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## **Economic freedom and perceived corruption and agriculture: Evidences from soybean exports in Brazil and Argentina**

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### **Introduction**

This paper explores the relationship between soybean exports (values and quantities), exchange rates and Economic Freedom of the World Index (EFWI) for Argentina and Brazil, as well as the importance of institutions on economic growth and perceived corruption. Although they are neighbouring countries, the institutions within them have affected their economies, translating to their soy exports. These exports are affected by changes in exchange rates, albeit to different degrees. Issues such as Sound Money and Legal System are identified as weak areas for Argentina, whilst Brazil seems to have problems with their Legal System and Regulations. The question then arises, “Why are institutions a vital element in economic growth?”

The answer to the question lies in understanding the concept. North (1993) defines institutions as constraints that structure human interaction; one constraint appears in the form of laws, rules and constitutions, known as formal institutions. The second type of constraint is made up of norms in behaviour, culture, and beliefs, making up the informal institutions. These institutions determine an economy’s prosperity by influencing transactions and transformation costs in production. Krause (2012) defines institutions as the set of rules/norms that regulate the actions of individuals within a society, without the ability to foresee the reaction of others.

Several indexes have been developed over the years by different organizations to help governments become aware of the perceptions and quality, as observed by experts and the general public. Organizations such as Transparency International and Freedom House conduct ample research, using statistical data collected from other organizations such as the World Bank, as well as the communities within the countries considered. Their mission is to assist government officials in making positive changes to their institutional quality and improved growth. One such index is the EFWI. To Gwartney et al. (2012), economic freedom measures personal choice, voluntary exchange coordinated by markets, freedom to enter and compete in markets, and protection of persons and their properties from aggression by others. The measurement consists of five key areas and their components:

1. Size of government - political processes to allocate resources, goods and services.
2. Legal system and security of property rights - integrity of the legal system, protection of property rights, legal enforcements of contracts, and impartial courts.

3. Access to sound money - includes inflation and freedom to own foreign currency accounts.
4. Freedom to trade internationally - quotas, tariffs, trade barriers, control on exchange rates and capital, control of the movement of capital and people, and hidden administrative restraints.
5. Regulation - The more the government controls the freedom of employers or employees, controls the interest rates in privately owned banks, and regulates business activities, the lower will the economic freedom be.

Another important index is that of Perceived Corruption, which considers abuse of public power such as bribery and embezzlement of public funds from the point of view of the business sector and general public. According to Keikha et al. (2012) in most countries, the government controls the country's natural resources, which causes producers to observe the decisions the government makes in order to determine course of action and perhaps attain privileges in economic activities. The paper seeks to establish long term relationship between the variables export quantities (EXPQUA), export values (EXPVAL), exchange rates (EXCHRT) and Economic Freedom of the World Index (EFWI) for both countries for the period 2000-2010 only, as complete data available was for that period alone.

### **Material and Methods**

A unit root test was performed using the Augmented Dickey Fuller method, resulting in export quantities, values and exchange rate meeting the criteria of non-stationarity in level and stationarity in level 1, to perform the Johansen method of co-integration for both Argentina and Brazil. The EFWI did not meet the criteria for Argentina, but did so for Brazil. However, due to the limited values in the series (only 11 for each variable), co-integration could not be done for the fourth variable and being that Argentina's EFWI was not included in the co-integration analysis, it was also not included in Brazil's analysis.

### **Results and Discussion**

Co-integration results indicated that there was at least one co-integrating equation for Argentina and two for Brazil, generating the below equations.

Equation 1 shows that in the long run, a one percent increase in the exchange rate for Argentina causes a 4.02 decrease in export quantity and an increase of 8.42 on the export value. This shows the long term relationship in at least one direction, in which export value and exchange rate are positively related, meanwhile exchange rate and export quantity are negatively related.

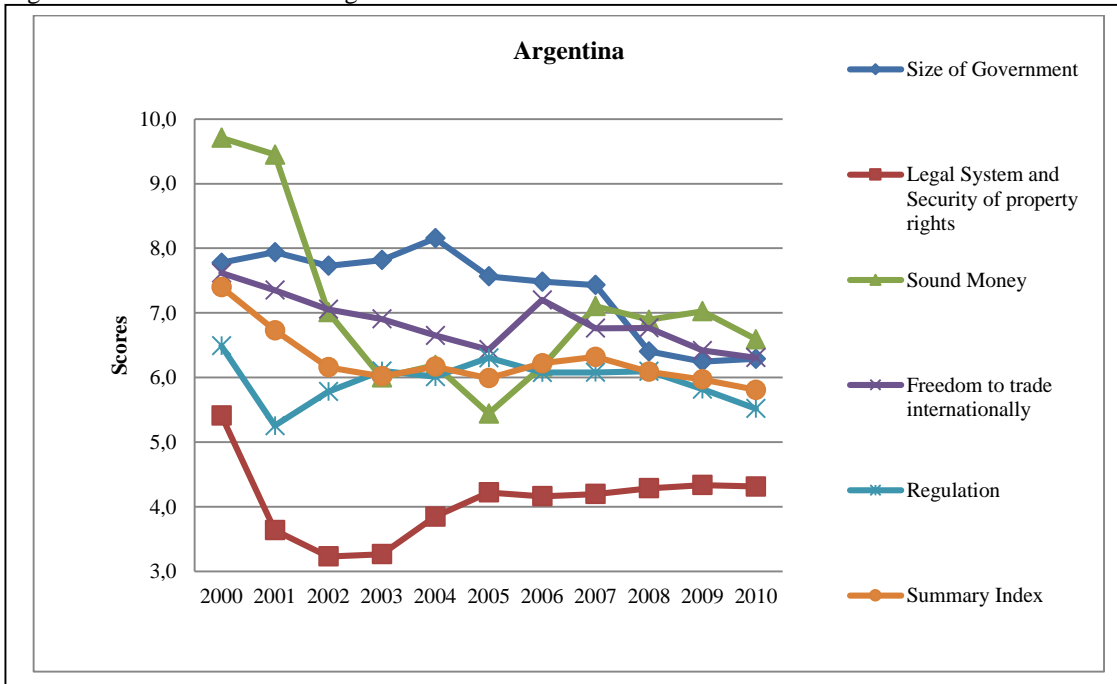
$$1ARGEXCHRT = -4.02EXPQUA + 8.42EXPVAL \quad (1)$$

In Equation 2, a one percent increase in Brazil's exchange rate causes a 1.18 decrease in export quantity and an increase of 2.25 on the export value. This shows the long term relationship in at least two directions, in which export value and exchange rate are positively related, meanwhile exchange rate and export quantity are negatively related.

$$1BRAEXCHRT = -1.18EXPQUA + 2.25EXPVAL \quad (2)$$

Figure 1 shows the evolution of each element in Argentina's EFWI.

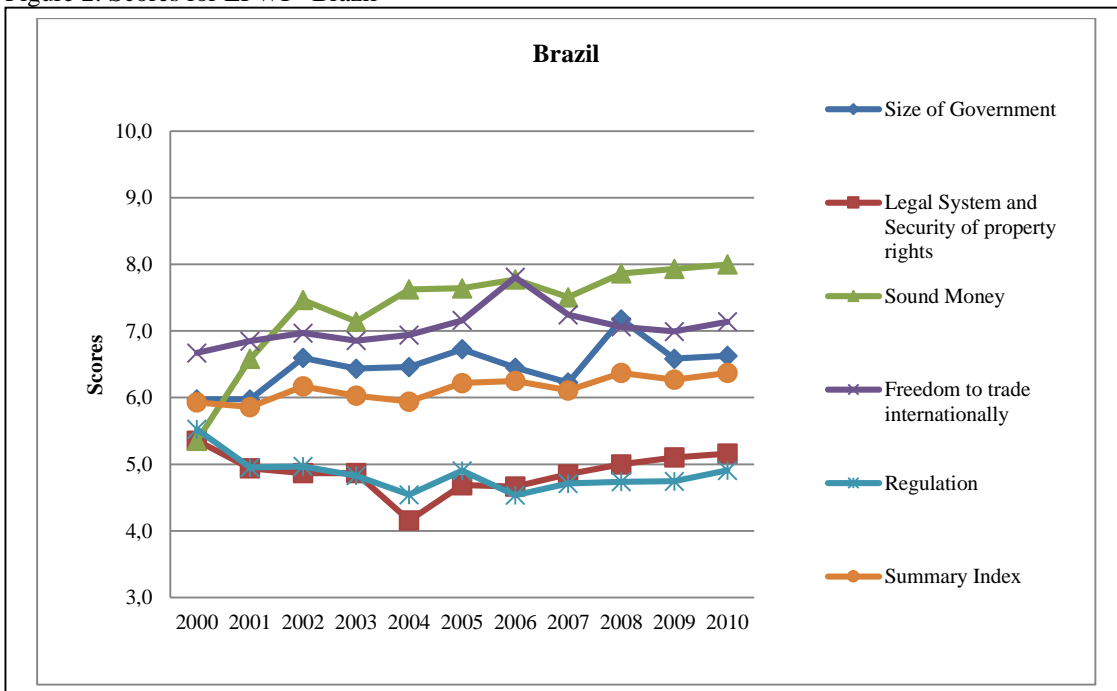
Figure 1: Scores for EFWI – Argentina.



Source: Constructed by the authors. Data extracted from Freedom House.

Figure 2 shows the evolution of each element of Brazil’s EFWI.

Figure 2: Scores for EFWI - Brazil



Source: Constructed by the authors. Data extracted from Freedom House.

Results suggest an increase in currency rates affects the industry, especially Argentina, where exchange rates affect soy exports, potentially allowing for loss of power in the international market should the situation not improve. In Argentina’s EFWI, scores on Sound Money experienced a decrease and a great issue seems to exist within their Legal System. On the other hand, Brazil is also affected by exchange rates, but to a lesser extent, reflected in the scores for Sound Money in the EFWI. In most countries the government controls resources and producers

seek to attain privileges within the economic activities, condition which leads to greater levels of corruption. These results are further reflected in Table 1, which shows the evolution of the perceived corruption ranking for both countries.

Table 1: Perceived corruption in Public Sector (Argentina vs Brazil).

	Argentina			Brazil	
	Score	Rank		Score	Rank
2000	3.5	52	2000	3.9	49
2001	3.5	57	2001	4.0	46
2002	2.8	70	2002	4.0	45
2003	2.5	92	2003	3.9	54
2004	2.5	108	2004	3.9	59
2005	2.8	97	2005	3.7	62
2006	2.9	93	2006	3.3	70
2007	2.9	105	2007	3.5	72
2008	2.9	109	2008	3.5	80
2009	2.9	106	2009	3.7	75
2010	2.9	105	2010	3.7	69
2011	3.0	100	2011	3.8	73
2012	3.5	102	2012	4.3	69

Source: Constructed by the authors. Data extracted from Transparency International.

Argentina is clearly viewed as the most corrupt when compared to Brazil. Pairing weak institutional quality with increased corruption, the effect on economic growth is negative. This responds the question on why institutions play a vital role in a country's economic growth.

### Conclusions and Outlook

Increases in currency rates negatively affect the soybean export industry in both countries, yet to a greater extent Argentina. In Argentina's EFWI, scores on Sound Money experienced a decrease and a great issue seems to exist within their Legal System. Being that in most countries the government controls resources and producers seek to attain privileges within the economic activities, this condition leads to greater levels of corruption, as in the case of Argentina. Pairing weak institutional quality with increased corruption, the effect on economic growth is bound to be negative. This responds the question on why institutions play a vital role in a country's economic growth.

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