

Coping with Shocks in Mongolia: Vulnerability, Assets and Migration

October 22, 2014

1. The project at a glance

The research project *Coping with Shocks in Mongolia*, carried out by the German Institute for Economic Research (DIW Berlin) in cooperation with a local partner, the National Statistical Office of Mongolia (NSO), analyzes the impact of extreme weather events on the livelihoods and welfare of households in Mongolia. The disasters we are looking at are extremely harsh winters, locally called *dzud*, that escalate livestock mortality. Even though an exact causal relationship between global climatic trends and *dzud* intensity in Mongolia has not yet been proven, the increased frequency of these severe winters since the late 1990s raises fears that more serious and more frequent disasters are looming large.

Taking the perspective of affected households, our analysis focuses in particular on the costs caused by *dzuds*, which often concern directly the source of existence for many households, such as the loss of assets (livestock). Furthermore, the project explores costs in terms of health and human capital outcomes as well as costs that impinge upon the society as a whole, such as poverty and inequality. This understanding of how households are affected by and cope with weather shocks will help us informing policy-makers on how to strengthen household-level resilience and prevent distress migration.

The project started in February 2012 and will continue through January 2016. The project is funded by the German Federal Ministry of Education and Research (BMBF) under the Economics of Climate Change program.

2. Data collection progress

Our analysis is based on unique household panel data that are collected as part of the project in three yearly waves from 1,760 households in three Western Mongolian provinces (Uvs, Zavkhan, Govi-Altai). To also capture potential seasonal effects, data collection is continuous with about 150 households being interviewed each month year-round.

The quality of the collected data is extremely satisfying, making them a promising research base. And attrition (the pattern that some households and individuals drop out of the sample after the first interview) is so far surprisingly low compared to other panel surveys in developing countries and in particular given that more than half of the sample regularly moves their campsite. This is surely attributable to an important extent to the

continuous work of the enumerators and the motivation and efforts of the entire team in Mongolia.



Measuring child anthropometrics during a household interview

To work on data cleaning procedures and assist with the data collection process, Valeria Groppo (a researcher at DIW Berlin) travelled to Mongolia in January 2014. And in May 2014, for the third time in the duration of the project, the DIW Berlin team members organized a joint workshop with the team members of the NSO. In a very open and interactive atmosphere, new sections of the questionnaire were introduced to the enumerators, potentially challenging parts of the survey were discussed and interviewing and tracking techniques reviewed. Following the workshop, the third year of the data collection started, the beginning of which was jointly mentored by DIW Berlin and NSO team members.

3. Scientific Output

Our first major project output, the paper *The impact of extreme weather events on child health – Evidence from Mongolia* raised great interest from both development practitioners and researchers. Looking at the impact of the 2009/2010 *dzud* on child outcomes, it finds that the *dzud* significantly slowed the growth trajectory of exposed children in herding households. Three years after the *dzud*, children exposed to the *dzud* are significantly shorter than non-exposed children. An analysis of possible mitigation channels suggests that wealthier households and households with a more experienced head are better able to cushion the impact

of the weather shock. The Discussion Paper version of the paper is attached to this newsletter. The paper has already been presented at the European Economics Association, the Verein für Socialpolitik, the Research Group on Development Economics of the Verein für Socialpolitik and the European Society for Population Economics conference.

In addition, two Bachelor theses have been written by former DIW Berlin interns based on the first data wave: Ramona Schachner (Leuphana University Lüneburg) investigated the impact of the 2009/2010 *dzud* on educational attainment. Julian Rose (University of Innsbruck) looked at factors that might cause the relatively low take-up rates of index-based livestock insurance (IBLI). This insurance has recently been implemented by the World Bank and the Mongolian government.

Currently the research team at DIW Berlin is working on another paper about IBLI in which we analyze the impact of the index-based insurance on households recovering from the 2009/2010 *dzud*. Another paper we are developing at present investigates the impact of the 2009/2010 *dzud* on education outcomes.

4. Research stays at DIW Berlin

The project team at DIW Berlin invites researchers to submit applications for joining the team in Berlin for a research stay and work together on the Mongolian household survey data. Interested researchers are requested to provide their own funding for travel and living expenses, while office space and IT equipment will be made available by DIW Berlin. Please get in touch with Katharina Lehmann (klehmann@diw.de) for more information.

5. Events

The first Mongolia project workshop was held in Berlin on Dec 3 2013. Researchers from Germany and abroad discussed their work on climate change and household behavior during this 1-day workshop. The presented studies focused on the impact of weather shocks on different household-level outcomes, such as health status and labor force participation.

The second Mongolia project workshop will take place in Berlin in March 2015. We welcome submissions of papers that investigate extreme weather events from a microeconomic perspective. For further information, please consider the attached Call for Papers.



Project Workshop in Uvs (Mongolia), May 2014

5. Team members at DIW Berlin

Kati Krähnert (project leader) studied Social Anthropology and Economics at Free University Berlin and Wake Forest University and obtained a PhD in Agricultural Economics from Humboldt University in 2010.

Valeria Groppo (postdoc researcher) joined the team in July 2013. She obtained her PhD from the University of Milan (Italy) and was working in the ILO and the WTO before coming to the DIW.

Veronika Bertram-Hümmer (PhD student) studied International Economics and Chinese Studies at Eberhard-Karls-University Tübingen and at the University of Sydney. She joined the Graduate Program at DIW Berlin in 2010.

Katharina Lehmann (PhD student), who joined the team as a research associate in September 2012, started her PhD in the DIW Graduate Center in 2013. After the first year of coursework she now joined the project again as a PhD student. She obtained her Master degree in International Economics from the Graduate Institute in Geneva.

Undraa Damdinsuren (student research assistant) studied English Linguistics at the National University of Mongolia and the University of Wyoming and is currently studying Economics at the Humboldt University.

Bayarkhuu Chinzorigt (student research assistant) studied Mathematical Economics at American University in Bulgaria and is currently earning a Master in International Economics from Berlin School of Economics and Law

Myriam Thömmes and **Uuriintuya Batsaikhan**, our former student research assistants, completed their Master degree in spring and moved on. We wish them all the best.



German Institute for Economic Research
Department of Development and Security
Mohrenstrasse 58
10117 Berlin
Germany
www.diw.de

For more information on the project visit the project website:
www.diw.de/mongolia

Or contact Dr. Kati Krähnert:
Email: kkröhnert@diw.de
Phone: ++49 (30) 89 789 442

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mongolia@diw.de