

学位論文及び審査結果の要旨

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論文の要旨

I have dedicated two thirds of my dissertation to study the Mongolian economy and its weaknesses in hope for offering solutions. The rest of my dissertation is dedicated to study and compare Vietnam's gains from two significant milestones of international trade, the bilateral trade agreement (BTA) and the World Trade Organization (WTO) accession.

The first chapter was conducted seeking evidence of the "Dutch Disease" in Mongolia. The Mongolian economy is a small open economy highly dependent on exports of natural mineral resources, which accounted for 90 percent of the total exports since 2010. Thus, there are potential adverse effects of this booming resource sector on other sectors in the economy, in particular, the manufacturing sector.

I conducted empirical analysis using a Vector Error Correction Modeling (VECM) approach. This approach allows me to quantify the systematic effects of a booming resource sector on manufacturing output, considering the short-term effects separately from the long-term consequences. Strong evidence was found and it suggests that a one-percentage increase in resource production is followed by more than two-percentage shrinkage in manufacturing.

In addition to the statistical analysis, I systematically reviewed the natural resource economics literature to find out how natural resource windfalls effect the economy, and I discussed about both the negative and positive experiences of the natural resource abundant countries. Furthermore, as a possible policy response to the Dutch Disease, I reviewed about the optimal exploitation of the resources and three popular policy implications.

As a contribution to the literature, this research thus, offers support for the Dutch Disease hypothesis, and supplements the literature by providing the Mongolian case study evidence. Furthermore, I believe this chapter might be useful for Mongolian policymakers to better understand the mechanisms and possible solutions of the Dutch Disease phenomenon.

The results of the study were presented at the Embassy of Mongolia in Tokyo, in April 2015, as well as the 6th Spring Meeting of The Japan Society of International Economics (JSIE).

The second chapter was carried out to estimate the comprehensive gains from variety for Mongolian economy during 1988-2015, following the seminal works by Feenstra (1994) and

Broda and Weinstein (2006).

Mongolia had undertaken serious economic reforms in 1990 after the collapse of the Soviet Union and suffered a long and dramatic process of transformation into the free-market economy, easing price controls, liberalizing domestic and foreign trade. The centrally planned economy, state-owned industries and banking systems were transferred into the private sectors. However, the economy is still in transition.

The gains from variety for Mongolian economy were estimated, using six-digit harmonized system (HS) products data which is the most disaggregated data available for Mongolia. I estimated 1390 elasticities and with the elasticities, I constructed an exact price index to measure the welfare gains from variety growth. This method is consistent with the theory of monopolistic competition and is robust in empirical applications (Feenstra, 1994).

The results show that the welfare gain owing to newly imported varieties from 1988 to 2015 amounts to 22 percent of GDP, or 0.8 percent annually. This is a significant result considering the moderate annual gains from 0.1 percent (Broda and Weinstein, 2006) to 0.4 percent (Chen and Ma, 2012) the most studies show.

I contribute to the growing literature by providing a measure of Mongolia's welfare gain due to import variety from 1988 to 2015. This is the first such study to apply the methodology of Broda and Weinstein (2006) to calculate Mongolian gains from variety, thus I had two motivations in mind. First, by measuring Mongolia's gains from import varieties after the liberalization in 1990s, I provided supporting evidence favoring trade liberalization for developing countries. Second, I estimated elasticities exclusive to Mongolia using a highly disaggregated import data and these elasticities may be useful for other studies.

In the third chapter, we examine the industry-level welfare impacts of the two significant liberalization measures of Vietnam, the BTA with the United States (U.S.) and the WTO accession. It is rare to find such important liberalization measures in the same economy, making one wonder if the size of a partner or the number of partners matter the most in international trade. Consequently, the aim of this chapter is to compare the industrial welfare impacts of the BTA and the WTO accession in Vietnamese economy, using the methodology proposed by Arkolakis et al. (2012).

Arkolakis et al. (2012) demonstrate that for quantitative trade models, whatever the welfare contribution of particular margins may be, the total size of the gains from trade can always be computed using the same aggregate statistics, domestic expenditure share and trade elasticity.

Here are the main findings of the third chapter. Compared to autarky, we found that both the BTA and the WTO contributed significantly to Vietnam's gains from trade. However, the tariff reduction effects of the BTA were rather short-lived from 2002 to 2004, while the welfare gain after the accession to the WTO continued consistently from 2007 to 2011, despite the Global Financial Crisis. Furthermore, comparing the industrial gains of three most gaining industries, the welfare gained after the WTO accession found to be larger in magnitude. Considering all the findings, we conclude that the welfare gained after the WTO accession is larger than the gains earned after the BTA with the U.S. In addition, we found that textile industry contributed substantially to the overall gains from trade.

We believe that our findings provide supporting evidence favoring the trade liberalization for developing countries, particularly for the economies that are still in transition. It may also provide informative implications to Vietnam's policymakers. In addition, we estimated sectoral trade elasticities using Vietnamese trade data, which may be useful for other studies.

This dissertation examines the effects, both internally and externally, from the massive expansion in international trade in two transitional economies, Mongolia and Vietnam. The econometric results are based on a data set painstakingly assembled by Ema for both countries covering thousands of commodities over the span of 30+ years.

第一

Chapter 1 examines the so-called 'Dutch-Disease' phenomenon for the case of Mongolia. Despite the fact that over 90% of Mongolia exports are natural mineral resources, which have seen a huge increase in the past decade or more, no research has thus far been conducted. Ema follows a Vector Error Correction Methodology as used by Hutchinson (Oxford Economics Papers, 1994) to assess the degree in which the rapid growth in the resource sector in Mongolia may have decreased the size of manufacturing in Mongolia. She finds that a one percent increase in the output of the resource sector, *ceteris paribus*, results in a two-percent decrease in the (real) output Manufacturing. Such strong results are new, interesting and should be of interest to academics especially in energy and East Asia more generally. She is now preparing this chapter for submission to an internationally refereed journal.

第二章

Chapter estimates the gains from trade for Mongolia following its post-Soviet Union era in which Mongolia began to freely trade with countries around the world. Mongolia went from importing only 255 varieties of products from around the world in 1988 to over 10,000 in 2015. To calculate the gains from new *varieties* following Broda and Weinstein (QJE, 2006), Ema had to first create the so-called Feenstra indices. This, in itself, is a great deal of work to identify varieties of products that are imported from year to year without gaps. After constructing the indices, she then had to estimate nearly 1,400 elasticities of substitution from her constructed indices and trade data. These elasticities are then used to calculate estimated gains from increased variety over a nearly 30-year period. She found that Mongolia gained approximately 22% of its GDP due to the increased variety of goods. This is enormous, as previous studies typically find gains of 2% or less, even for other transitional economies. This is an important finding and she is now preparing it for submission to an international journal.

第三章

The third chapter calculates the gains from liberalization in Vietnam using a different methodology developed by Arkolakis et al (AER, 2012). She measured gains from trade liberalization from two sweeping policy events: the bilateral trade agreement with the US in 2001, which increased trade between the two nations over ten-fold, and Vietnam's accession to the WTO (2007). For this method, again, she estimated elasticities of substitutions for Vietnam as she did in Chapter 2 for Mongolia. Then, using trade data and Input-Output data, she calculated import penetration rates at an industry level. Together with the elasticities, she can impute the change in income due to greater openness to trade. She finds sizeable gains for both policies, but finds (among many other sectoral results) that the gains to Vietnam were larger from WTO accession than from the deep bilateral liberalization that occurred with the US six years earlier. These interesting and novel results are also being prepared for submission to an international journal.

以上のことから、本論文審査員一同は、本研究科の博士号審査基準③に照らして Battogtvor Enkhmaa 氏の学位請求論文 "Gains from Trade in Transition Economies: The Cases of Mongolia and Vietnam"が博士（経済学）の学位を授与するに値するものと判断する。