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The complex relation between Belarusian trade openness and the agricultural sector

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ABSTRACT

Common sense states that greater trade openness is a very important challenge to some economic sectors such as agriculture. We tested this claim by considering a Belarusian time series observed since 1990. Employing cointegration techniques, we concluded that trade openness exerted a positive stimulus on Belarusian agriculture; therefore, the stagnant evolution of Belarusian trade openness could be identified as a statistically significant determinant of the diminishing Belarusian agricultural share in the GDP. Our results project some policy implications, namely the opportunity that greater Belarusian trade openness offers to the agriculture of Belarus or the importance of more efficient political management of some of the correlated dimensions (tested here also), such as the school system, urban trends and the proportion of employees in agriculture.

Introduction

The relationship between trade openness and agriculture has been troubling for many countries. Some countries have observed that the relevance of their agricultural production is reduced when their economies become more exposed to international markets. In contrast, other countries have found that greater trade openness is a great opportunity to expand the potential of their agrarian sectors.

Therefore, we ask: What can Belarusian agriculture expect from greater trade openness in that country? Can this transition economy expect more opportunities or more threats to one of its most important economic sectors?

In this paper, we researched the effects of trade openness on the share of value added for Belarus. Belarus is a former Soviet republic, considered by different authors to be one of the less changed republics, compared to its social, economic and political characteristics before 1989.

Despite this criticism, the trade openness of Belarus has increased since 1989—from less than 90% to more than 160% (in 2011). However, the rapid change that characterized the first years after 1990 was transformed into very stable values in more recent years. However, if we assess most of the agricultural data, we can confirm that there has been a clear downtrend in these values, as we will show in subsequent sections.

This paper will detail the effects of the reported evolution of Belarusian trade openness on the agricultural sector of Belarus. We will employ cointegration techniques to analyze these effects properly; in particular, we will use vector error correction models and causality tests to determine whether Belarusian agriculture can expect opportunities or difficult challenges as a result of a more internationally exposed economy.

The remaining sections of this paper are as follows. Section 2 describes the Belarusian economy, placing a special emphasis on its trade openness, on its agriculture sector, and on the complex debate regarding the relationship between trade openness and agriculture production. Section 3 exhibits the empirical procedures developed to employ cointegration techniques on Belarusian time series observed since 1990. Finally, Section 4 concludes this study and presents the more important implications derived from it.

The Belarusian economy: A case study in the Commonwealth of Independent States

The trade openness of the Belarusian economy

Belarus is an Eastern European country and is surrounded by five neighboring countries: Russia, Ukraine, Poland, Lithuania, and Latvia. The Belarusian economy is widely recognized as one of the

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Eastern European economies in which there remains very significant state ownership, not only as a result of the Soviet past but also because of the policy guidelines of its transitional governments.

As a consequence, more than half of employment is guaranteed by state-controlled companies. When discussing the distribution of Belarusian employment among major economic sectors, we can historically identify industrial factories, agriculture, manufacturing and sales and the trading of goods. Regarding agriculture, the most common production units are state-run farms (*kolkhozes* and *sovkhozes*), as identified by a Country Strategy Paper signed by the External Action of the European Union (2006). The share of private land in agriculture is 17%, the share of private farms in the total number of agricultural units is 1.6%, and the share of private production in Belarusian agricultural output is approximately 46.6% (Csaki and Kray, 2005).

The industrial sector in Belarus has been one of the most developed in the former Soviet republics, particularly the part of the sector related to textiles and wood (Akulava, 2011). Another industrial field that has been highly developed is related to the export of tractors (Cuaresma et al., 2012). Following Stern (2005), in addition to this heavy machinery sector, Belarusian exports have also based on agricultural products and on energy (gas, mainly by the company Beltransgaz).

The most relevant Belarusian trade partners have been generally Russia (representing more than a half of Belarusian export value) and the European Union (EU) (representing approximately one third of Belarusian export value).

In early 2005, Belarus successfully completed the negotiation of WTO membership. However, due to some failures in labor reforms, Belarus lost the related EU Generalized System of Preferences in 2007. In 2011, the Belarusian ruble depreciated by more than 50% against the United States dollar, and on June 1, 2011, Belarus requested an economic rescue package from the International Monetary Fund.

Despite the underdevelopment of the tourism sector (largely because of the highly restrictive visa policy), the Belarusian economy has exhibited very significant values in trade openness since 1990 (Sherov-Ignatyev, 2013). Considering a simple and widely used indicator (the sum of imports and exports over Belarusian GDP), we find that trade openness has changed from a value of 89.6% (in 1990) to a peak value of 164.2% (in 2011). Fig. 1 demonstrates this evolution.

The challenges of trade openness for Belarusian agriculture

The values of trade openness for the Belarusian economy have been generating an intense debate regarding the benefits of such significant trade openness for all Belarusian sectors. For instances, although the net advantages seem clear to the Belarusian gas sector and to the supporting sectors, there are other sectors that have expressed serious doubts. One example of these contrarian sectors is the agricultural sector.

The distrust between most of the European agricultural sectors and trade openness is an historical debate. Some works detailing this complex debate are those by Gardner et al. (1988) and by Dorling (1973). Other works, more recently, explored the tight connections between agricultural trade openness and overall economic freedom (Bakhshoodeh and Zibaei, 2007), between trade liberalization and the evolution of agricultural production (Silva et al., 2013), or between trade openness and the evolution of the efficiency of the agricultural sector (Miljkovic et al., 2013).

However, following Schneider (1991), Weiss (1999) and Daniel (2012), the three main arguments made in the discussion of the negative impact of greater trade openness on the national value of agriculture can be expressed by three words, competition, tradition, and mercantilism, which we discuss below.

"Competition" relates to a higher level of international competition placed on the local markets of countries with greater trade openness, i.e., of opened economies. This openness indicates that there might be agricultural products produced in foreign countries and even with charges on their prices because of packaging costs, travel costs, and preservative costs; these products arrive in opened economies with competitive values. Schneider (1991) and Tangermann (1993) have discussed this phenomenon.

"Tradition" is usually connected with the common difficulties in adjusting to rapid or flexible changes to agricultural structures and their respective agents (Weiss, 1999). Given the new challenges derived from greater international exposure, the most flexible sectors are those with the most rapid responses. In contrast, the less flexible sectors exhibit slower reactions. The European agricultural sector is usually characterized by these latter characteristics.

Finally, the 'mercantilist disease' refers to the trend that greater trade openness will move more people from different sectors (namely agricultural and/or manufacturing activities) to the commerce and services sector. Finally, this flow will reduce the percentage of national employment in the agricultural sector, with positive effects on agricultural productivity (Dabla-Norris et al., 2013; Daniel, 2012; Muller and Wehrheim, 2004).

This last aspect (non-definition of the expected effects on agricultural productivity) introduces the other side of the analysis: the positive impacts that greater trade openness can have on the agriculture of a country. We can also summarize these impacts with three expressions: technological shock, long-term gains, and agricultural value (Hiebert and Vansteenkiste, 2010; Shahbaz, 2012; Daniel, 2012).

Greater trade openness tends to trade the old technology of an opened economy for updated technology (Hiebert and Vansteenkiste, 2010). This exchange tends to bring higher levels of productivity to the agricultural sector (Daniel, 2012). Higher levels of productivity tend to improve the income generated in the renewed sector, at least over the medium term, leading to higher wages and more significant investments in the future.

Authors such as Shahbaz (2012) have argued that greater trade openness can only be truly analyzed from a long-term perspective. If increases occur in some imports in the short term (for instance, the previous example of machinery imports), over the long term, we will find the most important results (such as more positive agricultural trade balances, due to exports of higher quality, reflecting the investment in machinery).

Finally, agricultural value, as an aggregate output measured in real terms, tends to improve because of the greater trade openness of a country (Clark, 1971). We have already noted that greater trade openness tends to reduce agricultural employment. However, this reduction tends to generate increases in the productivity of the sector, with improvements in wages and in the aggregate value of agricultural products (Daniel, 2012).

The present condition of agriculture in Belarus

As previously identified, Belarusian agriculture has been an important sector in the Belarusian economy. Data from Klaveren et al. (2010) showed that more than 20% of Belarusian employment was located in the agricultural sector in the early 1990s. However, that value was only 10% in 2007. The value of agriculture in Belarusian GDP evolved from 23.5% in 1990 to less than 10% over the last decade. This phenomenon (the reduction in agricultural production as a share of GDP) has also been observed in other former Soviet countries, as Csaki and Kray (2005) recognized. Following Csaki and Kray (2005), the Belarusian "food and agriculture" sector constituted 8.6% of Belarusian exports and 12.3% of the country's imports in 2004. Fig. 2 demonstrates the evolution of Belarusian agricultural production as a share of Belarusian GDP.