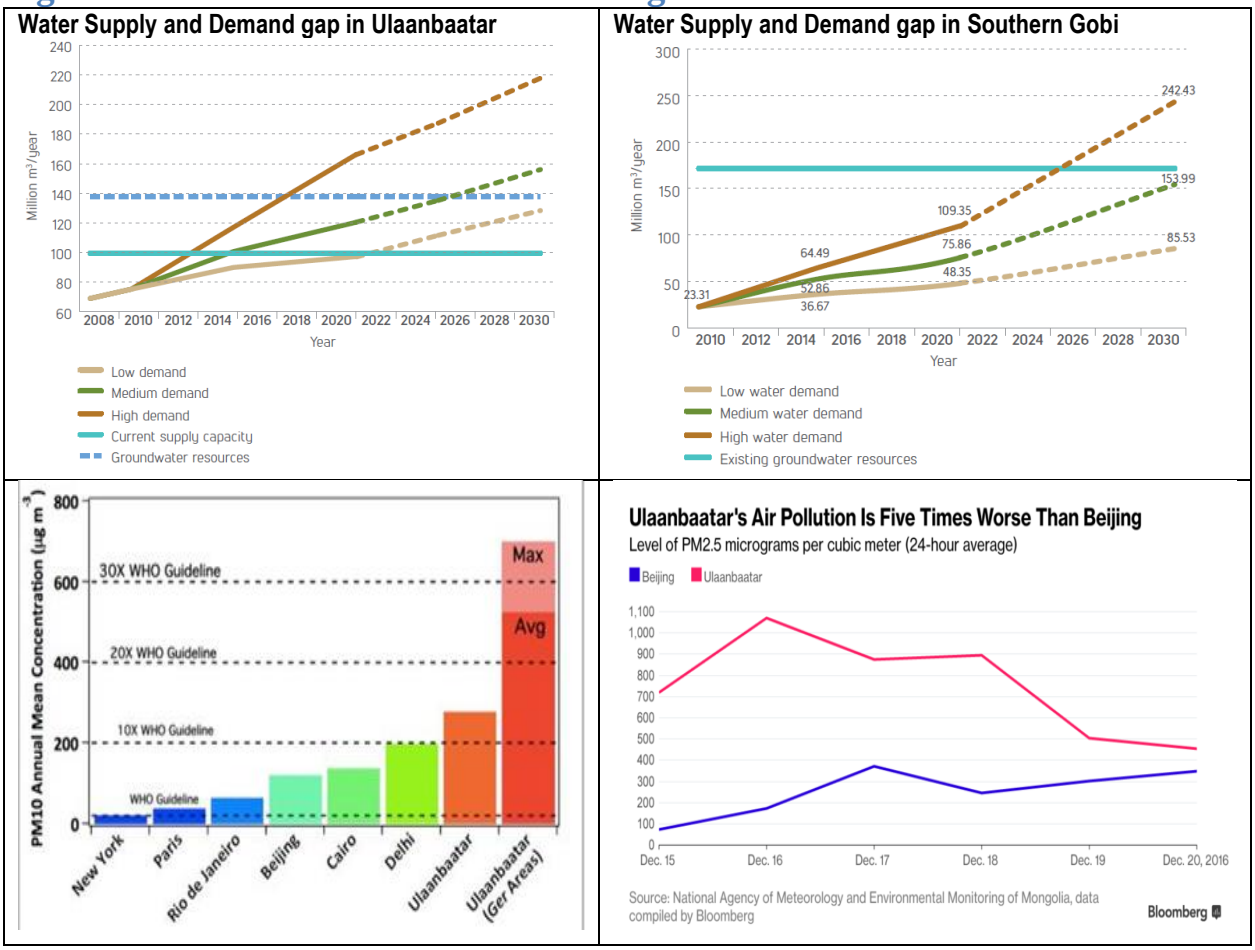
Note: Horizontal axis stands for pre-tax and transfers income deciles of per capita family income..

Figure 18: Green growth in Mongolia



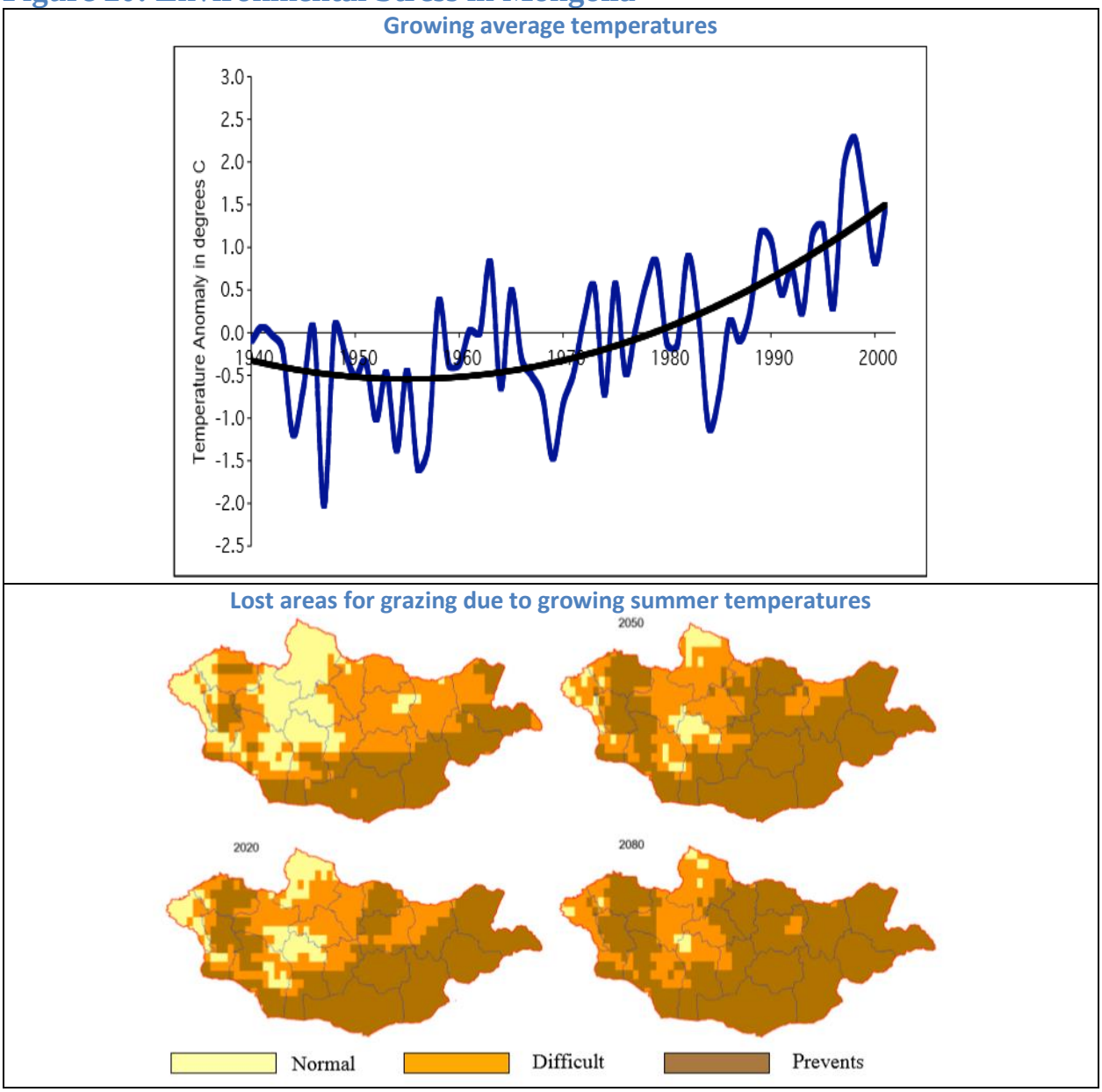
Source: Green Growth Knowledge Platform (http://www.greengrowthknowledge.org/country/mongolia). Accessed on March 15, 2018

Figure 19: Environmental Stress in Mongolia



Source: 2030 Waster resources Group Mongolia Water Study / WHO (2011) Outdoor Air Pollution Data Base; and World Bank. 2011. Mongolia. Air quality analysis of Ulaanbaatar. Improving Air Quality to reduce health impacts. Discussion Papers, Washington DC: World Bank. / Bloomberg News (December 22, 2016) /

Figure 20: Environmental Stress in Mongolia



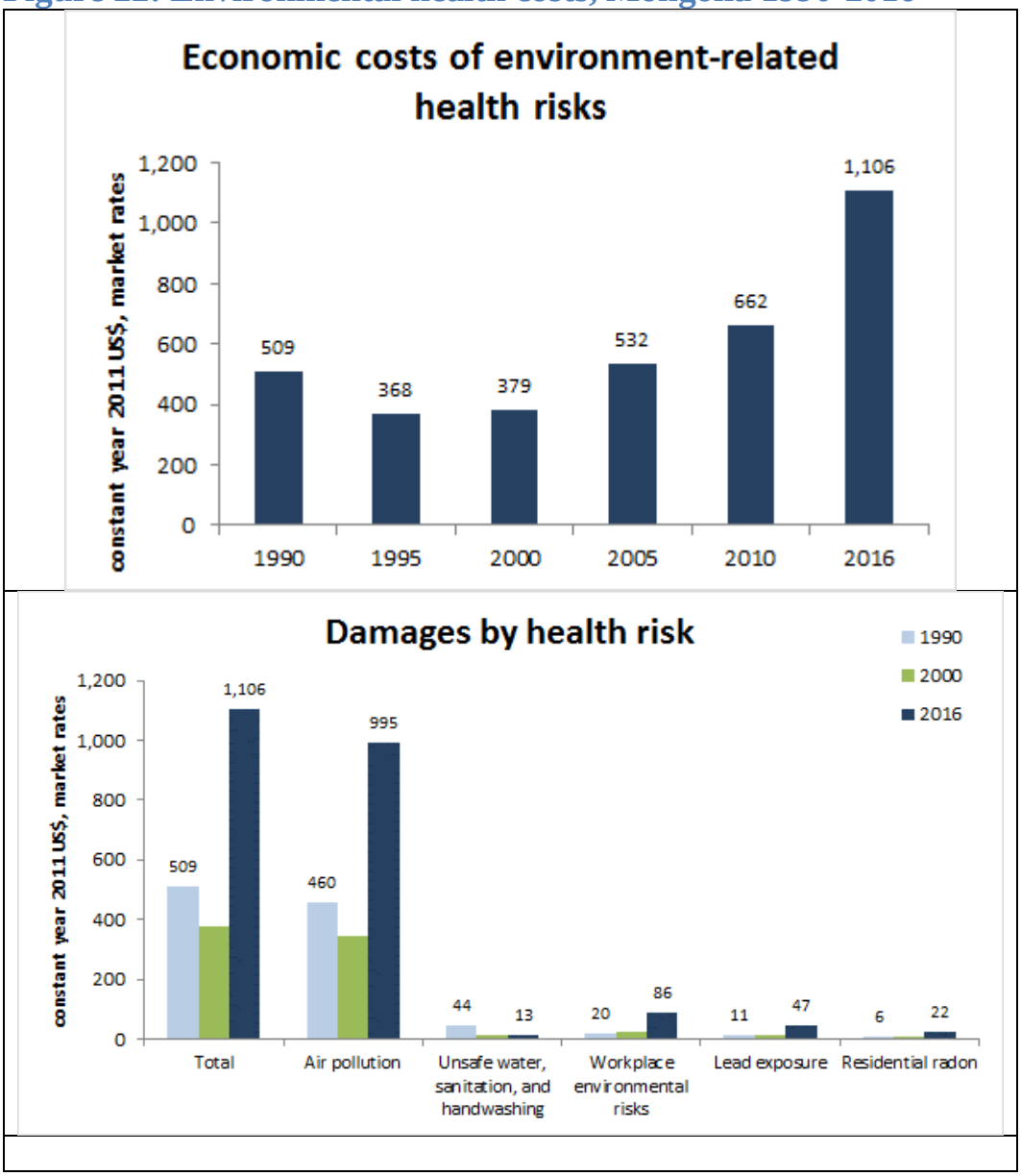
Source: (Batima 2006).

Figure 21: Total Wealth per capita in Mongolia, 1995-2015

Source: Own calculations using data from (Lange, Wodon and Carey 2018).

Note: Total wealth is the sum of produced capital, natural capital, human capital, and net foreign assets. Produced capital is the value of machinery, buildings, equipment, and residential and nonresidential urban land. Natural capital is a valuation of fossil fuel energy (oil, gas, hard and soft coal) and minerals (bauxite, copper, gold, iron ore, lead, nickel, phosphate, silver, tin, and zinc), agricultural land (cropland and pastureland), forests (timber and some nontimber forest products), and protected areas. Human capital is the present value of future earnings for the working population over their lifetimes. Net foreign assets are foreign assets minus foreign liabilities. For more details on the definition, construction and estimates of changes in net wealth see (Lange, Wodon and Carey 2018).

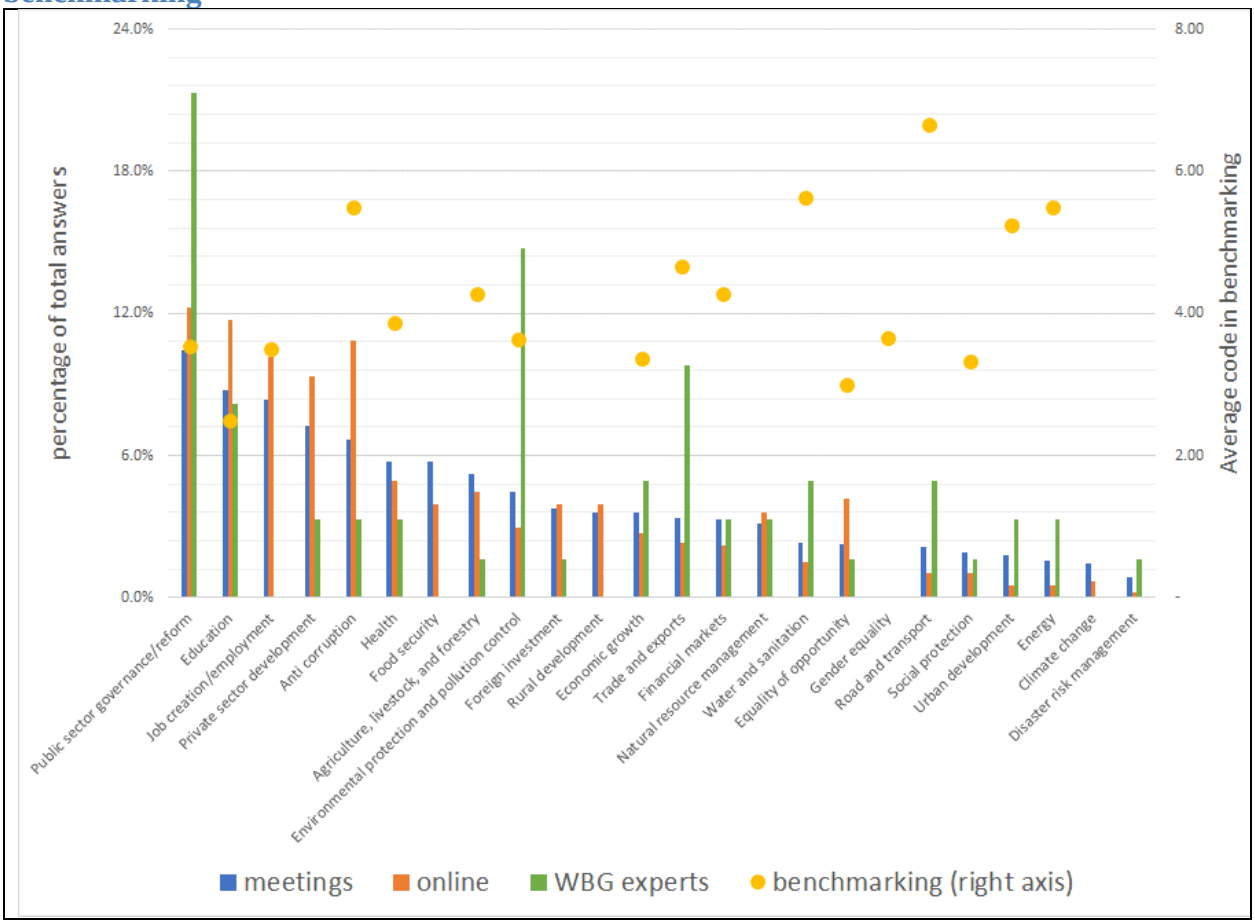
Figure 22: Environmental health costs, Mongolia 1990-2016



Source: World Bank staff calculations using data from IHME (Institute for Health Metrics and Evaluation). 2016. "GBD Results Tool," Global Health Data Exchange, http://ghdx.healthdata.org/gbd-results-tool (accessed 27 April 2017) and World Bank. 2017. World Development Indicators 2017, available at http://databank.worldbank.org.

Note: Welfare losses capture individuals' willingness to pay (WTP) for reduced fatality risk and are estimated using a value of statistical life (VSL). The VSL is an aggregate measure of WTP. VSLs are calculated for individual countries using benefit-transfer techniques, adjusting for differences in average per capita income across countries. The base value for the VSL is drawn form a sample of estimates from 24 stated preference studies done in high-income countries between 1982 and 2014. The VSLs estimated by these studies are adjusted to year 2011 prices using the national consumer price index and then converted to US$ at PPP rates or market rates, depending on the currency unit in which losses are reported. The base VSL is then related to Gross Domestic Product (GDP) per capita for the country and year in which the study was performed. GDP is used as a proxy measure of average per capita income. The ratio of GDP per capita in the study context to the country for which losses are being estimated is then taken to transfer the VSL, assuming an income elasticity of the VSL with respect to GDP of 1.0-1.4 for low- and middle-income countries and 0.6-1.0 for high-income countries. The VSL is age invariant; the same value is assumed for adults as for children. The central value for welfare losses reported in the summary data tables is the mean value from the simulated 95-percent uncertainty interval. For further details, see Narain and Sall (2016) and World Bank-IHME (2016).

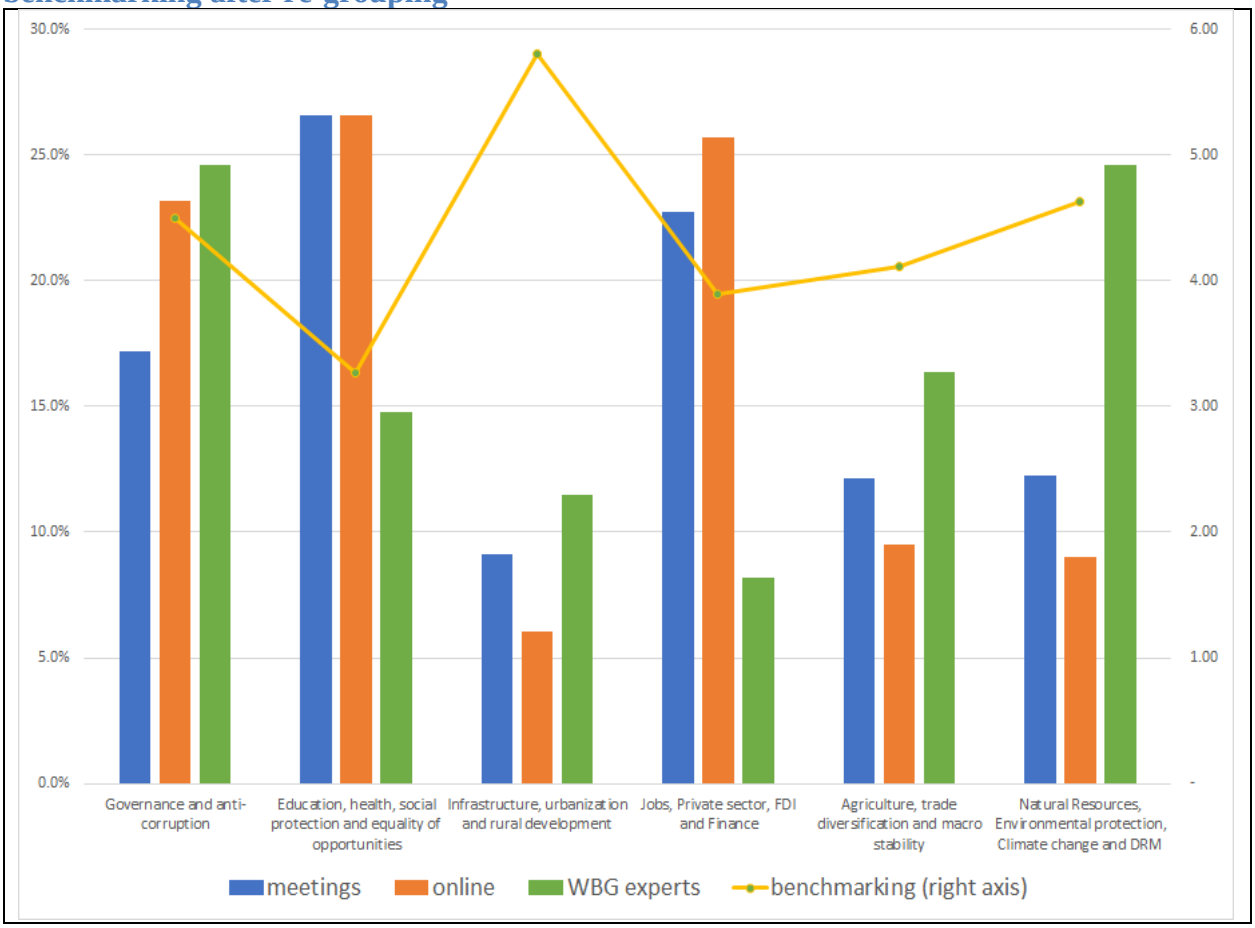
Figure 23: Ranking of development priorities by stakeholders, WBG experts and benchmarking



Source: World Bank staff compilation.

Note: Left axis is the share of answers as a percentage of total answers received by a given group (e.g., stakeholder consultations, online poll). Right axis is the average code from benchmarking indicators from Figure A1 5: Rank of rankings (c. 2013-2015)Figure A1 5: Rank of rankings (c. 2013-2015)

Figure 24: Ranking of development priorities by stakeholders, WBG experts and benchmarking after re-grouping



Source: World Bank staff compilation.

Note: Left axis is the share of answers as a percentage of total answers received by a given group (e.g., stakeholder consultations, online poll). Right axis is the average code from benchmarking indicators from Figure A1 5: Rank of rankings (c. 2013-2015)Figure A1 5: Rank of rankings (c. 2013-2015)

ANNEXES

Annex 1: A benchmarking exercise for Mongolia

The goal of the prioritization exercise described in chapter V of this country diagnostic is to define the most urgent policy areas for Mongolia to achieve stable growth, enduring population wellbeing and reduced environmental stress. This prioritization is partly supported by an analytical benchmarking exercise which gauges Mongolia's performance in comparison to the rest of the countries of the World, through a selected number of development indicators. Additionally, the comparison is also done with a group of peers or comparison countries. This comparison to peers was conducted to ensure that benchmarking also takes into account the key exogenous features that characterize Mongolia and which the country shares with only a subset of countries in the world. This two benchmarking exercises try to quantitatively identify the areas in which Mongolia's performance is most distant from best performer -in the World or among peers- and hence may merit be considered priorities in policy design and implementation.

Selection of Peers

This section explains the algorithm used to find countries that share Mongolia's key structural features. As indicated in chapter I of this diagnostic, Mongolia has a set of structural features that make it quite a unique country. It is a landlocked country that shares borders with one of the most dynamic economies of the World. For most of the past century Mongolia was part of the centrally planned economies of central Asia under soviet influence, but since early 1990s has become one of the most vibrant democracies in the whole region. It has a past of mostly agricultural activities, but, over the last three decades, the exploitation of large deposits of minerals have turned the country into mining-driven economy. These three characteristics, we claim, are mostly exogenous to the recent performance of Mongolia in different areas such as health, education, infrastructure, economic growth, poverty, and inequality, among others. Consequently, these characteristics serve as pre-conditions to the country's performance and this performance can then be compared to that of countries that share the same, or some of the same, preconditions.

Below is a detailed explanation of the variables to measure each of these features across countries:

- **Landlocked country.** Lack of direct access to the sea somehow limits the ability of a country to engage in international trade, particularly with far away countries or in goods with a high weight/value rate. Existing literature on the economic costs of being a landlocked country, e.g., (Arvis, Raballand and Marteau 2007), underlines that physical constraints due to this geographic condition involve high transportation and logistics costs, which undermine the competitiveness of economy, but also the presence of deficient transportation policy and rent-seeking activities that worsen this condition. We include as landlocked countries all countries without shore to open seas and oceans, including those with shores to closed seas such as the Caspian Sea.

- **Democracy.** The definition of democracy and its relation with economic development is the subject of a vast and complex literature. Regarding its connection to economic development,

some argue that open society and full democracy is a pre-condition to economic development because it creates the conditions for access to basic human development, open competition in markets and supervision of government finances. Others argue that democracy involves highly complex coordination mechanisms that, if not fully mastered by a society, can lead to clientelism, government inefficiencies and stagnant economies.[98] Regarding the definition of democracy, there are multiple conditions that define a democracy (elections, separation of power, presence of political parties, free press, etc.) and the relative importance of each of these components has lead not only to multiple perspectives on what constitutes democracy but also to several "measures" of it.[99] We adopt an agnostic position about the connection between democracy and development, and simply try to define the current political regime of each country in the World. For this, we choose one of the indexes to define a country's political regime as a democracy. In particular, we adopt the *Polity data series* because its wide historical and geographic coverage, as well as the diversity of political regimes it includes. The index ranges from -10 to +10. Political regimes are characterized as autocracies (index from -10 to -6), anocracies (-5 to +5) and democracies (6 to 10). [100]

- **Dependency on mining resources.** The presence of abundant mineral deposits in a given territory is somehow a lottery that allow countries to tap a unique source of economic activity. In some cases, these mining resources elicit very favorable, although usually unstable, prices in international markets. The high but unstable nature of rents from mineral riches has also been the source of a large academic literature that debates its impact on economic development. Some argue that these rents create overvaluation of exchange rates, weakened competitiveness in international trade, oversized services sector and fiscal profligacy, all of which leads to distorted economic development. Others indicate that there is no such necessity between mineral riches and economic distortions (also known as *"resource curse"*) and that, given the appropriate institutions, mineral sources are a boon that allows countries to grow faster and provide higher standards of living to its population.[101] Again, we simply want to characterize the initial conditions of the country, leaving the assessment of the outcomes to the benchmarking exercise. We define dependence on mining resources as having a share of oils, ores and minerals within total exports above 50 percent. The data comes from World Development Indicators.

These three variables certainly describe Mongolia as a unique country. As of 2015, Mongolia is the only landlocked country described as a full democracy (index +10) and with one of the highest shares of mineral exports (89.6 percent). Moreover, over the last 25 years Mongolia has become more democratic (its *Polity* index went from +2 in c.1990 to +10 in 2015) and more intensely dependent on mining exports (from 59 percent in c.1990 to 89.6 percent in 2015). Figure A1 1 illustrates the distribution of all countries in the World by the three variables described above.

[98] For an exposition of both points of view, from the perspective of Economics, see (Bardhan 2004).
[99] Some of the best-known indexes are: *Freedom in the World*, by Freedom House, *The Index of Freedom in the World* published by Canada's Fraser Institute, Germany's Liberales Institute, and the U.S. Cato Institute, and the *Polity data series* by the Political Instability Task Force (PITF), a U.S. government-sponsored research project.
[100] For a description of the indicator and access to the data base see (Roser n.d.).
[101] For a review of the literature and arguments against the *resource curse* see (Lederman and Maloney 2006).

Excluding high income countries, only three countries in the World share these three conditions: Bolivia, Mongolia and Zambia. These three landlocked countries have a Polity index above 6 and mineral exports above 50%. But this would be a too small set of comparison countries for the purpose of benchmarking. Consequently, we define peer countries as the ones that share at least two of the three structural features, and are not high-income countries.[102] Figure A1 2 illustrates the distribution of countries in the World that share one, two, three, or none of the structural features that define Mongolia. High income countries are encircled in a red square, democracies in a yellow square (countries with *Polity* index above 6), mineral exporters in a green square (countries with mineral exports above 50% of merchandise exports), and landlocked economies in a blue square. The selected comparison countries are in the area shaded in light grey. In total, we choose a group of 22 peer countries: Armenia, Azerbaijan, Bolivia, Botswana, Chad, Colombia, Ghana, Kazakhstan, Kyrgyz Republic, Lesotho, Macedonia FYR, Moldova, Niger, Nigeria, Paraguay, Peru, Serbia, Tajikistan, Timor Leste, Turkmenistan, Uzbekistan and Zambia. Despite sharing two or more structural features, these countries are quite diverse: seven countries from Sub-Saharan Africa, four from Latin America and the Caribbean, one from the East Asia, and ten from Europe and Central Asia.

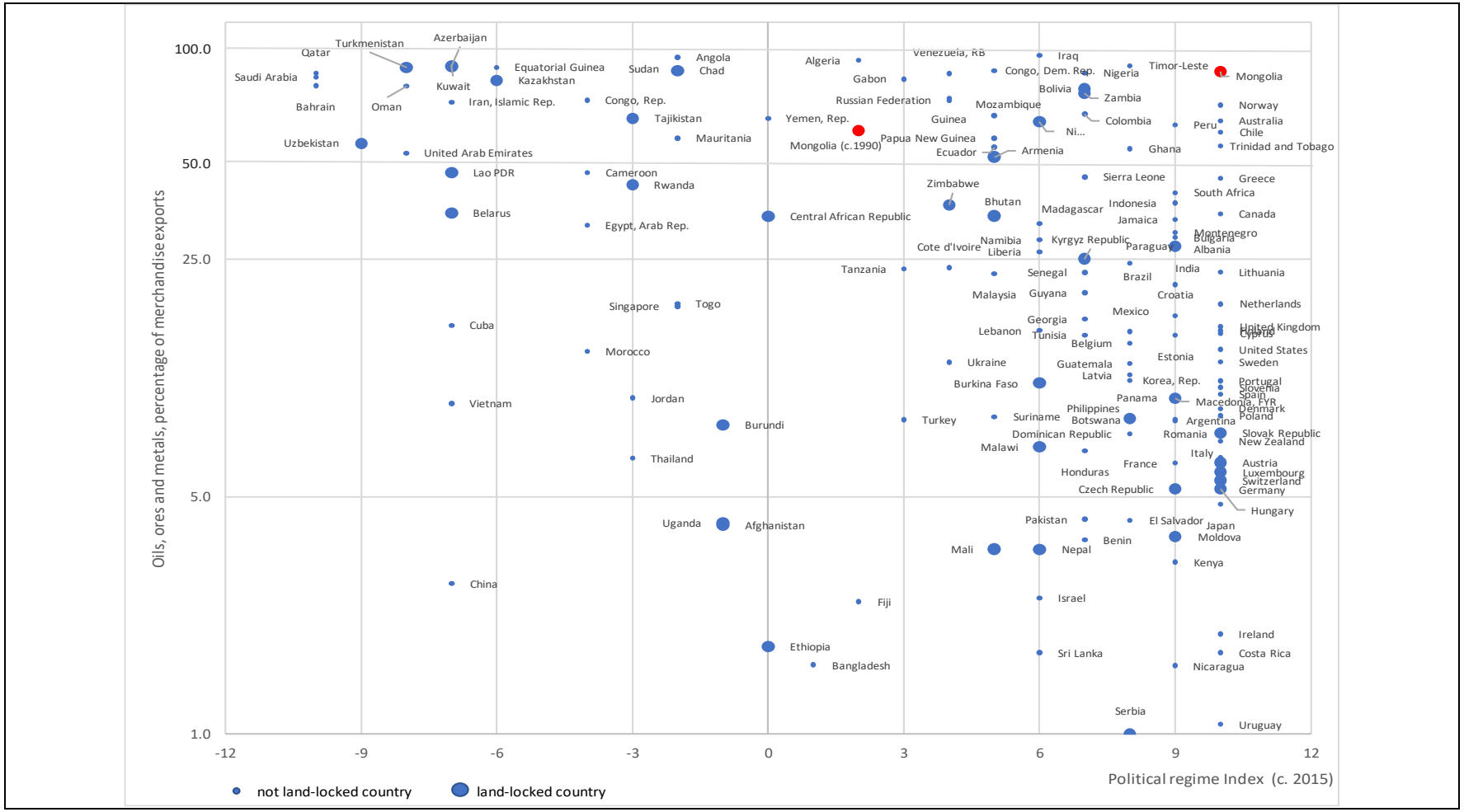
Ranking Methodology

To include as wide as possible an array of indicators, we requested between five and ten indicators to experts from each Global Practice at the World Bank Group. Each expert (listed in the section of *Acknowledgements* at the beginning of this diagnostic document) recommended indicators that would best represent their respective sectors and give a basic description of performance across as many countries in the world as possible. In most cases, indicators refer to the most recent year available for the period 2013-2015. In some cases, the indicator is measured by the average value of the last three years to reduce the outlier effect of atypical years, or the business cycle. The full list of indicators, their descriptions and sources can be found in Table A.1. 1 .

For each of the selected indicators, a measure of distance to the best performer in a given comparison set was computed for every country in the set. This is akin to measuring the distance to the possibility frontier for a given comparison group in each of the development indicators. The farther the distance of a given indicator for a specific country from the best performer in the comparison group, the worse the performance in that area. Ranking all the indicators for a given country provides an indication of the areas in which the country is far (near) to the best performer, and hence an indication of development challenges that require more (less) priority in development policy and reform.

[102] Each year on July 1, the World Bank revises analytical classification of the world's economies based on estimates of gross national income (GNI) per capita for the previous year. As of 1 July 2015, high-income economies are defined as those with a GNI per capita, calculated using the World Bank Atlas method, of $12,476 or more. (http://data.worldbank.org/about/country-and-lending-groups).

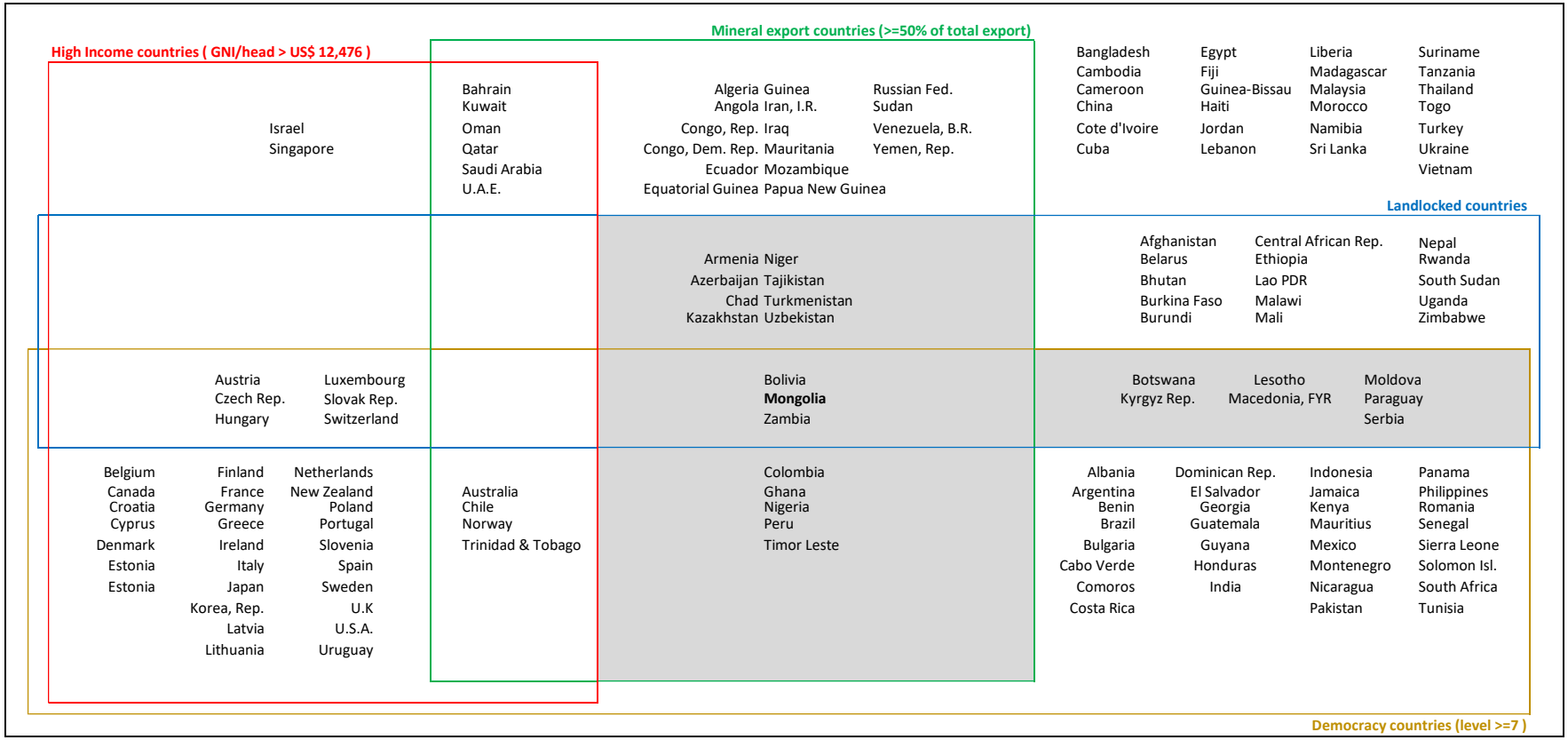
Figure A1 1: Mongolia has become more democratic and more dependent on mineral exports.



Sources: World Development Indicators, The World Bank; Our World in Data (https://ourworldindata.org/), accessed on August 15, 2017); and The Observatory of Economic Complexity (https://atlas.media.mit.edu/en/), accessed on December 20, 2017.

Notes: Mineral export countries have a share of mineral exports (i.e., fuels, ores and metals) above 50% of total merchandise exports (for the most recent data year between 2013 and 2015). Democracy countries are those whose political regime index scores 7 or more for the most recent year between 2013 and 2015. The index ranges from -10 (autocracy) to +10 (full democracy). Exceptions are Ethiopia and Sudan whose indexes correspond to years 1993 and 2011, respectively. Countries with missing data in any of the four dimensions are not included in the figure.

Figure A1 2: Distribution of countries by category and selection of peers for Mongolia



Sources: World Development Indicators, The World Bank; Our World in Data (https://ourworldindata.org/), accessed on August 15, 2017); and The Observatory of Economic Complexity (https://atlas.media.mit.edu/en/), accessed on December 20, 2017.

Notes: High income countries are those with GNI/capita above US$ 12,476 in US current dollars (for the most recent data year between 2013 and 2015). Mineral export countries have a share of mineral exports (i.e., fuels, ores and metals) above 50% of total merchandise exports (for the most recent data year between 2013 and 2015). Democracy countries are those whose political regime index scores 7 or more for the most recent year between 2013 and 2015. The index ranges from -10 (autocracy) to +10 (full democracy). Exceptions are Ethiopia and Sudan whose indexes correspond to years 1993 and 2011, respectively. Countries with missing data in any of the four dimensions are not included in the figure.

In formal terms, the distance to the frontier is defined as

$$g^{s}_{i(bp,co)} = 100\frac{|v^{s}_{i,bp} - v_{i,co}|}{|v^{s}_{i,bp} - v_{i,wp}|} \quad (1)$$

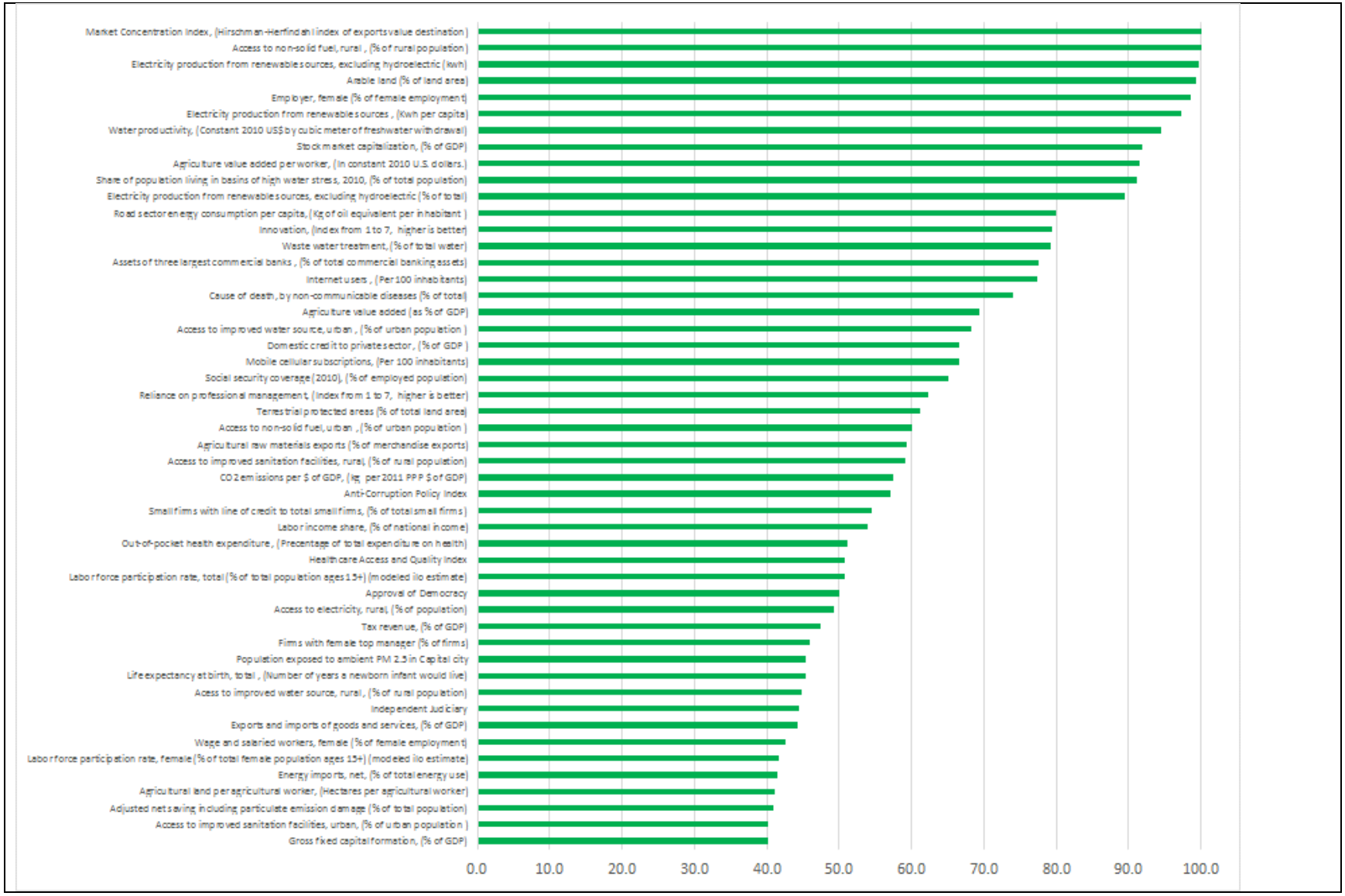
Where $v^{s}_{i,bp}$ is the value of the best performer of the set *s*, including either the World (*w*) or the peer group (*p)*, in indicator i; $v_{i,co}$ is the value of a given country in indicator *i;* and $v_{i,wp}$ is the value of the worst performer in indicator *i*. In the specific case of Mongolia, this measure gauges the gap in any given indicator *i* between Mongolia (co) and the best performer (bp) in the set s= {p ,w} $g^{s}_{i(bp,col)}$.

To isolate the effect of the outliers in the top performer as well as in the value of the range, the dataset is constrained to observations between the 5th and 95th percentile in the case of World comparison and 10th and 90th percentiles in the case of the peer comparison.[103] This normalization avoids countries to have indicators too far from the best performer which, instead of a real frontier is more a statistical outlier. It also allows for the control of the specific variance of each indicator, assigning a higher value for narrow distributions. Moreover, the ratio makes the distance range from 0 to 100 for all indicators. This normalization allows comparing different indexes with different scales and ranges. Putting together all the indicators for a given country (Mongolia in our case) provides a ranking of different indicators of development. Ranking of the variables collected for Mongolia is shown in Figure A1 3 and Figure A1 4.

For additional robustness, a final ranking is done through a combination of the two rankings. Each of the variables is given a categorical value depending on the distance to the best performer in each of the comparison groups. The categorical values go from 1 to 4, corresponding to the quartile of the distribution of distance. Then the categorical value of the two set of variables (World and peers comparisons) are summed up and a new index (ranging from 2 to 8) defines a raking of development indicators. Indicators that score 6-8 are at least 50% from the best performer in at least one of the comparisons, and hence seem to merit more priority in policy interventions. Indicators that score 2-3 are never more than 50% from the best performer in the World or among peers, and would then seem to warrant less policy attention. This rank of ranking is shown in Figure A1 5.

[103] Given that size of the World (peers) comparison groups, this mainly represents dropping the five (one) top performer in each comparison. We overrule this condition when more than five (one) countries have the same top value, a situation that cannot be described as outlier.

Figure A1 3: Distance between Mongolia and Best Global Performer (c. 2013-2015)



Distance between Mongolia and Best Global Performer (c. 2013-2015) (continuation)

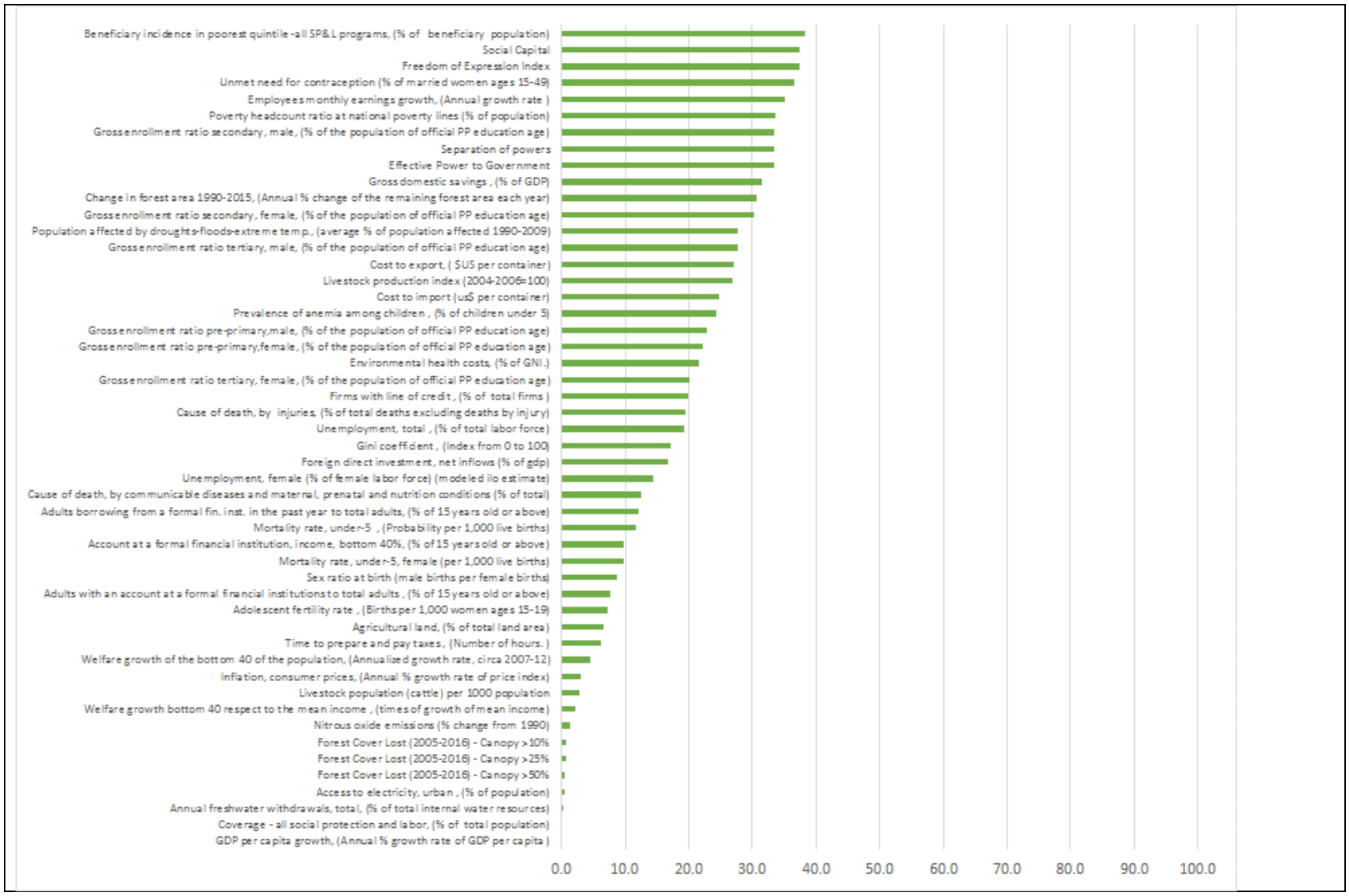
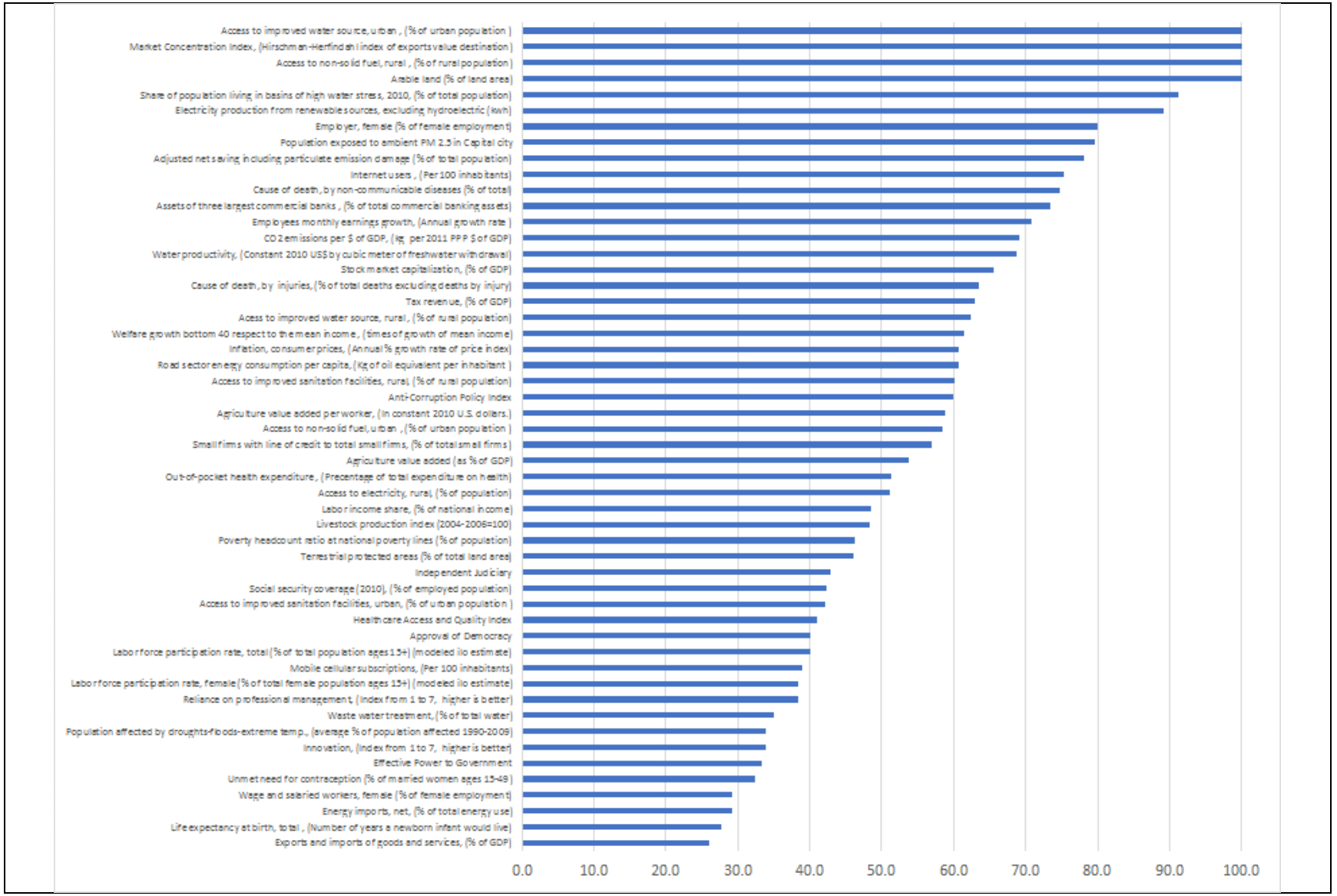


Figure A1 4: Distance between Mongolia and Best Peer Performer (c. 2013-2015)



Distance between Mongolia and Best Peer Performer (c. 2013-2015) -continuation-

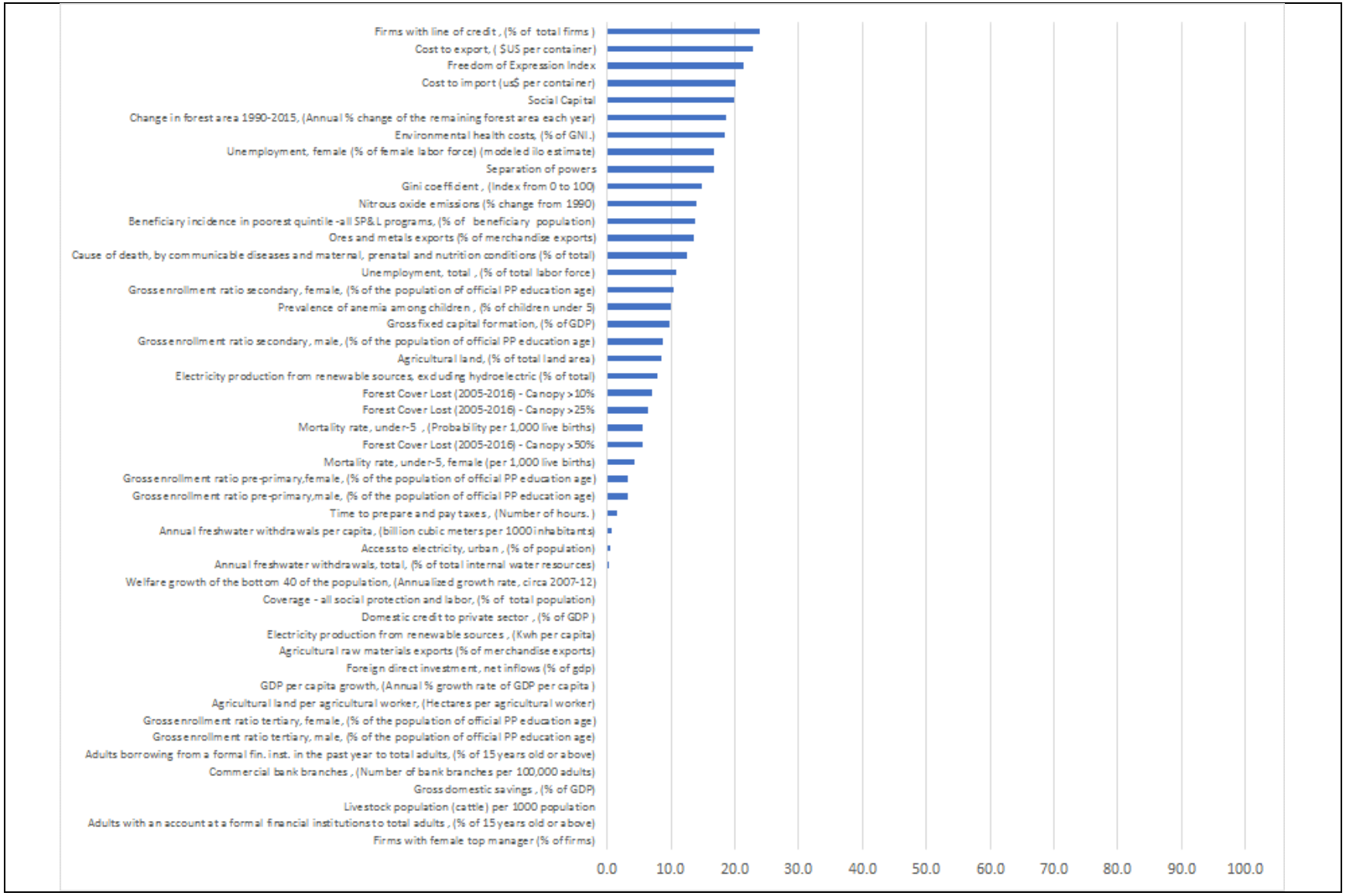


Figure A1 5: Rank of rankings (c. 2013-2015)

	Rank in the world	Rank among peers	sum of ranks
Share of population living in basins of high water stress, 2010, (% of total population)	4	4	8
Internet users, (Per 100 inhabitants)	4	4	8
Market Concentration Index, (Hirschman-Herfindahl index of exports value destination)	4	4	8
Access to non-solid fuel, rural, (% of rural population)	4	4	8
Electricity production from renewable sources, excluding hydroelectric (kwh)	4	4	8
Arable land (% of land area)	4	4	8
Access to improved water source, urban, (% of urban population)	3	4	7
Water productivity, (Constant 2010 US$ by cubic meter of freshwater withdrawal)	4	3	7
Road sector energy consumption per capita, (Kg of oil equivalent per inhabitant)	4	3	7
Stock market capitalization, (% of GDP)	4	3	7
Assets of three largest commercial banks, (% of total commercial banking assets)	4	3	7
Agriculture value added per worker, (In constant 2010 U.S. dollars.)	4	3	7
Access to improved sanitation facilities, rural, (% of rural population)	3	3	6
Waste water treatment, (% of total water)	4	2	6
Innovation, (Index from 1 to 7, higher is better)	4	2	6
Access to non-solid fuel, urban, (% of urban population)	3	3	6
Agriculture value added (as % of GDP)	3	3	6
Cause of death, by non-communicable diseases (% of total)	3	3	6
Out-of-pocket health expenditure, (Percentage of total expenditure on health)	3	3	6
Anti-Corruption Policy Index	3	3	6
Small firms with line of credit to total small firms, (% of total small firms)	3	3	6
Adjusted net saving including particulate emission damage (% of total population)	2	4	6
Population exposed to ambient PM 2.5 in Capital city	2	4	6
CO2 emissions per $ of GDP, (kg per 2011 PPP $ of GDP)	3	3	6
Labor force participation rate, total (% of total population ages 15+) (modeled ilo estimate)	3	2	5
Access to improved water source, rural, (% of rural population)	2	3	5
Mobile cellular subscriptions, (Per 100 inhabitants)	3	2	5
Reliance on professional management, (Index from 1 to 7, higher is better)	3	2	5
Access to electricity, rural, (% of population)	2	3	5
Social security coverage (2010), (% of employed population)	3	2	5
Employees monthly earnings growth, (Annual growth rate)	2	3	5
Labor income share, (% of national income)	3	2	5
Tax revenue, (% of GDP)	2	3	5
Healthcare Access and Quality Index	3	2	5
Approval of Democracy	3	2	5
Terrestrial protected areas (% of total land area)	3	2	5
Electricity production from renewable sources, excluding hydroelectric (% of total)	4	1	5
Electricity production from renewable sources, (Kwh per capita)	4	1	5
Unmet need for contraception (% of married women ages 15-49)	2	2	4
Wage and salaried workers, female (% of female employment)	2	2	4

Labor force participation rate, female (% of total female population ages 15+) (modeled ilo estimate)	2	2	4
Access to improved sanitation facilities, urban, (% of urban population)	2	2	4
Exports and imports of goods and services, (% of GDP)	2	2	4
Welfare growth bottom 40 respect to the mean income, (times of growth of mean income)	1	3	4
Poverty headcount ratio at national poverty lines (% of population)	2	2	4
Inflation, consumer prices, (Annual % growth rate of price index)	1	3	4
Cause of death, by injuries, (% of total deaths excluding deaths by injury)	1	3	4
Life expectancy at birth, total, (Number of years a newborn infant would live)	2	2	4
Independent Judiciary	2	2	4
Effective Power to Government	2	2	4
Domestic credit to private sector, (% of GDP)	3	1	4
Population affected by droughts-floods-extreme temp., (average % of population affected 1990-2009)	2	2	4
Energy imports, net, (% of total energy use)	2	2	4
Agricultural raw materials exports (% of merchandise exports)	3	1	4
Livestock production index (2004-2006=100)	2	2	4
Firms with female top manager (% of firms)	2	1	3
Cost to export, ($US per container)	2	1	3
Beneficiary incidence in poorest quintile -all SP&L programs, (% of beneficiary population)	2	1	3
Gross fixed capital formation, (% of GDP)	2	1	3
Gross domestic savings, (% of GDP)	2	1	3
Separation of powers	2	1	3
Social Capital	2	1	3
Freedom of Expression Index	2	1	3
Change in forest area 1990-2015, (Annual % change of the remaining forest area each year)	2	1	3
Gross enrollment ratio tertiary, male, (% of the population of official PP education age)	2	1	3
Gross enrollment ratio secondary, male, (% of the population of official PP education age)	2	1	3
Gross enrollment ratio secondary, female, (% of the population of official PP education age)	2	1	3
Agricultural land per agricultural worker, (Hectares per agricultural worker)	2	1	3
Mortality rate, under-5, female (per 1,000 live births)	1	1	2
Annual freshwater withdrawals, total, (% of total internal water resources)	1	1	2
Cost to import (us$ per container)	1	1	2
Access to electricity, urban, (% of population)	1	1	2
Coverage - all social protection and labor, (% of total population)	1	1	2
Unemployment, female (% of female labor force) (modeled ilo estimate)	1	1	2
Unemployment, total , (% of total labor force)	1	1	2
Welfare growth of the bottom 40 of the population, (Annualized growth rate, circa 2007-12)	1	1	2
Gini coefficient, (Index from 0 to 100)	1	1	2
Foreign direct investment, net inflows (% of GDP)	1	1	2
Time to prepare and pay taxes, (Number of hours.)	1	1	2
GDP per capita growth, (Annual % growth rate of GDP per capita)	1	1	2

Cause of death, by communicable diseases and maternal, prenatal and nutrition conditions (% of total)	1	1	2
Prevalence of anemia among children, (% of children under 5)	1	1	2
Mortality rate, under-5 , (Probability per 1,000 live births)	1	1	2
Firms with line of credit, (% of total firms)	1	1	2
Adults borrowing from a formal fin. inst. in the past year to total adults, (% of 15 years old or above)	1	1	2
Adults with an account at a formal financial institution to total adults, (% of 15 years old or above)	1	1	2
Forest Cover Lost (2005-2016) - Canopy >50%	1	1	2
Forest Cover Lost (2005-2016) - Canopy >25%	1	1	2
Forest Cover Lost (2005-2016) - Canopy >10%	1	1	2
Nitrous oxide emissions (% change from 1990)	1	1	2
Environmental health costs, (% of GNI.)	1	1	2
Gross enrollment ratio tertiary, female, (% of the population of official PP education age)	1	1	2
Gross enrollment ratio pre-primary, male, (% of the population of official PP education age)	1	1	2
Gross enrollment ratio pre-primary, female, (% of the population of official PP education age)	1	1	2
Livestock population (cattle) per 1000 population	1	1	2
Agricultural land, (% of total land area)	1	1	2

Note: The distance to the frontier is broken into 4 categories. The values each category correspond to: 1: less than 25 percent from the top performer, 2: between 25 and 50% from the top performer, 3: between 50 and 75 percent from the top performer; 4: between 75 and 100 percent from top performer.

Table A.1. 1: Glossary of Benchmarking Indicators

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
01	01	Agriculture	Agriculture land (% of total land area)	Agricultural land refers to the share of land area that is arable, under permanent crops, and under permanent pastures. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded. Land under permanent crops is land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, such as cocoa, coffee, and rubber. This category includes land under flowering shrubs, fruit trees, nut trees, and vines, but excludes land under trees grown for wood or timber. Permanent pasture is land used for five or more years for forage, including natural and cultivated crops.	World Development Indicators.	http://data.worldbank.org/indicator/AG.LND.AGRI.ZS
01	02		Arable land (1) and permanent cropland (2) per agricultural worker (1000 workers). (Hectares per agricultural worker)	Total of land (1) defined by the Food and Agriculture Organization as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow, i.e. land that has been left fallow for less than five years, and (2) cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, such as cocoa, coffee, and rubber. Under (1), land abandoned as a result of shifting cultivation is excluded. Category (2) includes land under flowering shrubs, fruit trees, nut trees, and vines, but excludes land under trees grown for wood or timber.	World Development Indicators. Food and Agriculture Organization	http://data.worldbank.org/indicator/AG.LND.ARBL.HA.PC http://data.worldbank.org/indicator/AG.LND.CROP.ZS
01	03		Arable land (% of total land area)	Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded.	World Development Indicators. Food and Agriculture Organization	http://data.worldbank.org/indicator/AG.LND.ARBL.ZS
01	04		Agriculture value added per worker. (In constant 2010 U.S. dollars.)	Agriculture value added per worker is a measure of agricultural productivity. Value added in agriculture measures the output of the agricultural sector (ISIC divisions 1-5) less the value of intermediate inputs. Agriculture comprises value added from forestry, hunting, and fishing as well as cultivation of crops and livestock production. Data are in constant 2010 U.S. dollars..	World Development Indicators.	http://data.worldbank.org/indicator/EA.PRD.AGRI.KD.
01	05		Agricultural machinery. (Tractors per 100 sq. km of arable land)	Agricultural machinery refers to the number of wheel and crawler tractors (excluding garden tractors) in use in agriculture at the end of the calendar year specified or during the first quarter of the following year. Arable land includes land defined by the FAO as land under temporary crops (double-cropped areas are counted once), temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow. Land abandoned as a result of shifting cultivation is excluded.	World Development Indicators. Food and Agriculture Organization	http://data.worldbank.org/indicator/AG.PRD.TRAC.ZS
01	06		Livestock production index (2004-2006=100)	Livestock production index includes meat and milk from all sources, dairy products such as cheese, and eggs, honey, raw silk, wool, and hides and skins.	World Development Indicators. Food and Agriculture Organization	http://data.worldbank.org/indicator/AG.PRD.LVSK.XD

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
01	07		Livestock population (cattle) per 1000 population	Common ox (Bos taurus); zebu, humped ox (Bos indicus); Asiatic ox (subgenus Bibos); Tibetan yak (Poephagus grunniens). Animals of the genus listed, regardless of age, sex, or purpose raised. Data are expressed in number of heads. Number of cattles divided by a thousand of population.	Food and Agriculture Organization	http://www.fao.org/faostat/en/#data/QA. Element code=511; element:stock; item code=866
01	08		Agricultural raw materials exports (% of merchandise exports)	Agricultural raw materials comprise SITC section 2 (crude materials except fuels) excluding divisions 22, 27 (crude fertilizers and minerals excluding coal, petroleum, and precious stones), and 28 (metalliferous ores and scrap).	World Bank staff estimates through the WITS platform from the Comtrade database maintained by the United Nations Statistics Division.	http://data.worldbank.org/indicator/TX.VAL.AGRI.ZS.UN
02	01	Education	Gross enrollment ratio(GER) pre-primary, female, (% of the population of official PP education age)	Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. GER can exceed 100% due to the inclusion of over-aged and under-aged students because of early or late school entrance and grade repetition.	World Development Indicators. United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.	http://data.worldbank.org/indicator/SE.PRE.ENRR.FE
02	02		Gross enrollment ratio (GER) pre-primary, male, (% of the population of official PP education age)	Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. GER can exceed 100% due to the inclusion of over-aged and under-aged students because of early or late school entrance and grade repetition.	World Development Indicators. United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.	http://data.worldbank.org/indicator/SE.PRE.ENRR.MA
02	03		Gross enrollment ratio (GER), secondary, female. (% of the total population of official secondary education age)	Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.	World Development Indicators. United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.	http://data.worldbank.org/indicator/SE.SEC.ENRR.FE
02	04		Gross enrollment ratio (GER), secondary, male. (% of the total population of official secondary education age)	Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.	World Development Indicators. United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.	http://data.worldbank.org/indicator/SE.SEC.ENRR.MA
02	05		Gross enrollment ratio (GER), tertiary, female. (% of the total population of official secondary education age)	Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Tertiary education, whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level.	World Development Indicators. United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.	http://data.worldbank.org/indicator/SE.TER.ENRR.FE
02	06		Gross enrollment ratio (GER), tertiary, male. (% of the total population of official secondary education age)	Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Tertiary education, whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level.	World Development Indicators. United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.	http://data.worldbank.org/indicator/SE.TER.ENRR.FE

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
03	01	Energy and Extractives	Energy imports, net. (% of energy use)	Net energy imports are estimated as energy use less production, both measured in oil equivalents. A negative value indicates that the country is a net exporter. Energy use refers to use of primary energy before transformation to other end-use fuels, which is equal to indigenous production plus imports and stock changes, minus exports and fuels supplied to ships and aircraft engaged in international transport.	World Development Indicators International Energy Agency (IEA Statistics © OECD/IEA 2014, http://www.iea.org/stats/index.asp) and United Nations, Energy Statistics Yearbook.	http://data.worldbank.org/indicator/EG.IMP.CONS.ZS
03	04		Electricity production from renewable sources. (Kwh per capita)	Electricity production from renewable sources includes hydropower, geothermal, solar, tides, wind, biomass, and biofuels.	World Development Indicators IEA Statistics © OECD/IEA, http://www.iea.org/stats/index.asp), Energy Statistics and Balances of Non-OECD Countries, Energy Statistics of OECD Countries, and Energy Balances of OECD Countries	http://data.worldbank.org/indicator/EG.ELC.RNWX.KH
03	05		Electricity production from renewable sources, excluding hydroelectric. (% of total)	Electricity production from renewable sources, excluding hydroelectric, includes geothermal, solar, tides, wind, biomass, and biofuels.	World Development Indicators IEA Statistics © OECD/IEA, http://www.iea.org/stats/index.asp, Energy Statistics and Balances of Non-OECD Countries, Energy Statistics of OECD Countries, and Energy Balances of OECD Countries	http://data.worldbank.org/indicator/EG.ELC.RNEW.ZS
03	06		Electricity production from renewable sources, excluding hydroelectric. (kwh)	Electricity production from renewable sources, excluding hydroelectric, includes geothermal, solar, tides, wind, biomass, and biofuels.	World Development Indicators IEA Statistics © OECD/IEA, http://www.iea.org/stats/index.asp), Energy Statistics and Balances of Non-OECD Countries, Energy Statistics of OECD Countries, and Energy Balances of OECD Countries	http://data.worldbank.org/indicator/EG.ELC.RNWX.KH
04	01		Environmental health costs. (% of GNI.)	These refer to costs from ambient air pollution, household air pollution, lack of access to clean water and sanitation, lead exposure, and workplace environmental hazards. The gross national income (GNI) was from WDI.	World Bank Environment & Natural Resources GP in collaboration with MFM GP	
04	02	Environment and Natural	CO_2 emissions per $ of GDP. (kg per 2011 PPP $ of GDP)	Carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring.	World Development Indicators. Carbon Dioxide Information Analysis Center, Environmental Sciences Division, Oak Ridge National Laboratory, Tennessee, United States.	http://data.worldbank.org/indicator/en.atm.co2e.pp.gd.kd

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
04	03		Population affected by droughts, floods, and extreme temperatures. (% of population (is calculated by dividing the sum of total affected for the period stated by the sum of the annual population figures for the period stated), Average 1990-2009)	Population affected by droughts, floods and extreme temperatures is the annual average percentage of the population that is affected by natural disasters classified as droughts, floods, or extreme temperature events. A drought is an extended period of time characterized by a deficiency in a region's water supply that is the result of constantly below average precipitation. A drought can lead to losses to agriculture, affect inland navigation and hydropower plants, and cause a lack of drinking water and famine. A flood is a significant rise of water level in a stream, lake, reservoir or coastal region. Extreme temperature events are either cold waves or heat waves. A cold wave can be both a prolonged period of excessively cold weather and the sudden invasion of very cold air over a large area. Along with frost it can cause damage to agriculture, infrastructure, and property. A heat wave is a prolonged period of excessively hot and sometimes also humid weather relative to normal climate patterns of a certain region. Population affected is the number of people injured, left homeless or requiring immediate assistance during a period of emergency resulting from a natural disaster; it can also include displaced or evacuated people.	World Development Indicators. EM-DAT: The OFDA/CRED International Disaster Database: www.emdat.be, Universite Catholique de Louvain, Brussels (Belgium), World Bank.	http://data.worldbank.org/indicator/en.clc.mdat.zs
04	04		Percent change in forest area 1990-2015. (% of change in forest area)	Total forest area.	FAO Global Forest Resources Assessment 2015	http://www.fao.org/forestry/fra/fra2015/en/
04	05		Population exposed to ambient $PM_{2.5}$ in Capital City (% of total population exposed to concentrations $PM_{2.5}$)	Defined as the portion of the country population that is exposed to annual mean concentrations of ambient $PM_{2.5}$ pollution above the WHO's guideline value (10 micrograms per cubic meter).	WHO Global Urban Ambient Air Pollution Database (May 2016)	http://www.who.int/phe/health_topics/outdoorair/databases/cities/en/
04	06		Nitrous oxide emissions (% change from 1990)	Nitrous oxide emissions are emissions from agricultural biomass burning, industrial activities, and livestock management. Each year of data shows the percentage change to that year from 1990.	World Bank staff estimates from original source: European Commission, Joint Research Centre (JRC)/Netherlands Environmental Assessment Agency (PBL). Emission Database for Global Atmospheric Research (EDGAR): http://edgar.jrc.ec.europa.eu/.	http://data.worldbank.org/indicator/EN.ATM.NOXE.ZG

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
04	07		Forest Cover Lost (2005-2016) - Canopy >10%	Hectares of tree cover loss by country from 2001-2016 categorized by percent canopy cover (>10%)	Hansen, M.C., P.V.Potapov, R. Moore, M.L. Chini, C.O.Justice, and J.R.G. Townshend. 2013. "Hansen/UMD/Google/USGS/NASA Tree Cover Loss and Gain Area." University of Maryland, Google, USGS, and NASA. Accessed through Global Forest Watch on Dec 10, 2017. www.globalforestwatch.org	http://www.globalforestwatch.org/countries/overview
04	08		Forest Cover Lost (2005-2016) - Canopy >25%	Hectares of tree cover loss by country from 2001-2016 categorized by percent canopy cover (>25%)	Hansen, M.C., P.V.Potapov, R. Moore, M.L. Chini, C.O.Justice, and J.R.G. Townshend. 2013. "Hansen/UMD/Google/USGS/NASA Tree Cover Loss and Gain Area." University of Maryland, Google, USGS, and NASA. Accessed through Global Forest Watch on Dec 10, 2017. www.globalforestwatch.org	http://www.globalforestwatch.org/countries/overview
04	09	Environmental and Natural Resources	Forest Cover Lost (2005-2016) - Canopy >50%	Hectares of tree cover loss by country from 2001-2016 categorized by percent canopy cover (>50%)	Hansen, M.C., P.V.Potapov, R. Moore, M.L. Chini, C.O.Justice, and J.R.G. Townshend. 2013. "Hansen/UMD/Google/USGS/NASA Tree Cover Loss and Gain Area." University of Maryland, Google, USGS, and NASA. Accessed through Global Forest Watch on Dec 10, 2017. www.globalforestwatch.org	http://www.globalforestwatch.org/countries/overview
04	10		Adjusted net saving including particulate emission damage (% of GNI)	Adjusted net savings are equal to net national savings plus education expenditure and minus energy depletion, mineral depletion, net forest depletion, and carbon dioxide and particulate emissions damage.	World Bank staff estimates based on sources and methods in World Bank's "The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium" (2011).	http://data.worldbank.org/indicator/NY.ADJ.SVNG.GN.ZG
04	11		Terrestrial protected areas (% of total land area)	Terrestrial protected areas are totally or partially protected areas of at least 1,000 hectares that are designated by national authorities as scientific reserves with limited public access, national parks, natural monuments, nature reserves or wildlife sanctuaries, protected landscapes, and areas managed mainly for sustainable use. Marine areas, unclassified areas, littoral (intertidal) areas, and sites protected under local or provincial law are excluded.	United Nations Environmental Program and the World Conservation Monitoring Centre, as compiled by the World Resources Institute, based on data from national authorities, national legislation and international agreements.	http://data.worldbank.org/indicator/ER.LND.PTLD.ZS

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
05	01	Finance and	Commercial bank branches. (Number of bank branches per 100,000 adults)	Retail locations of resident commercial banks and other resident banks that function as commercial banks that provide financial services to customers and are physically separated from the main office but not organized as legally separated subsidiaries.	World Development Indicators. International Monetary Fund, Financial Access Survey.	http://data.worldbank.org/indicator/FB.CBK.BRCH.P5
05	02	Finance and Markets	Account at a formal financial institution, income, bottom 40%. (% of 15 years old or above)	Denotes the percentage of respondents with an account (self or together with someone else) at a bank, credit union, another financial institution (e.g., cooperative, microfinance institution), or the post office (if applicable) including respondents who reported having a debit card (income, bottom 40%, % age 15+).	Demirguc-Kunt et al., 2015, Global Financial Inclusion Database, World Bank.	http://datatopics.worldbank.org/financialinclusion/
05	03	Finance and	Domestic credit to private sector. (% of GDP in domestic credit to private sector)	Domestic credit to private sector refers to financial resources provided to the private sector, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable that establish a claim for repayment. For some countries these claims include credit to public enterprises.	World Development Indicators. International Monetary Fund, International Financial Statistics and data files, and World Bank and OECD GDP estimates.	http://data.worldbank.org/indicator/FS.AST.PRVT.GD.ZS
05	04	Finance and Markets	Adults with an account at a formal financial institution to total adults. (% of adults with an account (self or together with someone else) at a bank)	Percentage of adults with an account (self or together with someone else) at a bank, credit union, another financial institution (e.g., cooperative, microfinance institution), or the post office (if applicable) including adults who reported having a debit card to total adults.	Demirguc-Kunt et al., 2015, Global Financial Inclusion Database, World Bank.	http://data.worldbank.org/indicator.(WP_time_01.1)
05	05	Finance and Markets	Small firms with line of credit to total small firms. (% of small firms with line of credit to total small firms)	Proportion of small firms in the formal sector with a line of credit or a loan from a financial institution.	World Bank, Enterprise Survey	http://data.worldbank.org/data-catalog/enterprise-surveys
05	06	Finance and Markets	Adults borrowing from a formal financial institution in the past year to total adults. (% of adults who report borrowing any money from a bank)	Percentage of adults who report borrowing any money from a bank, credit union, microfinance institution, or another financial institution such as a cooperative in the past 12 months.	Global Findex database.(Aslı Demirgüç-Kunt and Leora Klapper, 2012. "Measuring Financial Inclusion: The Global Findex," World Bank Policy Research Working Paper 6025).	https://openknowledge.worldbank.org/bitstream/handle/10986/6042/WPS6025.pdf?sequence=1

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
05	07	Finance and Markets	Bank concentration of the largest three banks. (%)	Assets of three largest commercial banks as a share of total commercial banking assets. Total assets include total earning assets, cash and due from banks, foreclosed real estate, fixed assets, goodwill, other intangibles, current tax assets, deferred tax assets, discontinued operations and other assets. Only reported if number of banks in Bankscope is three or more. (Calculated from underlying bank-by-bank unconsolidated data from Bankscope)	Global Financial Development Database (GFDD). Raw data are from Bankscope.	http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTGLOBALFINREPORT/0,,contentMDK:23492070~pagePK:64168182~piPK:64168060~theSitePK:8816097,00.html
05	08	Finance and Markets	Stock market capitalization. (% of GDP)	Total value of all listed shares in a stock market as a percentage of GDP.	Global Financial Development Database	http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTGLOBALFINREPORT/0,,contentMDK:23492070~pagePK:64168182~piPK:64168060~theSitePK:8816097,00.html
05	09	Finance and	Firms with line of credit to total firms (all firms) (%). (% of firms with line of credit to total firms)	Proportion of firms in the formal sector with a line of credit or a loan from a financial institution.	World Bank, Enterprise Survey	http://data.worldbank.org/data-catalog/enterprise-surveys
05	11	Finance and Markets	Bank non-performing loans to total gross loans (%)	Bank nonperforming loans to total gross loans are the value of nonperforming loans divided by the total value of the loan portfolio (including nonperforming loans before the deduction of specific loan-loss provisions). The loan amount recorded as nonperforming should be the gross value of the loan as recorded on the balance sheet, not just the amount that is overdue.	International Monetary Fund, Global Financial Stability Report.	http://data.worldbank.org/indicator/FB.AST.NPER.ZS
05	12	Finance and Markets	Bank capital to assets ratio (%)	Bank capital to assets is the ratio of bank capital and reserves to total assets. Capital and reserves include funds contributed by owners, retained earnings, general and special reserves, provisions, and valuation adjustments. Capital includes tier 1 capital (paid-up shares and common stock), which is a common feature in all countries' banking systems, and total regulatory capital, which includes several specified types of subordinated debt instruments that need not be repaid if the funds are required to maintain minimum capital levels (these comprise tier 2 and tier 3 capital). Total assets include all nonfinancial and financial assets.	International Monetary Fund, Global Financial Stability Report.	http://data.worldbank.org/indicator/FB.BNK.CAPA.ZS

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
06	07	Governance	Freedom of expression index	When assessing the degree of freedom of expression, please consider: · if the constitution guarantees freedom of expression, and if these laws are enforced · if individuals, organizations or media are harassed or physically threatened by either the state or infl uential interest groups and if there are cases of assault against dissenting media or critical journalists · if the state practices censorship, or if journalists practice self-censorship · if penal code, security laws or penalties for libeling state offi cials are enacted to intimidate dissenting opinion · if freedom of information legislation is in place and effective · if the structure of the media system provides for a plurality of opinions Legal restrictions to protect democratic processes (ethical guidelines by media supervisory boards, prohibition of hate-speeches) should not be considered a reason for providing a lower score.	Bertelsmann Transformation Index (BTI)	http://data.worldjusticeproject.org/ https://widgets.weforum.org/global-competitiveness-report-2017/
06	08	Gov	Anti corruption policy index			http://data.worldjusticeproject.org/
06	09	Governance	Effective power to government	In assessing the effective power to govern, the BTI distinguishes between governments that have been installed by authoritarian rule and those that have been democratically elected. This prevents stable autocratic regimes from being re-warded with high scores. For this indicator, autocracies cannot receive scores greater than three points. The minimum score for a country classified as a democracy is four points.	Bertelsmann Transformation Index (BTI)	https://www.bti-project.org/en/index/status-index/
06	10	Governance	Approval of democracy	Given the fact that opinion polls in authoritarian regimes often lack reliability and validity, this indicator is applied to democracies alone.	Bertelsmann Transformation Index (BTI)	https://www.bti-project.org/en/index/status-index/
06	11	Governance	Social capital	This question aims to assess the level of trust between citizens, which fosters cooperation and mutual support for purposes of self-help, rather than primarily to further political objectives. Social capital may also be based on cultural patterns of interaction characterizing traditional societies. Please indicate · to what extent there is a sense of solidarity and trust among the citizens (as measured by public opinion surveys) · to what extent there is a voluntary and autonomous organization of cultural, environmental or social associations	Bertelsmann Transformation Index (BTI)	https://www.bti-project.org/en/index/status-index/

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
06	12	Governance	Separation of powers	This question refers to the basic configuration and operation of the separation of powers (institutional differentiation, division of labor according to functions and, most significantly, checks and balances). However, it does not refer to the tendency toward convergence and a fusion of powers that can be observed in parliamentary systems. It does include the subjection of state power to the law.	Bertelsmann Transformation Index (BTI)	https://www.bti-project.org/en/index/status-index/
06	13	Governance	Independent judiciary	An independent judiciary has the ability and autonomy to · interpret and review existing laws, legislation and policies, both public and civil · pursue its own reasoning, free from the influence of political decision-makers or powerful groups and individuals and from corruption · develop a differentiated organization, including legal education, jurisprudence, regulated appointment of the judiciary, rational proceedings, professionalism, channels of appeal and court administration	Bertelsmann Transformation Index (BTI)	https://www.bti-project.org/en/index/status-index/
06	14	Governance	Public Institution		World Economic Forum, The Global Competitiveness Report 2017-2018	https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018
06	15	Governance	Diversion of Public Funds	It measures how common is illegal diversion of public funds to companies, individuals, or groups? The value ranges from 1 to 7; which 1 is very common and 7 is never occurs	World Economic Forum, The Global Competitiveness Report 2017-2018	https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018
06	16	Governance	Public Trust in politicians	It measures how do people rate the ethical standards of politicians? The value ranges from 1 to 7; which 1 is low and 7 is extremely high	World Economic Forum, The Global Competitiveness Report 2017-2018	https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018
06	17	Governance	Favoritism in decision of government official	It measures to what extent do government officials show favoritism to well-connected firms and individuals when deciding upon policies and contracts. The value ranges from 1 to 7; which 7 does not show favoritism.	World Economic Forum, The Global Competitiveness Report 2017-2018	https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
06	18	Governance	Efficiency in government spending	It measures how efficient is the government spending public revenue. The value ranges from 1 to 7; which 7 shows extremely efficient	World Economic Forum, The Global Competitiveness Report 2017-2018	https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018
07	01	Health, Nutrition, and Population	Life expectancy at birth, total. (Years a newborn infant would live)	Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.	World Development Indicators. Derived from male and female life expectancy at birth from sources such as: (1) United Nations Population Division. World Population Prospects, (2) United Nations Statistical Division. Population and Vital Statistics Report (various years), (3) Census reports and other statistical publications from national statistical offices, (4) Eurostat: Demographic Statistics, (5) Secretariat of the Pacific Community: Statistics and Demography Programme, and (6) U.S. Census Bureau: International Database.	http://data.worldbank.org/indicator/FS.AST.PRVT.GD.ZS
07	02	Health, Nutrition, and	Mortality rate, under-5. (Probability per 1,000 live births)	Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to age-specific mortality rates of the specified year.	World Development Indicators. Estimates developed by the UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UN DESA Population Division) at www.childmortality.org.	http://data.worldbank.org/indicator/SH.DYN.MORT
07	03	Health, Nutrition, and Population	Out-of-pocket health expenditure. (% of total expenditure on health)	Out of pocket expenditure is any direct outlay by households, including gratuities and in-kind payments, to health practitioners and suppliers of pharmaceuticals, therapeutic appliances, and other goods and services whose primary intent is to contribute to the restoration or enhancement of the health status of individuals or population groups. It is a part of private health expenditure.	World Development Indicators. World Health Organization National Health Account database (see http://apps.who.int/nha/database/DataExplorerRegime.aspx for the most recent updates).	http://data.worldbank.org/indicator/SH.XPD.OOPC.TO.ZS
07	04	Health, Nutrition,	Adolescent fertility rate. (Births per 1,000 women ages 15-19)	Adolescent fertility rate is the number of births per 1,000 women ages 15-19.	World Development Indicators. United Nations Population Division, World Population Prospects.	http://data.worldbank.org/indicator/SP.ADO.TFRT

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
07	05	Health, Nutrition, and Population	Prevalence of anemia among children. (% of children under 5)	Prevalence of anemia, pregnant women, is the percentage of pregnant women whose hemoglobin level is less than 110 grams per liter at sea level. World Health Organization, Worldwide Prevalence of Anemia.	World Development Indicators. 1. WHO. Global anemia prevalence and trends 1995-2011. Geneva: World Health Organization; forthcoming. 2. Stevens GA, Finucane MM, De-Regil LM, et al. Global, regional, and national trends in hemoglobin concentration and prevalence of total and severe anemia in children and pregnant and non-pregnant women for 1995-2011: a systematic analysis of population-representative data. The Lancet Global Health 2013; 1(1): e16-e25.	http://data.worldbank.org/indicator/SH.ANM.CHLD.ZS
07	06	Health, Nutrition, and Population	Cause of death by injuries (% of total)	Cause of death refers to the share of all deaths for all ages by underlying causes. Injuries include unintentional and intentional injuries.	World Development Indicators.	http://data.worldbank.org/indicator/SH.DTH.INJR.ZS
07	07	Health, Nutrition, and	Cause of death, by communicable diseases and maternal, prenatal and nutrition conditions. (% of total deaths excluding deaths by injury)	Cause of death refers to the share of all deaths for all ages by underlying causes. Communicable diseases and maternal, prenatal and nutrition conditions include infectious and parasitic diseases, respiratory infections, and nutritional deficiencies such as underweight and stunting.	Data computed based on World Development Indicators	http://data.worldbank.org/indicator/SH.DTH.COMM.ZS
07	08	Health, Nutrition	Cause of death, by non-communicable diseases (% of total)	Cause of death refers to the share of all deaths for all ages by underlying causes. Non-communicable diseases include cancer, diabetes mellitus, cardiovascular diseases, digestive diseases, skin diseases, musculoskeletal diseases, and congenital anomalies.	Derived based on the data from WHO's World Health Statistics.	http://data.worldbank.org/indicator/SH.DTH.NCOM.ZS
07	09	H e	Health care access and quality index			

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
08	01	Macroeconomics & Fiscal	Tax revenue. (% of GDP)	Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded. Refunds and corrections of erroneously collected tax revenue are treated as negative revenue.	World Development Indicators International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates.	http://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS
08	02	Macroeconomics	Gross domestic savings. (% of GDP)	Gross domestic savings are calculated as GDP less final consumption expenditure (total consumption).	World Development Indicators World Bank national accounts data, and OECD National Accounts data files.	http://data.worldbank.org/indicator/NY.GDS.TOTL.ZS
08	03	Macroeconomics & Fiscal	GDP per capita growth. (Annual % growth rate of GDP per capita based on constant local currency.)	Aggregates are based on constant 2005 US$. GDP per capita is gross domestic product divided by midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.	World Development Indicators World Bank national accounts data, and OECD National Accounts data files.	http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG
08	04	Macroeconomics &	Inflation, consumer prices.	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used.	World Development Indicators International Monetary Fund, International Financial Statistics and data files.	http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG
08	05	Macroeconomics & Fiscal	Time to prepare and pay taxes (Hours)	Time to prepare and pay taxes is the time, in hours per year, it takes to prepare, file, and pay (or withhold) three major types of taxes: the corporate income tax, the value added or sales tax, and labor taxes, including payroll taxes and social security contributions.	World Development Indicators World Bank, Doing Business project (http://www.doingbusiness.org/).	http://data.worldbank.org/indicator/IC.TAX.DURS
08	06	Macroeconomics & Fiscal	Gross fixed capital formation. (% of GDP)	Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation.	World Development Indicators World Bank national accounts data, and OECD National Accounts data files.	http://data.worldbank.org/indicator/NE.GDI.FTOT.ZS

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
08	07	Macroeconomics & Fiscal Management	Foreign direct investment, net inflows (% of GDP)	Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP.	International Monetary Fund, International Financial Statistics and Balance of Payments databases, World Bank, International Debt Statistics, and World Bank and OECD GDP estimates.	http://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS
08	08	Macroeconomics & Fiscal Management	Agriculture value added (as % of GDP)	Agriculture corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. Note: For VAB countries, gross value added at factor cost is used as the denominator.	World Bank national accounts data, and OECD National Accounts data files.	http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS
09	01	Poverty	Poverty headcount ratio at National poverty line. (% of population)	National poverty headcount ratio is the percentage of the population living below the national poverty lines. National estimates are based on population-weighted subgroup estimates from household surveys.	World Bank, Global Poverty Working Group. Data are compiled from official government sources or are computed by World Bank staff using national (i.e. country–specific) poverty lines.	http://data.worldbank.org/indicator/SI.POV.NAHC
09	02	Poverty	Gini coefficient povcalnet, external sources.	Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.	Povcalnet	http://iresearch.worldbank.org/PovcalNet/index.htm?0,0

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
09	03	Poverty	Growth bottom 40 2007-12.	The growth rate in the welfare aggregate of the bottom 40% is computed as the annualized average growth rate in per capita real consumption or income of the bottom 40% of the population in the income distribution in a country from household surveys over a roughly 5-year period. The final year of the growth period (T1) is defined as the most recent survey year no earlier than 2009. The initial year (T0) is defined as close to (T1 - 5) as possible, with a bandwidth of +/- 2 years; thus the gap between initial and final survey years ranges from 3 to 7 years. If two surveys are equidistant from (T1 - 5), all other things being equal, the more recent survey year is selected as T0. In the database, growth rates are assigned to the final year of the period used, i.e. T1.	World Bank, Global Database of Shared Prosperity (GDSP) circa 2007 - 2012	http://www.worldbank.org/en/topic/poverty/brief/global-database-of-shared-prosperity
09	04	Poverty	Relation growth bottom 40.	Ratio of bottom 40 percent growth to average growth. The growth rate in the welfare aggregate of total population is computed as the annualized average growth rate in per capita real consumption or income of total population from household surveys over a roughly 5-year period. See Indicator 09-04 for definition of the bottom 40 percent.	World Bank, Global Database of Shared Prosperity (GDSP) circa 2007 – 2012 (http://www.worldbank.org/en/topic/poverty/brief/global-database-of-shared-prosperity).	http://www.worldbank.org/en/topic/poverty/brief/global-database-of-shared-prosperity
10	01	Labor and Social	Unemployment, total (modeled ILO estimate). (% of total labor force)	Unemployment refers to the share of the labor force that is without work but available for and seeking employment.	World Development Indicators International Labour Organization, Key Indicators of the Labour Market database.	http://data.worldbank.org/indicator/SL.UEM.TOTL.ZS
10	02	Labor and	Unemployment, female (modeled ILO estimate). (% of total labor force)	Unemployment refers to the share of the labor force that is without work but available for and seeking employment.	World Development Indicators International Labour Organization, Key Indicators of the Labour Market database.	http://data.worldbank.org/indicator/SL.UEM.TOTL.FE.ZS
10	03	Labor and Social	Labor share. (% of national income)	Compensation of employees as a share of GDP. Compensation of employees is measured by account D.1 in the System of National Accounts (SNA), and GDP by account B.1. Compensation of employees includes payments in cash and in-kind. It also includes government contributions to social insurance schemes that provide benefits to the employees.	World Bank, World Development Report 2013 UNDATA, at http://data.un.org.	http://data.worldbank.org/data-catalog/wdr-2013-jobs

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
10	04	Labor and Social Protection	Mean Real Monthly Earnings of Employees, Annual Growth. (%)	Mean real monthly earnings growth of employees refers to the year on year percentage growth (or decline) of mean real wages. The earnings of employees relate to the gross remuneration in cash and in kind paid to employees deflated by the country's consumer price index, as a rule at regular intervals, for time worked or work done together with remuneration for time not worked, such as annual vacation, other type of paid leave or holidays. Earnings exclude employers' contributions in respect of their employees paid to social security and pension schemes and also the benefits received by employees under these schemes. Earnings also exclude severance and termination pay. Statistics of earnings relate to the gross remuneration of employees, i.e. the total before any deductions are made by the employer.	International Labor Organization Global Wage Report 2014-2015	http://www.ilo.org/ilostat/GWR?_afrLoop=1338955075782656&_adf.ctrl-state=k1d4c52do_4#%40%3F_afrLoop%3D1338955075782656%26_adf.ctrl-state%3Dp6t8y7cns_4
10	05	Labor and	Social security coverage (2010). (% of employed population)	Share of the labor force actively contributing to old-age pension schemes.	World Development Report 2013	http://data.worldbank.org/data-catalog/wdr-2013-jobs
10	06	Labor and Social Protection	Beneficiary incidence in poorest quintile - All Social Protection and Labor. (% of total beneficiaries)	Percentage of program beneficiaries in a quintile relative to the total number of beneficiaries in the population. The indicator is estimated by program type and by quintiles of both the post-transfer and pre-transfer welfare distribution. Programs are aggregated into social assistance, social insurance, and labor market according to ASPIRE classification. Indicators for all SPL programs provide the totals summing up the social assistance, social insurance, and labor market figures. Specifically, beneficiary incidence is (Number of individuals in each quintile who live in a household where at least one member participates in a SPL program)/(Number of individuals participating in SPL programs in the population). The indicator includes both direct and indirect beneficiaries.	World Bank, The Atlas for Social Protection Indicators of Resilience and Equity (ASPIRE)	http://datatopics.worldbank.org/aspire/documentation
10	07	Labor and Social Protection	Coverage - All Social Protection and Labor. (%)	Percentage of population participating in Social Protection and Labor programs (includes direct and indirect beneficiaries). The indicator is estimated by program type, for the entire population and by quintiles of both the post-transfer and pre-transfer welfare distribution. Programs are aggregated into social assistance, social insurance, and labor market according to ASPIRE classification. Indicators for all SPL programs provide the totals summing up the social assistance, social insurance, and labor market figures. Specifically, coverage is (number of individuals in the quintile who live in a household where at least one member receives the transfer)/(number of individuals in that quintile).	World Bank, The Atlas for Social Protection Indicators of Resilience and Equity (ASPIRE)	http://datatopics.worldbank.org/aspire/documentation
11	01	Social, Urban	Access to electricity, urban. (% of population)	Access to electricity, urban is the percentage of urban population with access to electricity.	World Bank, Sustainable Energy for All (SE4ALL) database from World Bank, Global Electrification database.	http://data.worldbank.org/indicator/EG.ELC.ACCS.UR.ZS

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
11	02	Social, Urban.	Access to electricity, rural. (% of population)	Percentage of the rural population with access to electricity.	World Bank, Sustainable Energy for all (SE4ALL) database from World Bank, Global Electrification database.	http://data.worldbank.org/indicator/EG.ELC.ACCS.RU.ZS
11	03	Social, Urban.	Access to non-solid fuel, rural. (% of rural population)	Percentage of the rural population with access to non-solid fuel.	World Bank, Sustainable Energy for all (SE4ALL) database from WHO Global Household Energy database.	http://data.worldbank.org/indicator/EG.NSF.ACCS.RU.ZS
11	04	Social, Urban.	Access to non-solid fuel, urban. (% of urban population with access to non-solid fuel.)	Percentage of the urban population with access to non-solid fuel.	World Bank, Sustainable Energy for all (SE4ALL) database from WHO Global Household Energy database.	http://data.worldbank.org/indicator/EG.NSF.ACCS.UR.ZS
11	05	Socia —.	Amount of Municipal Solid Waste (MSW) collected. (% of total MSW generated)	Amount of Municipal Solid Waste (MSW) collected as a proportion of total MSW generated	Waste Atlas: 2013 Report, available at: http://www.atlas.d-waste.com/	http://www.atlas.d-waste.com/
12	01	Trade and Competitiveness	Reliance on professional management.	Since 2005, the World Economic Forum has based its competitiveness analysis on the Global Competitiveness Index (GCI), a comprehensive tool that measures the microeconomic and macroeconomic foundations of national competitiveness. The Executive Opinion Survey (the Survey) is the longest-running and most extensive survey of its kind. The Survey captures the opinions of business leaders around the world on a broad range of topics for which data sources are scarce or, frequently, nonexistent on a global scale. The indicators derived from the Survey are used in the calculation of the GCI and other Forum indexes. The 2014 edition of the Survey captured the opinions of over 14,000 business leaders in 148 economies between February and June 2014. Respondents were asked to evaluate the following question on a scale of 1 to 7: "In your country, who holds senior management positions?" [1 = usually relatives or friends without regard to merit; 7 = mostly professional managers chosen for merit and qualifications]	The Global Competitiveness Index is based on the result of the work of Sala-i-Martín and Artadi 2004. World Economic Forum, Executive Opinion Survey (2014)	http://reports.weforum.org/global-competitiveness-report-2014-2015/introduction-2/
12	02	Trade and Competitiveness	HH Market Concentration Index.	Hirschman Herfindahl index is a measure of the dispersion of trade value across an exporter's partners. A country with trade (export or import) that is concentrated in a very few markets will have an index value close to 1. Similarly, a country with a perfectly diversified trade portfolio will have an index close to zero. *Data Notes:* 1) Mirror Exports is considered for export data. 2) All Countries except World and EUN are considered as partner group. 3) Product 'Total' is used for this computation. 4) The indicator is computed at reporter-partner level and aggregated to reporter level.	World Integrated Trade Solution (WITS) - United Nations Statistics Division (UNSD) Comtrade	http://wits.worldbank.org/CountryProfile/country/ALL/startyear/2009/endyear/2013/indicator/HH-MKT-CNCNTRTN-NDX

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
12	03	Trade and Competitiveness	Pillar_innovation. (Index)	The different aspects of competitiveness are captured in 12 pillars, which compose the Global Competitiveness Index. Innovation can emerge from new technological and non-technological knowledge. Non-technological innovations are closely related to the know-how, skills, and working conditions that are embedded in organizations and are therefore largely covered by the eleventh pillar of the GCI. The final pillar of competitiveness focuses on technological innovation. Although substantial gains can be obtained by improving institutions, building infrastructure, reducing macroeconomic instability, or improving human capital, all these factors eventually run into diminishing returns. The same is true for the efficiency of the labor, financial, and goods markets. In the long run, standards of living can be largely enhanced by technological innovation.	The Global Competitiveness Index is based on the result of the work of Sala-i-Martín and Artadi 2004. World Economic Forum, 2014-2015 Global Competitiveness Index	http://reports.weforum.org/global-competitiveness-report-2014-2015/methodology/
12	04	Trade and Competitiveness	Cost to export. ($US per container)	Cost measures the fees levied on a 20-foot container in US$. All the fees associated with completing the procedures to export or import the goods are included. These include costs for documents, administrative fees for customs clearance and technical control, customs broker fees, terminal handling charges, and inland transport. The cost measure does not include tariffs or trade taxes. Only official costs are recorded. Several assumptions are made for the business surveyed: Has 60 or more employees; Is located in the country's most populous city; Is a private, limited liability company. It does not operate within an export-processing zone or an industrial estate with special export or import privileges; Is domestically owned with no foreign ownership; Exports more than 10% of its sales. Assumptions about the traded goods: The traded product travels in a dry-cargo, 20-foot, full container load. The product: Is not hazardous nor does it include military items; Does not require refrigeration or any other special environment; Does not require any special phytosanitary or environmental safety standards other than accepted international standards.	WITS - World Bank, Doing Business project (http://www.doingbusiness.org/).	http://wits.worldbank.org/CountryProfile/country/ALL/startyear/2009/endyear/2013/indicator/IC-EXP-COST-CD
12	05	Trade and Competitiveness	Exports and imports of goods and services, (% of GDP)	Imports (exports) of goods and services represent the value of all goods and other market services received from (sold to) the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments.	WDI. Using data for exports as percentage of GDP and imports as percentage of GDP.	http://data.worldbank.org/indicator/NE.EXP.GNFS.ZS http://data.worldbank.org/indicator/NE.IMP.GNFS.ZS

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
12	06	Trade and Competitiveness	Cost to import. ($US per container)	Cost measures the fees levied on a 20-foot container in U.S. dollars. All the fees associated with completing the procedures to export or import the goods are included. These include costs for documents, administrative fees for customs clearance and technical control, customs broker fees, terminal handling charges and inland transport. The cost measure does not include tariffs or trade taxes. Only official costs are recorded.	World Bank, Doing Business project (http://www.doingbusiness.org/).	http://wits.worldbank.org/CountryProfile/country/ALL/startyear/2009/endyear/2013/indicator/IC-IMP-COST-CD
13	01	Transport & ICT	Mobile cellular subscriptions. (Per 100 people)	Mobile cellular telephone subscriptions are subscriptions to a public mobile telephone service using cellular technology, which provides access to the public switched telephone network. Post-paid and prepaid subscriptions are included.	World Development Indicators International Telecommunication Union, World Telecommunication/ICT Development Report and database, and World Bank estimates.	http://data.worldbank.org/indicator/IT.CEL.SETS.P2
13	02	Transport & ICT	Road sector energy consumption per capita. (Kg of oil equivalent)	Road sector energy consumption is the total energy used in the road sector including petroleum products, natural gas, electricity, and combustible renewables and waste.	World Development Indicators International Road Federation, World Road Statistics and electronic files, except where noted, and International Energy Agency (IEA Statistics © OECD/IEA, http://www.iea.org/stats/index.asp).	http://data.worldbank.org/indicator/IS.ROD.ENGY.PC
13	03	Transport & ICT	Road density. (Km of road per 100 km^2 of land area)		World Development Indicators, using wbopendata	
13	04	Transport & ICT	Internet users (Per 100 people)	Internet users are people with access to the worldwide network.	World Development Indicators International Telecommunication Union, World Telecommunication/ICT Development Report and database, and World Bank estimates.	http://data.worldbank.org/indicator/IT.NET.USER.P2
14	01	Water	Annual freshwater withdrawals, total. (% of total internal water resources)	Annual freshwater withdrawals refer to total water withdrawals, not counting evaporation losses from storage basins. Withdrawals also include water from desalination plants in countries where they are a significant source. Withdrawals can exceed 100 percent of total renewable resources where extraction from nonrenewable aquifers or desalination plants is considerable or where there is significant water reuse. Withdrawals for agriculture are total withdrawals for irrigation and livestock production. Data are for the most recent year available for 1987-2002.	World Development Indicators. Food and Agriculture Organization, AQUASTAT data, and World Bank and OECD GDP estimates.	http://data.worldbank.org/indicator/er.h2o.fwtl.zs

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
14	02	Water	Annual freshwater withdrawals per capita. (Total (billion cubic meters) per 1000 inhabitants)	Annual freshwater withdrawals refer to total water withdrawals, not counting evaporation losses from storage basins. Withdrawals also include water from desalination plants in countries where they are a significant source. Withdrawals can exceed 100 percent of total renewable resources where extraction from nonrenewable aquifers or desalination plants is considerable or where there is significant water reuse. Withdrawals for agriculture and industry are total withdrawals for irrigation and livestock production and for direct industrial use (including withdrawals for cooling thermoelectric plants). Withdrawals for domestic uses include drinking water, municipal use or supply, and use for public services, commercial establishments, and homes. Population data is from WDI	World Development Indicators. Food and Agriculture Organization, AQUASTAT data, and World Bank and OECD GDP estimates.	http://data.worldbank.org/indicator/ER.H2O.FWTL.K3
14	03	Water	Water productivity, total. (Constant 2010 US$ by cubic meter of total freshwater withdrawal)	Water productivity is calculated as GDP in constant prices divided by annual total water withdrawal.	World Development Indicators. Food and Agriculture Organization, AQUASTAT data, and World Bank and OECD GDP estimates.	http://data.worldbank.org/indicator/ER.GDP.FWTL.M3.KD
14	04	Water	Share of population living in basins of high water stress, 2010. (% of population)	Baseline water stress measures total annual water withdrawals (municipal, industrial, and agricultural) expressed as a percent of the total annual available flow. Higher values indicate more competition among users. Arid areas with low water use are shown in gray, but scored as high stress when calculating aggregated scores. (Gassert et al. 2013: 8).	Gridded population data from CIESIN, Gridded Population of the World v4, for 2010: Center for International Earth Science Information Network - CIESIN - Columbia University. 2014. Gridded Population of the World, Version 4 (GPWv4), Preliminary Release 2 (2010). Palisades, NY. http://www.ciesin.columbia.edu/data/gpw-v4 Water stress by major basin from WRI, c2010: Gassert, F., M. Landis, M. Luck, P. Reig, and T. Shiao. 2013. “Aqueduct Global Maps 2.0.” Working Paper. Washington, DC: World Resources Institute.	http://www.wri.org/publication/aqueduct-metadata-global

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14	05	Water	Waste water treatment. (% of total water)	Wastewater Treatment (WASTECXN) - Percentage of anthropogenic wastewater that receives treatment	Source: Malik, O. (2013). Global database of National Wastewater Treatment. New Haven, CT: Yale Center for Environmental Law & Policy.	http://epi.yale.edu/content/water-resources-raw-data-file
14	06	Water	Improved sanitation facilities, rural. (% of rural population with access)	Percentage of the population (either rural or urban) with access to improved sanitation facilities refers to the percentage of the population using improved sanitation facilities. The improved sanitation facilities include flush/pour flush (to piped sewer system, septic tank, pit latrine), ventilated improved pit (VIP) latrine, pit latrine with slab, and composting toilet.	WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation (http://www.wssinfo.org/"}). Sanitation (http://www.wssinfo.org/"}).	http://data.worldbank.org/indicator/SH.STA.ACSN.RU
14	07	Water	Improved sanitation facilities, urban. (% of urban population with access)	Percentage of the population (either rural or urban) with access to improved sanitation facilities refers to the percentage of the population using improved sanitation facilities. The improved sanitation facilities include flush/pour flush (to piped sewer system, septic tank, pit latrine), ventilated improved pit (VIP) latrine, pit latrine with slab, and composting toilet.	WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation (http://www.wssinfo.org/"}).	http://data.worldbank.org/indicator/SH.STA.ACSN.UR
14	08	Water	Improved water source, rural. (% of rural population with access)	Percentage of the population (either rural or urban) with access to an improved water source refers to the percentage of the population using an improved drinking water source. The improved drinking water source includes piped water on premises (piped household water connection located inside the user's dwelling, plot or yard), and other improved drinking water sources (public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection).	WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation, available at: http://www.wssinfo.org	http://data.worldbank.org/indicator/SH.H2O.SAFE.RU.ZS
14	09	Water	Improved water source, urban. (% of urban population with access)	Percentage of the population (either rural or urban) with access to an improved water source refers to the percentage of the population using an improved drinking water source. The improved drinking water source includes piped water on premises (piped household water connection located inside the user's dwelling, plot or yard), and other improved drinking water sources (public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs, and rainwater collection).	WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation, available at: http://www.wssinfo.org	http://data.worldbank.org/indicator/SH.H2O.SAFE.UR.ZS
15	01	Gender	Labor force participation rate, total (% of total population ages 15+)	Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period.	International Labour Organization, ILOSTAT database. Early release of the 2017 ILO Labour Force Estimates and Projections, retrieved in November 2017.	http://data.worldbank.org/indicator/SL.TLF.CACT.ZS

Practice ID	Indicator ID	Practice	Indicator	Indicator Description (Explanation & Methodology)	Data Source(s)	Link(s)
15	02		Labor force participation rate, female (% of total population ages 15+)	Labor force participation rate is the proportion of the population ages 15 and older that is economically active: all people who supply labor for the production of goods and services during a specified period.	International Labour Organization, ILOSTAT database. Data retrieved in November 2017.	http://data.worldbank.org/indicator/SL.TLF.CACT.FE.NE.ZS
15	03		Mortality rate, under-5, female (per 1,000 live births)	Under-five mortality rate, female is the probability per 1,000 that a newborn female baby will die before reaching age five, if subject to female age-specific mortality rates of the specified year.	Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation (UNICEF, WHO, World Bank, UN DESA Population Division) at www.childmortality.org.	http://data.worldbank.org/indicator/SH.DYN.MORT.FE
15	04		Sex ratio at birth (male births per female births)	Sex ratio at birth refers to male births per female births. The data are 5 year averages.	The United Nations Population Division's World Population Prospects.	http://data.worldbank.org/indicator/SP.POP.BRTH.MF
15	05		Employer, female (% of female employment)			
15	06		Firms with female top manager (% of firms)			
15	07		Wage and salaried workers, female (% of female employment)			
15	08		Unmet need for contraception (% of married women ages 15-49 years)			

Annex 2: Consultations with Stakeholders

i. Introduction

As an important step in developing the SCD and CPF for Mongolia, public engagements with diverse stakeholder groups were organized from August 30 till October 6, 2017 in Ulaanbaatar city and 5 provinces. Views were sought on Mongolia's development, challenges and priorities as well critical areas where WBG support would have the biggest impact in promoting sustainable poverty reduction and shared prosperity.

Twenty-five meetings were held in total with close to 400 participants. In Ulaanbaatar, separate meetings were conducted with central government, Parliament, development partners, civil society organizations (CSOs), academia, national and international private sector. To gather various stakeholders' views in four regions of Mongolia, separate meetings with local government, CSOs, and private sector were held in Khovd, Orkhon, Umnugovi, Darkhan-Uul and Khentii provinces.

The engagement process included both face-to-face meetings and an online/web-based platform to enable participation by a wide range of stakeholders. The structure of face-to-face meetings allowed for plenary presentations and discussions and, when needed, small group discussions (e.g. broader CSO meeting in Ulaanbaatar) with reporting by neutral facilitator. All the conversations followed "Chatham House Rule." That is, "…participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed." This encourages openness and sharing of information. Meeting participants also participated in a short survey for quantitative analysis of their opinion.

For online engagement, an easily accessible online survey in English and Mongolian was published and promoted online. On top of this, citizens shared their vision for Mongolia's future by filling in the postcards and sharing them on backdrops set up in Dunjungarav, a public service center and meeting venues.

This annex has two parts: first, a qualitative summary of the opinion expressed by participants in the meetings; second, a statistical summary of the surveys conducted during the meetings as well as the broader online survey. The authors thank all the participants for their interest and enthusiasm in sharing their views about Mongolia's development. The authors of the text that follows do not claim it to be a complete or exhaustive review of opinions and views of Mongolian stakeholders about its main development challenges. It is, simply, a limited summary of these views and opinions. We have made every effort to be as accurate and comprehensive as possible to the actual conversations. Any mistaken fact or misinterpreted opinion in this transcription is the authors' fault only.

ii. Summary of main opinions expressed during consultations

Academic Institutions in Ulaanbaatar, August 30, 2017

Academia in Ulaanbaatar highlighted the urgent need to address governance and civil service challenges as key to ensuring long-term development in Mongolia. The root cause of current governance issues was commonly agreed as narrow political interests and political groups operating for their own self-interest, leading to issues in civil service such as high staff turn-over in civil service, lack of institutional memory, and lack of long-term development policy. Therefore, enforcing civil service reform to make it merit-based and independent from politics as well as making political party financing transparent were proposed as measures that could solve governance issues.

On the other hand, repeated wrong policy decision and turmoil in political sphere are closely interlinked with low civic education of the public. Deterioration of people's mindset and ethics is witnessed by people's preference for short-term income opportunities in illegal areas and welfare hand-outs rather than long-term stable jobs. Participants also stressed the need for long-term concerted efforts by government, CSOs, development partners, media to improve people's civic education such as carrying out major public education and advocacy campaigns, establishing professional information review/assessment institutions as well strengthening research institutions and their linkage with other players.

Another area that academic institutions underlined is Mongolia's potential for and current challenges in agricultural sector. Despite huge opportunities for the sector development, there are considerable food safety risks due to lack of proper safety standards (or their implementation). Bottlenecks for the sector development include lack of technology, export markets, infrastructure, animal health issues. Proper policy measures to support agricultural exports are needed such as developing export markets, increasing public awareness about climate change and imposing tax on livestock to protect pastureland. Some academic institutions proposed limiting operations of mega companies to selected industries as well as exploring possibility of reducing loan interest rates in order to strengthen middle class and promote business development.

Suggestions for possible World Bank support included implementing civic education programs, strengthening civil society and media, promoting research and innovation, supporting competitiveness of human capital, and agribusinesses (focusing on introducing new technology and climate-change adaptation/risk mitigation). Some participants noted that World Bank's involvement in mining industry should be limited due to availability of funds from private investors, but some suggested the need for the World Bank to focus on governance issues of the mining sector.

Meeting with the central government, August 30, 2017

Representatives from government agencies and line ministries emphasized the challenges related to economic diversification and inclusive growth. Mining-dependent economy has led to unsustainable growth, constant fluctuations in economy and weak governance in recent years. To address this, economic diversification policy should be formulated focusing on strengthening competitiveness of non-mining, labor intensive sectors as well as developing renewable energy, knowledge-based export-oriented industries, tourism, and agriculture sectors.

Government representatives also stressed the issues related to overall coordination and management at all government levels. Poor inter-agency coordination and lack of integrated government database and data centers were raised as examples of institutional issues, while high staff turn-over in civil service, corruption, and lack of accountability were raised in relation to politics. Evidence-based long-term policy planning and implementation need to be promoted due to current lack of policy planning capacity.

Comprehensive rural development and human development strategies were also discussed as priority to reduce poverty and boost shared prosperity. Rural development strategy should look at rural livelihoods support through developing agribusinesses and their exports while also looking at environmental issues such as pasture and water management, animal health, disaster risk management and climate change impact. Investments in health and education sectors, and early childhood education, nutrition and health in particular, are crucial to breaking intergenerational poverty. Some participants also noted the need to prepare for population ageing and targeting social welfare to the poor.

All of the above areas were suggested as potential priority areas for WBG support, while underlining the need to focus on selected key areas and delivering more concrete, measurable results rather than supporting many projects in all sectors. WBG convening power, bringing together government, private sector and development partners was suggested to be leveraged more.

Meeting with Civil Society Organizations in Ulaanbaatar, August 31

First part of the discussions centered around the debate whether Mongolia's development path in the past has been right. Participants raised the issues of rising inequality, political instability and growing injustice in society. Some CSOs viewed that democracy has not benefitted the society and poverty is not reducing. Some CSOs commended achievements in Mongolia's development since peaceful transition to democracy and market economy, and noted that there were improvements in people's livelihoods in general. However, there is perception that poverty is increasing because some people have stayed at the same level. Corruption, injustice and governance issues are rooted in politics, so need to address political party funding.

Weak civil society and low civic education were raised consistently as priority issues to address. Due to low capacity of and lack of funding, civil society has not been able to represent the society,

and act as a bridge between people and government, resulting in low monitoring of government activities. CSOs stressed the need to strengthen social accountability mechanisms, build capacity of civil society, and outsource some public services to civil society, such as awareness raising campaigns to improve public knowledge and education. In terms of education sector, participants noted overall good quality of academic education provided in Mongolia. However, other important areas such as education on ethics, civic education, and education on public health issues has been left out, resulting in many issues present in today's society. In terms of funding and investment, building new infrastructure for education services has received large share of investment, while there is need to invest in and reform teacher education system.

Other issues highlighted during the meeting are economic diversification, environment protection and private sector development. Environmental CSOs raised concern about environmental degradation and loss of traditional nomadic livelihoods being destroyed due to mining operations. Other CSOs mentioned importance of private sector development and improving banking sector. PPP transactions were cited as a major source of corruption in Mongolia, requiring better monitoring and review.

Possible areas for WBG partnership were in the areas of governance and strengthening social accountability, improving civic education, economic diversification, building human capital, and private sector development. Participants also highlighted several suggestions for the implementation approach of WBG projects, such as (i) ensuring best environmental standards in projects, (ii) having broad consultation and environment assessment before project implementation, (iii) ensuring sustainability of implemented projects and continuing good sectoral analytical work, and (iv) improving visibility of WBG projects in Mongolia.

Meeting with National Private Sector based in Ulaanbaatar, August 31, 2017

Governance issues related to inefficient institutional arrangements, inconsistent policy framework, corruption and bureaucracy were highlighted as one of the major obstacles for private sector development during the meeting. Government policies, besides being short-term, often lack proper implementation mechanisms and supervision framework. Capacity development of civil servants and improving accountability of both public and private institutions is a potential area of collaboration with the WBG.

Lack of infrastructure and access to long-term financing are another concern for the private sector. Given limited public investment, some participants suggested utilizing PPPs to develop infrastructure and stock market. SMEs often lack skills and capacity to expand their businesses.

While job creation and employment are top priority for the country's overall development, cash handouts by the government are a major impediment to employment in private sector's view. More innovative services such as financial technologies were suggested to be used to reach the poor/poorest. Mining sector catalyzes other demands and indirect jobs. However, lack of economic

diversification and heavy dependence on mining need to be addressed. State health insurance system operations also need to be improved as health is a key factor affecting poverty.

Suggestions for the WBG engagement in the country included leveraging more the convening advantage of the WBG and well as sharing international best practice and knowledge with various stakeholders, including the private sector.

Meeting with International Private Sector, September 1, 2017

All participants highlighted and agreed on the importance of the mining sector in Mongolia's development, while also stressing the need and potential to develop other industries. The mining sector has the potential to lift Mongolia despite the many 'wants' the government has. Therefore, the government needs to fully support the sector by bringing in world-class companies, as well as setting up fair laws and rules to give the companies confidence to invest. Agriculture and tourism sector are another potential key sectors in Mongolia and have the advantage of providing more employment opportunity.

Among the biggest challenges faced by investors are stability of legal environment and political risk, as is access to clear, accurate information about policies and regulations. Lack of accountability by politicians who act for their own interest, short-term policies and low capacity of civil servants were cited as impediment to the country's development. Participants also noted that the state-driven approach and state-run projects of the last few years have proven not to work. The government needs to encourage private sector participation and develop a clearer PPP legislation.

International private sector representatives also noted the lack of civic education and understanding on part of voters which contributed to current political and economic problems since politicians are sensitive to public opinion. Therefore, raising awareness, education, and voice of the public is important in ensuring the right policies. Associations, NGOs, and IFIs should collaborate to convey the right messages and educate the public, using new effective methods such as social media.

Other issues raised by participants include the need to support regional connectivity and cross-border cooperation initiatives, develop capital market, pay special attention to climate change issues in Mongolia, especially in terms of water management.

Technical assistance and policy advice to the government was the most common request from the participants for potential WBG support. Acting as a bridge between the private sector, the government and civil society is another sought-after role of the WBG. Some participants suggested that WBG should play a leading role in large projects to help coordinate between the parties and structure the project optimally, and help bring the cost of doing business down.

Meetings with Darkhan province government, private sector, and CSOs, September 7

Stakeholders in Darkhan stressed the many opportunities to end poverty and boost shared prosperity in Mongolia during their discussions, including potential to develop manufacturing based on ecological agricultural products and mineral resources. The country should leverage more its broadened international relations and location between the two large economies. However, all stakeholders noted that equitable distribution of mining revenues has been lacking, thus broadening inequality.

Mongolia should place more focus on developing agribusinesses and SMEs to create jobs across the country. Private sector in Darkhan viewed that there has been no real support to private sector and SMEs in the past – SMEs have been struggling with high interest and short term loans and too much government intervention in the private sector distorting fair market competition. Requirements with regards to standards and documentation as well as lack of market data are obstacles to tapping export markets. Moreover, production with low processing and no 'clustering' effect is common in Mongolia.

Political instability and macroeconomic and governance issues arising out of it were stressed in all Darkhan meetings. Short-lived and short-sighted policies have been constraining the country's development. Corruption is widespread due to lack of transparency. Government officials noted that political parties need to mature and have policy debates and discussions while some participants also said that a more unique type of democracy should be adopted for Mongolia. They also emphasized need to pursue regional development strategies building on the unique characteristics and comparative advantages of the regions as well as enhancing autonomy of local governments to support local development. Lack of public-private dialogue and consultation, poor government–public relationship was noted during several meetings.

All stakeholders in Darkhan agreed on the need to reform education sector focusing on education quality, teachers' development, civic education, as well as personal development. Personal development, or life-long-learning was emphasized a lot during various meetings, citing the need to focus more on ethics, family upbringing and values, traditional Mongolian values and culture which have lost focus in the past. Efforts to change public mindset and improve civic education were also suggested as priority areas due to increasing reliance on free and universal provision of welfare. Although Darkhan is a youth city, youth unemployment and underutilization is prevalent. Issues related to labor market including skills mismatch, lack of research on labor market demand, low benchmark for salaries need to be addressed to promote employment.

Other issues highlighted in Darkhan are environmental degradation, lack of support to CSOs and media. CSOs and academia representatives noted that overgrazing has been damaging pastureland. Overall degradation of the quality in farm and livestock products calls for a systematic evaluation and strategy in the agricultural sector.

Participants stressed the importance of continued WBG support in education and agricultural sectors, and suggested to focus on ensuring sustainability of programs beyond project timeline. Support to ongoing and successful businesses to expand their operations may prove to be more effective and efficient in creating jobs and supporting SMEs. In light of some concerns around project funds not reaching intended beneficiaries, some participants recommended to report project results and operations more openly for better monitoring and effectiveness.

Meetings with Orkhon province government, private sector, and CSOs, September 8

Opportunities for the country's development included rich mineral resources – Erdenet city is a clear beneficiary of this. Erdenet has potential to become a regional center, with ample opportunities for business development given its population density, human resources and infrastructure. There are also opportunities to expand eco businesses and their exports. Livestock is a 'renewable' resource which should be utilized more.

Majority of issues discussed during Orkhon meetings centered around governance and public sector reforms. Reforms were suggested in the areas of promoting decentralization and regional development, as well as reviewing administrative division of the country to allow for more efficient public service delivery. Regional disparities persist as some provinces need more subsidies and generate less income. Excessive government involvement in the private sector and corruption have also been raised by the private sector as major obstacles in the way of properly managing mining and agricultural resources. It was emphasized that political instability results in unstable policies.

On the other side, efforts to strengthen governance should also address low capacity of CSOs, low public participation, and civic education. Mechanisms for collaboration between CSOs, the public, and the private sector should be established. CSOs should be strengthened so that they can serve as bridge and carry out public advocacy campaigns.

Amongst the many existing challenges, human development and education were highlighted as the most pressing issues. Despite many university and TVET graduates, there is lack of skills and knowledge necessary on the market. The education system should provide a platform for people to gain not only academic knowledge but also soft skills and life skills.

Meetings with international non-governmental organizations in Mongolia, September 11

International NGOs stressed that Mongolia has ample opportunities for development such as mining and investments, large neighboring markets, youth development, tourism and agricultural sectors, active civil society, etc. However, they also viewed that the country's challenges has not been understood more ecologically and holistically in general. Policy driven distortions hinder diversification of the economy. Since the country's population is small, large scale manufacturing is unlikely to be suitable.

Instead, investing in education, especially from the young age could create more opportunities, highlighting the importance of early childhood education, especially for rural children. Child poverty is high in Mongolia. In education, lack of apprenticeship and internship programs make it hard for students to apply skills learnt in school and contributing to skills mismatch in labor market.

Budget governance and procurement are amongst the top issues in the governance area in addition to transparency and accountability per international NGOs. Currently, there is little differentiation between public administration and politics. In addition, large gap between urban and rural unemployment and unplanned urbanization call for better decentralization policies. Creating sustainable and long-term employment opportunities for vulnerable groups is another major challenge. Other issues raised by international NGOs are climate change and environmental degradation, the need to build capacity of civil service as well as raising awareness and educating the public.

International NGOs suggested that the World Bank should engage in strengthening governance and building sustainability and capacity in civil service although these are challenges areas. Educating the public, taking advocacy measures are also potential areas for the World Bank support as is strengthening civil society and media. World Bank should could also help developing public-private partnerships and inclusive green financing initiatives. In terms of approach, participants suggested to include CSOs in the implementation of major loan projects and implement projects at local/district level to improve local ownership of projects.

Meetings with Ulaanbaatar city officials, September 11

Ulaanbaatar city officials emphasized the clear advantages of the city as it is home to 60% of the country's population but also challenges in environmental and urban sustainability arising due to this concentration and poor urban infrastructure. Among them, increasing water shortage of Ulaanbaatar was discussed as one of the most pressing issues. Water consumption is expected to spike with the increase in the number of apartments dwellers. Air and soil pollution have also become severe problems with huge negative health impact for residents. Outdated wastewater treatment plant is causing environment and pollution issues. Given these circumstances, the officials underlined the need to strengthen policy measures to ensure environmental sustainability, such as scaling up renewable energy sector, mainstreaming disaster risk management and expanding cooperation with donor agencies on climate change adaptation. For example, they suggested exploring the experience of Japan in using public schools and citizen halls during emergencies.

The main reasons for overconcentration in the city were cited as state-owned universities and big markets located in Ulaanbaatar. Some options to address these include moving the universities out of Ulaanbaatar as well as supporting entrepreneurs in coming up with new business ideas. Status of Ulaanbaatar city is same as the aimag center with population of 20,000 which causes challenges in service delivery and administration. The city officials also agreed on the need to develop

agricultural sector, support private sector growth, increase productivity of SMEs to address unemployment and overconcentration. Tourism is another opportunity for the country's development and cash inflows.

In the education sector, the officials stressed the need to improve coordination among various government agencies, expand access of pre-school education services, and provide good quality of public education in all schools alike. Poor coordination of government can be seen in the education sector where the construction ministry decides the new school location and supervises the construction project whereas Ulaanbaatar city administration is not able to monitor quality and efficiency of these projects. Quality of education provided in some public schools in central areas is different from schools located in the outskirts of the city. Similar to other concerns raised by various stakeholders on public education, the city officials stressed the need to improve urban citizens' education and promote 'urban' culture and way of living.

Ulaanbaatar city officials suggested the World Bank could act as a facilitator in obtaining green funding to help the city become more climate-resilient and provide technical assistance in urban planning, e.g. advising how to turn current city challenges into opportunities. A number of suggestions were also given for the Bank's potential collaboration on improving business and investment environment of the city given its potential in reducing unemployment. Some officials also raised proposal to expand the ongoing UB Clean Air Project activities beyond air pollution, i.e. dealing with soil or water pollution.

Meetings with Umnugovi province government, private sector, and CSOs, September 14

All meeting participants stressed the importance of mining for the country's development in the past. However, it was acknowledged that herders have high resistance to developing mining in Mongolia as it affects their pastureland. Therefore, more effort should be made to provide comprehensive and balanced information about the benefits of mining projects to people. It was also noted that revenues and taxes from mines in Umnugovi go to state budget thus providing little benefit for local people. This also contributes to the local resistance to mining projects, creating tension among mining companies and local people. CSOs highlighted the lack of consultation and prior information at local level when it comes to issuing mining licenses, so there is need to improve land and license management. Government participants also raised the need to regulate illegal mining – illegal miners do not report their income and receive welfare support from the budget as they are registered as unemployed.

It was acknowledged that going forward, economic diversification policies focusing on tourism and livestock-based industries should be pursued more. The Gobi region has enormous potential to develop renewable energy, as well as developing vegetable and berry farming. Economic diversification policy should be aligned with job creation policy as unemployment is the cause of poverty. Addressing animal health issues and developing SMEs, processing industries based on agriculture commodities need to be addressed to develop the agriculture sector. Herders don't have

much opportunity to sell their livestock products directly to end users, therefore there is little opportunity for them to increase their revenues. Cooperatives and extensions need to be further developed to leverage more on local business opportunities – this should start with awareness raising and building support among policy makers some of whom have resistance to cooperatives. Besides specific sectoral issues, there is overall lack of policy and research in all sectors. Local SMEs should get more support in terms of capacity building and appropriate policies so that they have more opportunity to supply products to OT mine, opening up additional benefit from major projects to local people. Specific proposals included eliminating political interference in the competition among potential local suppliers, providing room for local SMEs and companies to provide products and services in the feasibility studies of mining projects.

Environment protection and sustainability was heavily emphasized during all meetings in Umnugovi province. Mongolian people lack education in environment protection. Climate-change effects are prevalent in Mongolia such as lack of precipitation, rising temperatures, growing desertification, affecting pastureland. Water resources are getting less in the region. Participants also suggested that air and soil pollution should be addressed now rather than later as these are major issues not only in Ulaanbaatar but also increasingly in province and soum centers. CSOs suggested that major commercial banks should stop funding projects with high carbon emission following Mongolia's commitment to the Paris agreement.

Instability and lack of capacity in civil service, lack of long-term policy planning are major governance issues. Participants highlighted weak monitoring capacity on part of civil service while CSOs highlighted lack of accountability mechanisms in the government which impedes the development. Given different opportunities in different provinces and soums, government participants emphasized the importance of pursuing regional development policies.

Participants stressed the need to prioritize human development to address governance and other issues – the more people are developed, governance, environment, and other issues will be taken care of. In particular, early childhood education and development is the basis for human development and should therefore receive large share of funding and strategic focus accordingly. However, the sector received only small share of total funding in the past which can be seen even in the case of World Bank funding in Mongolia.

Majority of participants suggested the World Bank should focus its support on agriculture, human development, industrial development, and governance. Private sector participants also stressed the need to focus on environmental protection, water management and desertification prevention, as well as private sector support. Other suggestions included improving legal environment for labor and employment, CSO capacity building, carrying out external monitoring of major investment agreements, and technical assistance for better management of mining resources. CSO participants voiced their opinion about the general operational approach of the World Bank, suggesting to work directly with CSOs and private sector, and improving results and evaluation framework.

Meetings with Khovd province government, private sector, and CSOs, September 20

Khovd participants all raised different opportunities for the past development although many agreed on mining sector and local development fund being major contributors to growth. Other opportunities mentioned include high prices of agriculture commodities, support of donor organizations, construction sector boom due to mortgage loans with 8% interest rate, tourism, and democracy.

Khovd participants again highlighted governance issues as one of the most pressing challenges in Mongolia. With lack of civic education and participation, there is no monitoring of government operations. Government has become too bulky and its interference in all other areas is high. In addition, government policies have been very unstable, leading to unsustainable development path. Although long-term development vision is available for the country, there is lack of mechanisms to implement it. Civil service quality also suffers due to frequent government changes and political interference, which is evident even at provincial level. All of these have led to low public trust in the government – people can't raise their voices because they don't trust in government. However, despite many governance issues, some private sector participants questioned the need to highlight governance issues again, as it may lead to more resources and development financing to be spent for strengthening governance, which has not led to much results. There are many challenges associated with distance and isolated location of Khovd, such as no access to meat export markets and remoteness from the capital. Regional development strategy should look at these regional needs and advantages.

Many participants emphasized the need to take care of climate change and environment issues as the region has largely neglected them in the past. Winters in the western region become harsher, and sandstorms and desertification are increasing rapidly. Air pollution is also a major concern for western province residents. Due to these issues, there is need to implement major greening projects in the region. Private sector also raised the need to have environment and health impact assessment of mining projects to be completed before they are operational.

Khovd discussions also focused on human development issues, in particular health. As noted by some stakeholders, Khovd residents have high incidents of various diseases in general. Health of herders is especially low but the issue has been neglected. Participants also stressed the need to address food security as it plays important role in health and wellbeing of citizens. It is important to make research on the short- and long-term impact of work environment on miners' health due to the high number of people working in the sector. In the education sector, participants discussed challenges including lack of skilled professionals, low quality of secondary schools, brain drain to capital city, and the need to pay attention to teachers' development.

Participants also highlighted the need to diversify the economy through opportunities in agriculture and tourism sectors. Developing export-oriented SMEs based on agricultural commodities will create more jobs and will help reduce poverty. High interest rates of banks and low evaluation of collaterals were raised by various stakeholders. While animal health has been major issue in the livestock sector, lack of vegetable storages and warehouses were raised as pressing issue for development of local farming. Lack of sustainable energy supply was also emphasized as impediment to local development in many meetings.

Meetings with Khentii province government, private sector, and CSOs, October 5

All stakeholders agreed that developing tourism and agricultural sector has huge potential in Khentii given the province's rich history and abundant natural resources. Shifting to knowledge-based economy is another opportunity which could be developed further using the young population. Addressing animal health issues, having appropriate pasture management policies and taking comprehensive measures to develop export-oriented agribusinesses and SMEs are priorities in agricultural sector. In tourism sector, stakeholders mentioned the need to develop eco-tourism balancing environmental protection and business development. All stakeholders discussed the importance of developing more equitable natural resource management policy while CSOs highlighted the need to improve environment protection and restoration in mining operations. Environmental impact and governance assessments should be done for mining and agriculture sectors.

High poverty rate in Khentii was emphasized as priority issue to address with majority of stakeholders linking high poverty rates to unemployment and lack of policies to support employment. In particular, participants discussed the need to approve the Law on Innovation to support local businesses, develop agribusinesses and major factories to create jobs, and low labor value dragging people into poverty. Private sector pointed to the need to improve social welfare policies since people have low incentive to work due to welfare allowances and universal cash handouts. They also discussed the need to improve education policy to address the high number of universities and lack of skilled workers on the job market. Almost all families send their children to universities and pay tuition fees with high interest loans which is becoming one of the main reasons for increasing poverty. CSOs brought up the need to support sustainable employment of the disabled, who face various obstacles in getting employment despite their capacities.

Khentii province stakeholders also highlighted the need to focus on education quality and increase investment returns in Mongolia's education. TVET programs should be strengthened linking to employment policies given the skills shortage. Public education and literacy on economic, financial, civic, and health areas are low while a lot of resources have been spent on studying abroad.

Major challenges for private sector development raised in all Khentii meetings include lack of market research and study, inadequate government regulations resulting in oversupply of some

products, and high interest rates of loans. The need to support large and mid-scale factories in their production and export capacities – a shift from earlier policy of primarily supporting small scale unsustainable businesses – was another recurring theme in all meetings. Government representatives raised the importance of strengthening legal framework for doing business and procurement in rural areas. Private sector representatives highlighted government bureaucracy in obtaining licenses and permissions as a major obstacle.

Governance was major topic in all meetings with discussions focusing on the need to adopt long-term development planning and urgent civil service reforms. Institutional memory of government institutions and civil service quality reduced substantially. Political instability affects long-term development planning, civil service and businesses. Private sector mentioned that due to political interference in local budgeting process, the benefits of increased local authority in budget planning has not been substantial. They also suggested that policies and especially regulations approved to implement policies and laws are difficult to implement and are often unclear. Government officials raised the need to improve transparency of the government on one side and civic education on the other side. This could be done through building professional information institutions and rating agencies. CSO participants highlighted the need to build capacity of CSOs and support them in having better dialogue and partnership with the government. In addition, the capacity at bottom-level of the government unit, e.g. *bagh* level is very low while the needs are substantial.

Potential areas for WBG collaboration are strengthening governance, policy analysis and civil service. World Bank could also introduce sectoral consultation framework ensuring participation of all stakeholders in the society as well as improve private sector's planning capacity. Human development and support in preparing and financing major industrial and infrastructure projects to create jobs rather than dividing the funding to many areas and small SMEs were suggested by many stakeholders. They also agreed that World Bank's involvement in mining should be limited since foreign investors have already been involved in the sector. Instead, it was suggested that the Bank should broaden its support for CSOs and citizen engagement, which will increase accountability in mining sector and make it more sustainable.

Meetings with CSOs in Ulaanbaatar, October 3

Broad range of CSOs in Ulaanbaatar highlighted issues around six areas, mainly, poverty, human rights and gender, environment, issues for the disabled, education, and governance. In the beginning, the discussions channeled to reflections on the rising inequality and poverty. CSOs questioned whether democratic, free-market development path of Mongolia has been right. Majority agreed that Mongolia should pursue knowledge-based planning and development instead of minerals-based model. To reduce the gap between the rich and the poor, CSOs supported introduction of progressive tax system and adoptions of other tax reforms. Tax amnesties and exceptions mainly benefitting limited amount of companies and businesses should be stopped. To protect human rights, legal framework should be further strengthened by passing the Law on Discrimination, Law on Public Goods/Assets, etc. Furthermore, education policies should

strategically support this by including education on civil rights and responsibilities, gender and sex, culture.

Socio-economic participation of women is low and many challenges persist in mainstreaming gender equality. It is important to address women's socio-economic poverty and vulnerability as women are prone to poverty after giving birth few times. Gender-disaggregated statistical data is not available to support evidence-based policy making. Weaknesses in institutional and legal framework also apply to the issues of the disabled. Education access and employment opportunities for the disabled are limited while existing social welfare services are also not targeted to the needy.

There is ample opportunity to develop education sector since Mongolian people place great value on the importance of education. However, recent policies and actions have concentrated on physical construction of education buildings neglecting the aspect of education quality. CSOs underlined the importance of promoting inclusive education policies with due consideration of the disabled, special groups with different languages due to widening inequality in the education quality. Starting of primary schooling from 6 years does not often suit rural children many of whom have not have prior exposure to quality pre-school education.

Environment issues and climate change affect the way of life at the local level. However, their impact on people's health is often neglected. With growing environmental issues, it was suggested that more comprehensive environmental assessments should be done in various areas before projects or programs start implementation. It was also highlighted that mining sector is causing brain drain constraining development in other sectors. CSOs repeatedly brought up governance issues which were caused by lack of accountability in their discussions.

iii. Statistical summary of polling exercises during consultations

Close to 400 stakeholders joining the consultation meetings were asked to fill out a short survey about their views on priority areas for Mongolia's development and WBG support. This poll aimed at capturing some quantitative evidence in addition to qualitative information derived from open discussions during the meetings. Only two questions, with semi-closed answers, were posed:

1. In your view, what are the crucial development areas for Mongolia to focus actions aimed at ending poverty and shared prosperity throughout the country over the next decade? (PLEASE SELECT UP TO 5)

Public-sector governance/reform	*Health*	*Road and transport*
Education	*Economic growth*	*Trade and exports*
Anti-corruption	*Environmental protection and pollution control*	*Urban development*
Private sector development	*Disaster risk management*	*Social protection*

Natural resource management	*Food security*	*Energy*
Job creation/employment	*Equality of opportunity*	*Water and sanitation*
Agriculture, livestock, and forestry	*Financial markets*	*Climate change*
Rural development	*Foreign investment*	*Others (5 words max)*

2. How do you think the World Bank Group can have the most impact on its assistance to Mongolia? In which areas do you believe the WBG should focus in the next 4-6 years? (please select up to 3 options)

Supporting human development	*Supporting the business environment*	*Supporting investment in infrastructure*
Supporting natural resource management and environmental protection	*Supporting public sector governance*	*All are equally important*

Among participants to these meetings, the need for governance reform was the development challenge most often mentioned (161 times, 10.5 percent of the 1536 answers). This was followed by education (135), jobs (129), private sector development (112) and anti-corruption (103). The least often mentioned challenges were: social protection (29), urban development (28), energy (24), climate change (20) and disaster risk management (13). With respect to areas of assistance by the World Bank Group, support for human development is the activity with most votes (186 out of a total of 707, that is 26 percent of the times), followed by support to business environment (131) and to public sector governance (130).

A broader online survey was accessible on the World Bank webpage and promoted on social media from August 21 to October 20, 2017 to get feedback beyond those people who joined the meetings. This broader survey was filled out by close to 600 people with 91% of respondents taking the survey in Mongolian language. This online survey asked for personal characteristics of the respondent (i.e., age, gender, province and type of organization), the 2 questions included in the meetings with stakeholders, and three open-ended questions that tried to replicate the discussions that took place during the meetings:

1. What do you think have been the main factors supporting growth and poverty reduction in Mongolia over the past years? (OPEN ENDED)

2. What do you think are the main challenges to end poverty and share prosperity more widely in Mongolia? (OPEN ENDED)

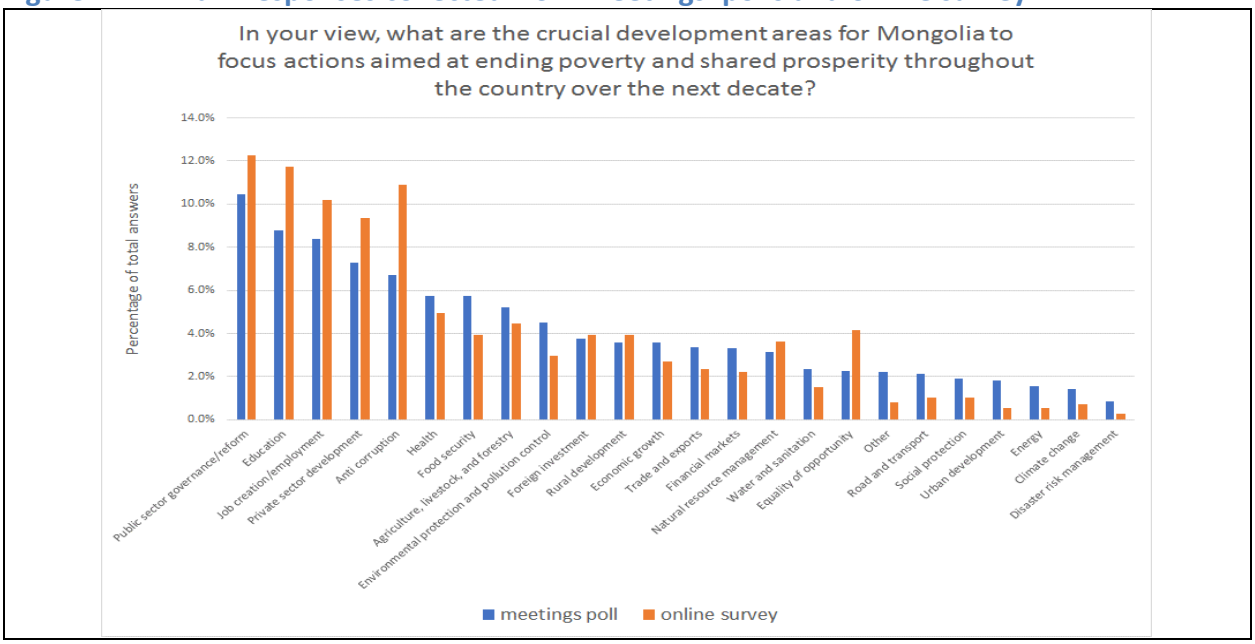
5. Other comments or suggestions? (OPEN ENDED)

The distribution of answers collected through the web to the same questions posed during the meetings also featured the need for governance reform as the development challenge most often

mentioned (336 times, 12.3 percent of the 2739 answers). This was followed by the same areas with a slightly different rank: anti-corruption (298), education (321), jobs (279), and private sector development (256). Surprisingly, the five least mentioned challenges were the same as before, with only minor change in order: social protection (28), climate change (19), urban development (15), energy (15) and disaster risk management (7). With respect to areas of assistance by the World Bank Group, the ranking of responses from website human development renders support for human development as the activity with most votes (364 out of a total of 1379, 26.4 percent), followed by support to business environment (279) and to investment in infrastructure (2009). Again, very like the ranking suggested by participants of meetings with stakeholders.

In general, the ranking of development challenges is very similar for participants of meetings and online surveys. As mentioned above, both groups choose the same top five challenges. The only difference is that participants of online surveys seem to give more preeminence to these five issues mention, because these have a larger share of answers than among participants of meetings (see Figure A2 1). The only noticeable difference is that *equality of opportunity* receives a higher ranking in responses from online surveys than from meetings, which perhaps indicates that the survey is able to capture the opinion of poorer members of the Mongolian society.

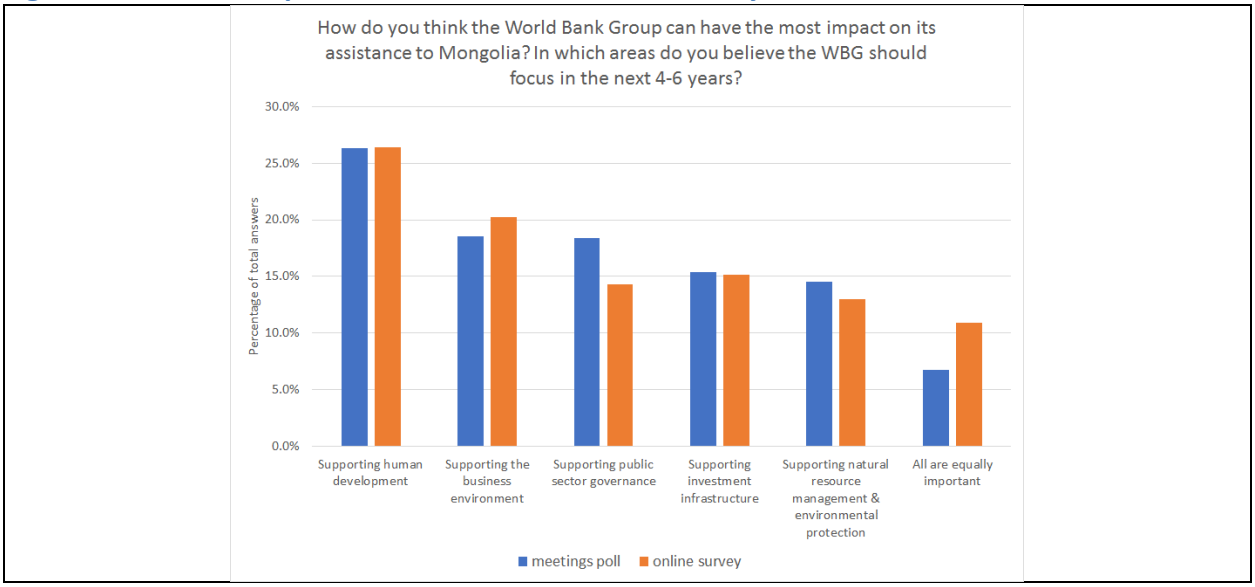
Figure A2 1: Main responses collected from meetings' polls and online survey



Source: Poll data collected from meetings with stakeholders, August 30 to October 5, 2017; and online survey, August 21 to October 20, 2017

The ranking of recommended areas of assistance by the World Bank Group is almost the same between the two groups. Figure A2 2 shows that the only difference is that participants to the meetings prefer support to public sector governance, whereas the website respondents give almost equal prevalence to support to investment in infrastructure and public sector governance.

Figure A2 2: Main responses collected from online survey

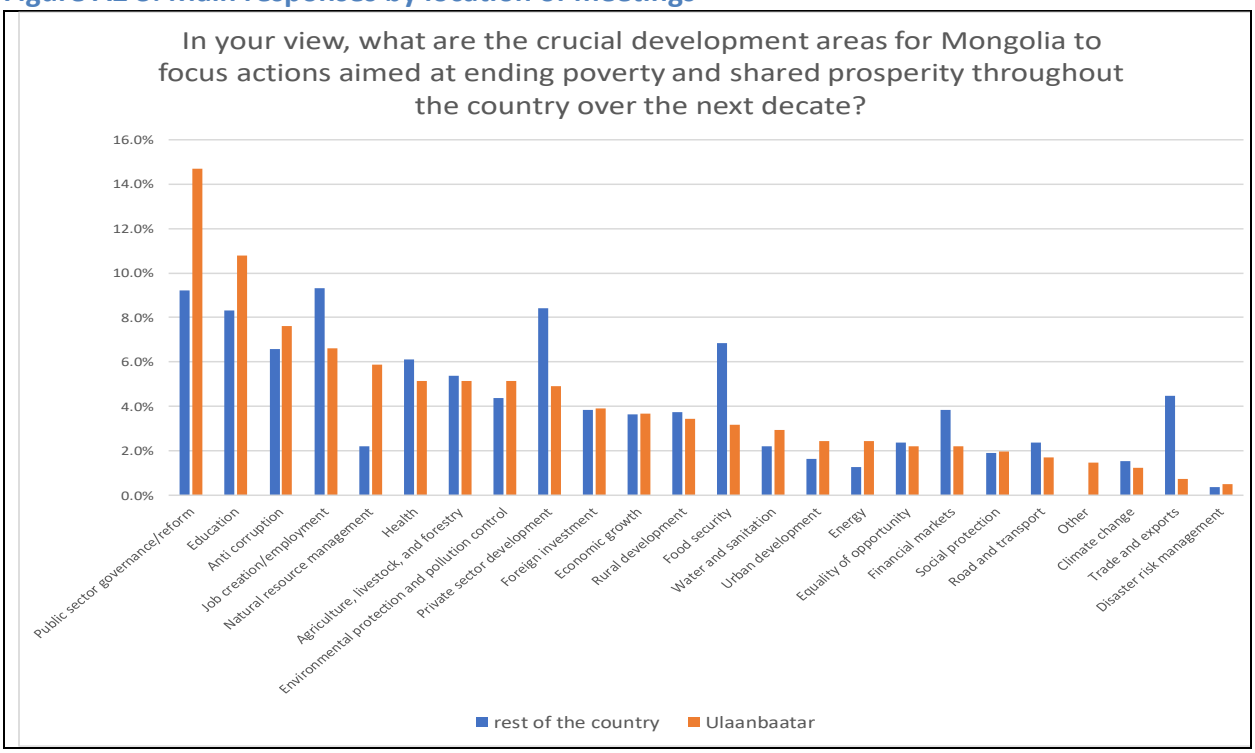


Source: Poll data collected from meetings with stakeholders, August 30 to October 5, 2017; and online survey, August 21 to October 20, 2017

Interestingly, rankings do show differences depending on location of group of respondents. When comparing data from meetings in Ulaanbaatar to meetings in the rest of the country two main differences can be noticed. On the one hand, respondents outside of Ulaanbaatar seem to be much more concerned with issues related to business development. *Jobs*, *Private sector development*, *Food security*, *Financial Markets* and *Trade and Exports* are each of them at least 2 percentage points higher among respondents from the rest of the country. On the other hand, *Governance*, *Education* and *Natural Resource Management* are given more importance by Ulaanbaatar stakeholders (see Figure A2 3).

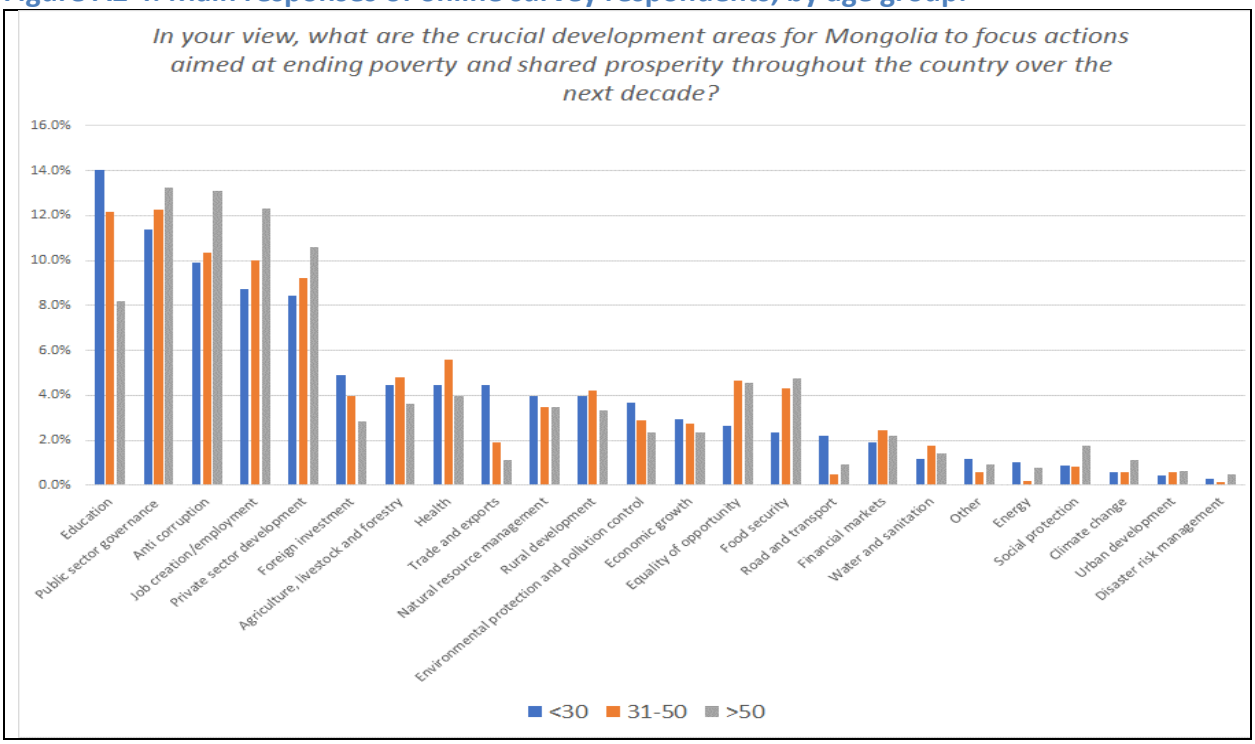
All age groups choose the same five development challenges as top priorities, but the youth (respondents aged less than 30) gives more importance to *Education*, whereas other age groups to *Anti-corruption* and *Job Creation.* The youth also gives more importance than other age groups to *Trade and Exports*, but less to *Equality of Opportunity* or *Food Security* (see Figure A2 4). If considering answers by gender the rankings are very similar, although with a few small differences: women give more importance to jobs, environmental protection and health issues, whereas men stress the importance of foreign investment, roads and transport and energy. Both groups rank education as the top priority and are equally concerned about corruption (see Figure A2 5).

Figure A2 3: Main responses by location of meetings



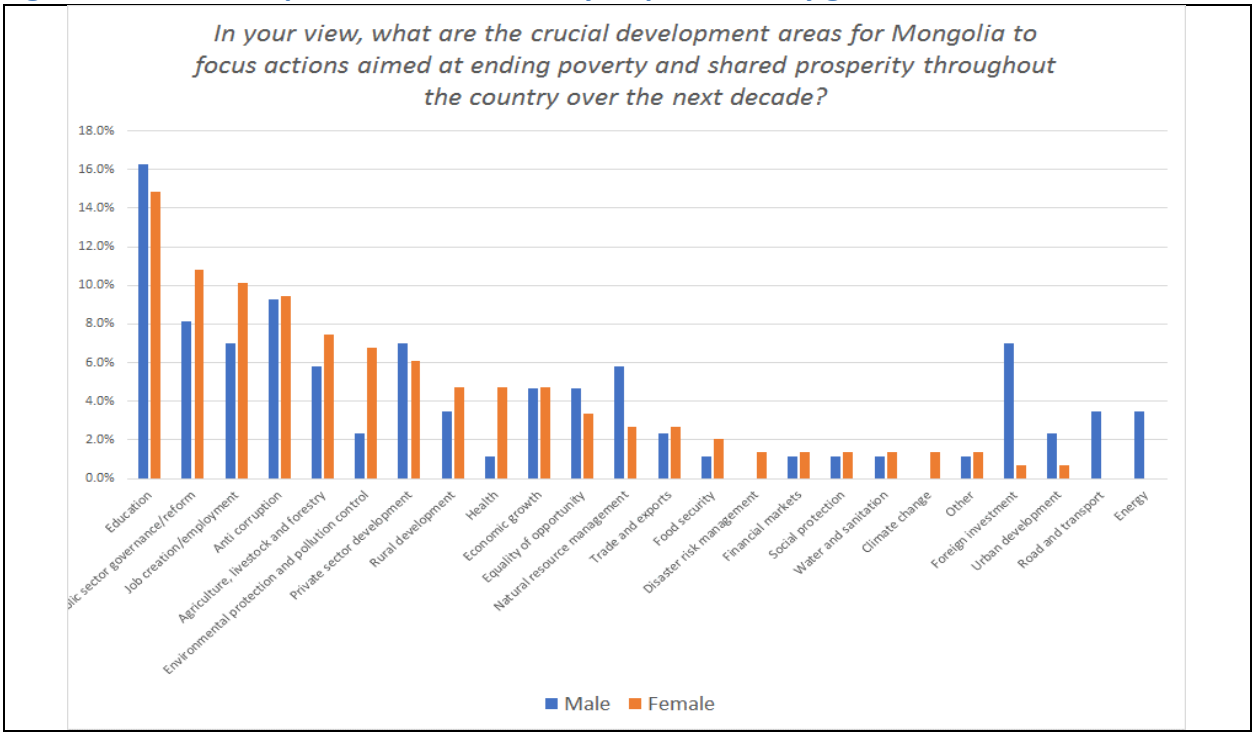
Source: Poll data collected from meetings with stakeholders, August 30 to October 5, 2017.

Figure A2 4: Main responses of online survey respondents, by age group.



Source: Poll data collected from online survey, August 21 to October 20, 2017.

Figure A2 5: Main responses of online survey respondents, by gender.



Source: Poll data collected from online survey, August 21 to October 20, 2017.

iv. List of organizations that participated in stakeholder meetings (alphabetical order)

- Academy of Management
- Adolescent's Development Centre
- ADRA
- AHT NGO
- All for Education
- Altai Holding LLC
- Altain Nomads LLC
- AmCham Mongolia
- Amira star LLC
- And Energy Co.,Ltd
- Ankhlan - Az Co.,Ltd
- AOE Association
- AOE Association
- Aralur association of Kazakh women
- Argalangin Tengis Co., Ltd
- Ariun Khelkhee NGO
- Arslan Bar LLC
- Asia Foundation
- Asian Development Bank
- Association of Elderly Doctors in Khentii
- Association of Parents of Children with Hearing disability
- Association of Parents with Disabled Children
- AUA Center
- Baavai tuguldur Co.,Ltd
- Badrakhkhaan Co.,Ltd
- Bag-5 herder, Khentii province
- Bank of China
- Bank of Mongolia
- Bayalag Undarga LLC
- Bayan Uul Co.,Ltd
- Beautiful hearts against sexual violence NGO
- Beren Co., Ltd
- Bishrelt Group
- Bank of Tokyo-Mitsubishi UFJ
- Buir lake, Khalkh river, Numrug basin protection NGO
- Bulgan Province Citizens' Representative Assembly
- Bulhambayar LLC
- Business Council of Mongolia
- Business Incubator center
- Butaakhai LLC
- Cabinet Secretariat of the Government
- Center for Citizenship Education
- Center for development of disabled people
- Center for Human Rights in Development
- Chono Group
- Citizens Alliance NGO
- Civil Service Council
- Civil Society Organization Associates
- Confederation of Province Trade unions
- Constructors Union of Darkhan-Uul
- Consumers Rights Protection Center
- Corporate Governance Center
- Darkhan branch of Confederation of Mongolian Trade unions
- Darkhan gerel Co.,Ltd
- Darkhan Munkh Co.,Ltd
- Darkhan noos LLC
- Darkhan savkhi LLC
- Darkhan-Uul Province Central library
- Darkhan-Uul province Citizens' Representative Assembly
- Darkhan-Uul province Governor's office
- De Facto Institute

- Development Bank of Mongolia
- Development Solutions NGO
- Durvun Uliral Khentii Co.,Ltd
- Duuren OD LLC
- E&Y Mongolia Audit LLC
- Eco noos Co.,Ltd
- Embassy of Australia
- Embassy of Canada
- Embassy of the Republic of India
- Embassy of the Russian Federation
- Embassy of the United Kingdom of Great Britain and Northern Ireland
- Embassy of the United Kingdom of Great Britain and Northern Ireland
- Embassy of the United States of America
- Engie
- Environment movement alliance
- Erchim khurdan khuleg Co., Ltd
- Erdene Resources Development
- Erdenet Makh Market Co.,Ltd
- Erdenet Science and Technology Park
- European Bank for Reconstruction and Development
- Federation of Mongolian Education & Science Unions
- Financial Regulatory Commission
- French Embassy
- Gazar Uguuj LLC
- Genco Tour Bureau JSC
- Gerelt Kherlen Co.,Ltd
- Global Green Growth Institute
- Globe International
- GTs Advocates
- Gurvan Saikhan Clean Water LLC
- Herder, Khentii province
- HGEI Association
- Hogan Lovells
- I Volunteer NGO
- Independent Authority Against Corruption
- Independent Research Institute
- ING Wholesale Banking
- Intermed Hospital
- International Monetary Fund
- International Republican Institute
- Jargalant Khovd NGO
- Jargalant Luu LLC
- Jargalant Shand LLC
- JICA
- Jimsnii bayajmal Cooperative
- Juulchin Tourism Corporation
- Khaan Bank Umnugovi province
- Khan Bank
- Khan Khentii Nogoon NGO
- Khangai region development center NGO
- Kharaa Gol Citizen's Union of Environment
- Khatan Tungel
- Khentii Branch of National Chamber of Commerce and Industry
- Khentii Nogoochid NGO
- Khentii ogoomor Co.,Ltd
- Khentii Province Association of CSOs
- Khentii Province Department of National Registration
- Khentii Province General Executive Agency for Judicial Decision
- Khentii Province Governor's offce
- Khentii Province Land Administration,

Construction, Urban Planning Department
- Khentii Province Police Department
- Khentii Province, Department of Food & Agriculture
- Khentii Province, Department of Health & social insurance
- Khongor Call NGO
- Khovd Branch of MNCCI
- Khovd Construction Association
- Khovd Province Citizens' Representative Assembly
- Khovd Province Environment and Tourism Department
- Khovd Province Governor's Office
- Khovd Safar
- Khovd Sky LLC
- Khovd Sutai NGO
- Khovd University
- Khuvchiin Jonon Co., Ltd
- Khuvsgul Lake Owners Movement NGO
- Khuvsgul Province Citizens' Representative Assembly
- Konrad Adenauer Foundation
- KPMG
- LGBT Center
- Londa Co.,Ltd
- Made in Darkhan
- MAEM Co LLC
- Maidar Era Foundation
- Makh Market LLC
- MAX Group
- MCS Holding LLC
- Men - healthy families center NGO
- Mercy Corps, Khovd branch
- Metall khiits Co.,Ltd
- Millennium Challenge Account
- Ministry of Agriculture and Light Industry
- Ministry of Construction and Urban Development
- Ministry of Education, Culture, Science and Sports
- Ministry of Energy
- Ministry of Environment and Tourism
- Ministry of Finance
- Ministry of Food, Agriculture, and Light Industry
- Ministry of Foreign Affairs
- Ministry of Health
- Ministry of Justice
- Ministry of Labor and Social Protection
- Ministry of Mining and Heavy Industry
- Ministry of Road and Transport Development
- MONFEMNET
- Mongol Altan Tos Co.,Ltd
- Mongolia Education Alliance
- Mongolia Micron Cashmere (Polaris, IBIS hotel)
- Mongolia Opportunities Fund
- Mongolia Youth Council
- Mongolian Alliance of Environment Movements
- Mongolian Association of Environment NGOs
- Golomt Bank
- Mongolian Economic Analysis and Research Center
- Mongolian Family Welfare Association
- Mongolian Mother Nature Savior Foundation
- Mongolian National University, Orkhon province branch

- Mongolian Public Health Professionals Association
- Monnis Group
- Monpolymet Group
- MSM & TG Community center
- MSM Group
- Munkh Shuvuut Co.,Ltd
- Munkhiin Chansaa Co.,Ltd
- National Association of Blind People
- National Chamber of Commerce
- National Development Agency
- National Emergency Management Agency
- National Human Rights Commission
- National Mining Association
- National Statistical Office
- National University of Mongolia, Business school
- New Settlement, Healthy & Safe Area NGO
- Newcom Group
- NLM Assoication
- Nomin Holding
- NovaTerra
- Nuudelchin Group
- Office of the President of Mongolia
- Oin Nohorlol union, Darkhan city
- Open Society Institute
- Orkhon Branch of Mongolian National Chamber of Commerce and Industry
- Orkhon Branch of Mongolian National Chamber of Commerce and Industry
- Orkhon Province Citizens' Representative Assembly
- Orkhon Province Governor's Office
- OT - SSM LLC
- OT Watch
- Our participation – impact NGO
- Own business
- Oyu Tolgoi
- PEHEM LLC
- State Great Khural (Parliament) of Mongolia
- Petrovis
- Princess NGO
- Psychological Responsiveness NGO
- Public Information Center, Darkhan-Uul
- Rancho LLC
- Red Cross
- Responsible Mining Initiative NGO
- Road and Transport Development Center
- Save the Children
- Scout Union
- Selenge province Governor’s office
- Senior Citizen's Association of Darkhan-Uul province
- Shilmel Od Co.,Ltd
- Shuurkhai Zogii Co.,Ltd
- Sondog LLC
- Songino Independent Living Center
- Sorig Ten NGO
- Sports Trip Union Darkhan branch
- Steps without Borders NGO
- Strong Boys NGO
- Students Union of Darkhan-Uul province
- Sumitomo Corporation
- Super Matrass Co.,Ltd
- Sustainable Development Research Institute
- Suu Dairy
- TA -3 project communication
- TAJUN Co.,Ltd
- Tamir Usukh Co.,Ltd
- Tavan Bogd Group
- Tegshgol Co., Ltd
- Tenger khishig Co.,Ltd
- Teso Group

- Trade and Development Bank
- Trade Union, Khovd Branch
- Transparency fund
- Transparency International
- Tsetsen Khan Ulgii Co., Ltd
- Tuguldur Ireduin Toloo NGO
- Tumur Shoo Co.,Ltd
- Tuushin
- Ulaanbaatar city Mayor's office
- Umnugovi MNCCI branch
- Umnugovi Province Citizens' Representative Assembly
- Umnugovi Province Governor's Office
- Umnugovi Province MNCCI branch
- UNDP
- Undrakhdem LLC
- UNICEF
- Union of Persons with Disabilities of Darkhan-Uul province
- Union of the Persons with Disabilities of Mongolia
- United Nations Population Fund
- Universal Progress Independent Living Center
- University of Agriculture
- University of Science and Technology, Darkhan Branch
- Ur jims association
- Urgamal-Enkh LLC
- Vocational Education Orkhon NGO
- Wagner Asia
- Women for Change NGO
- Women's Employment Support Foundation
- Women's' Association of Khovd Province
- World Health Organizationtry Diagnostic
- World Vision
- WWF
- Xac Bank
- Youth Monitoring Policies NGO
- Y-Peer Peer education national network
- Zaamar Youth NGO
- Zorig foundation

Annex 3: Data and research gaps for Mongolia

As per institutional guidance, the Systematic Country Diagnostic "…. includes a brief diagnostic of data gaps in key areas necessary for the country to adopt evidence-based development policies and monitor its development goals. The diagnostic pays particular attention to data relevant for monitoring development goals related to the WBG's twin goals and the Sustainable Development Goals (SDGs) that are most relevant for the country." This annex fulfills this requisite:

Data on quality of education	As indicated in paragraph 118, there is no TIMSS, PISA or data on quality of education in Mongolia. These and other sources of data on education standards would be needed to make more precise assessments of areas of intervention to address quality problems in the Education system of the country.
Data on informal employment and other labor characteristics.	As indicated in paragraphs 91 and 92, there are no regular estimates of informal employment, despite being considered a serious and pervasive problem of Mongolian labor markets. A jobs diagnostic study, as well as regular reviews of labor market conditions and dynamics are needed.
Data on gender violence.	As indicated in paragraph 106, there are few studies on gender violence, but there is growing concern in the country about this issue.
Revision of Purchasing Power Parity exchange rates	As indicated in footnote 24, poverty rates using 2011 PPP rates render exceedingly low estimates. There is circumstantial evidence of problems with the production of PPP rates for Mongolia in both 2011 and 2008 rounds, so a formal revision of these rates is warranted.
Data on water stress	As indicated in paragraphs 157 and 158, there are several studies indicating different levels of water stress in localized areas of the country, and under different assumptions about economic development. Given the importance, and urgency, of this topic, more studies are needed to settle the issue.
Data on incomes, monetary transfers and assets	As indicated in footnote 27, poverty and inequality use consumption as a welfare aggregate. Some analysts consider that income data would shows very different poverty and inequality trends. Data on incomes is available, but more data can be collected about assets and micro-data on monetary transfers is incomplete. More data on these issues would lead to more accurate analysis of levels and trends of welfare in the country.