Canadian Agricultural Economics Society
Société canadienne d'agroéconomie

Are Foreign Direct Investments in Agri-food Industry driven by Raw Agricultural Commodities Price Volatility?

Author: Mankan M. Kone

Supervised by: Carl Gaigne and Lota D. Tamini

Centre for Research on the economics of Environment, Agri-food, Transports and Energy (CREATE), Quebec, Canada

Contributed presentation at the 7th Annual Canadian Agri-Food Policy Conference, Ottawa, Ontario, 11-13 January 2017

Are Foreign Direct Investments in Agri-food Industry driven by Raw Agricultural Commodities Price Volatility?

Mankan M. Koné, supervised by Carl Gaigné and Lota D. Tamini
Centre for Research on Economics of Environment, Agri-food, Transports and Energy (CREATE)
Quebec (Quebec), Canada

Université Laval

CREATE

Introduction and motivation

➢ Agricultural commodities price instability is one of the biggest challenges facing agricultural value chain, facing processors in particular.

➢ The reason for their investments abroad (FDI) is not only a market-seeking motive but also a resource-seeking motive due to the location specific nature of agricultural production.

➢ The effect of production risk on FDI in agri-food industry is not obvious at first sight. **The objective is to analyze the trade-off between home production and FDI in agri-food industry, given the volatility of agricultural commodity prices.**

Empirical method and data sources

➢ **Model:** Fixed effects gravity model (an international trade model) with various specifications taking into account the presence of null FDI values.

➢ **Data sources:** Bilateral data on FDI stock for the manufacture of food products, beverages and tobacco gathered from the detailed and unique EUROSTAT database. Supplemented by other sources: CEPII, World Bank WDI, FAOSTAT, IMF.

➢ **Volatility measure:** standard deviation (square root of variance) of each country producer price indices of the previous five years (trend removed).

➢ Final database covers the period 1997-2012, 27 origin countries and 62 destination countries.

Fig1: Evolution of total stock of FDI by year

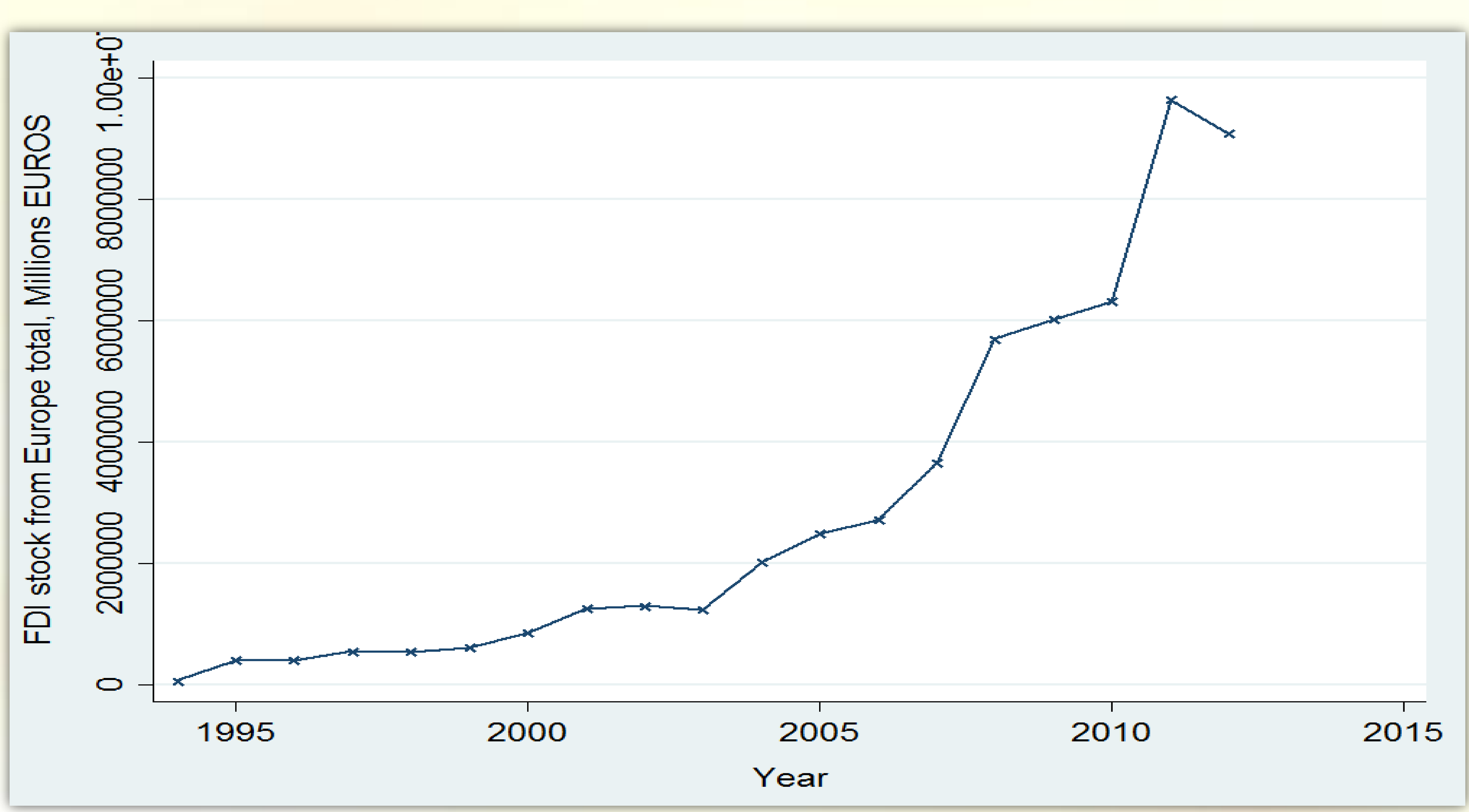
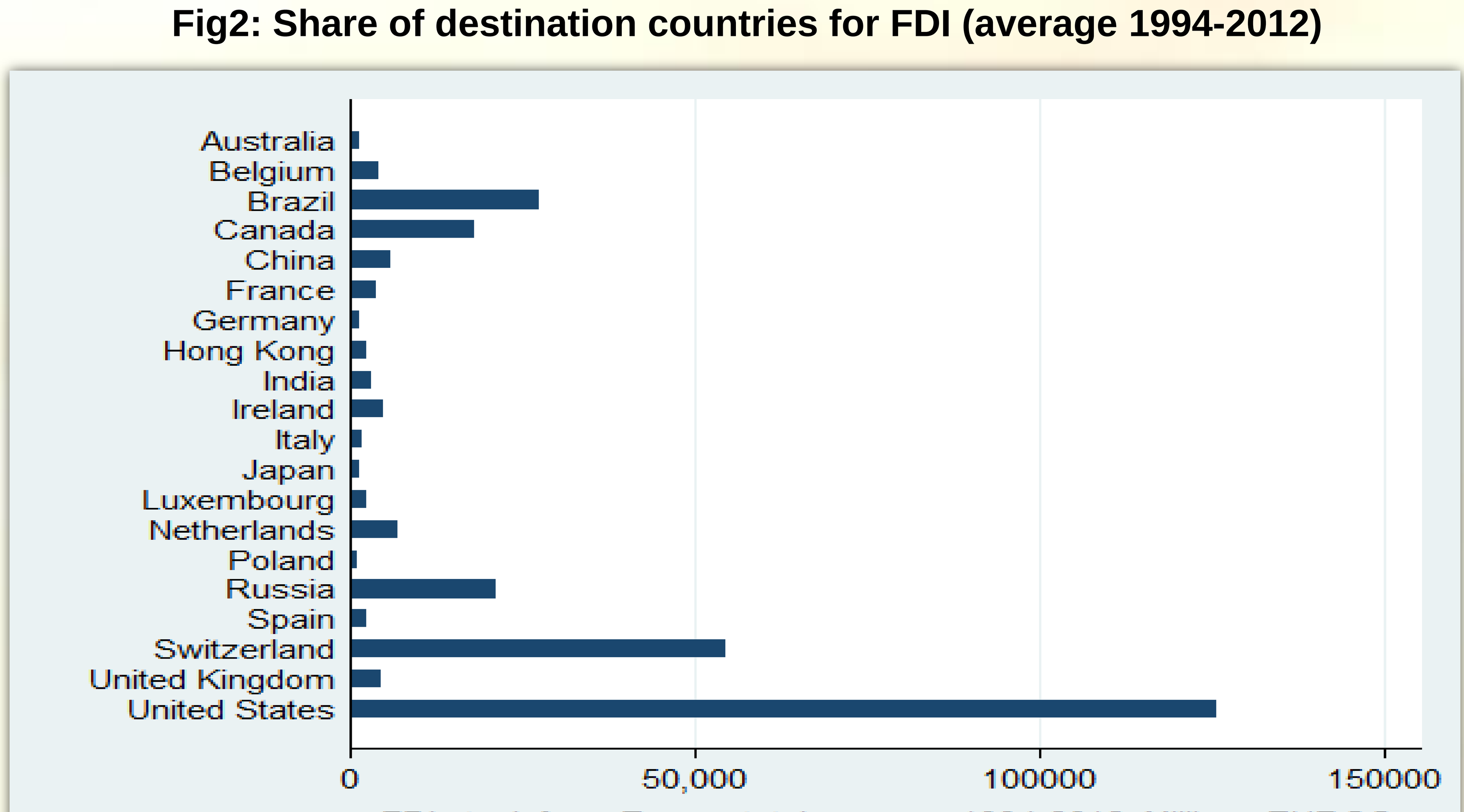
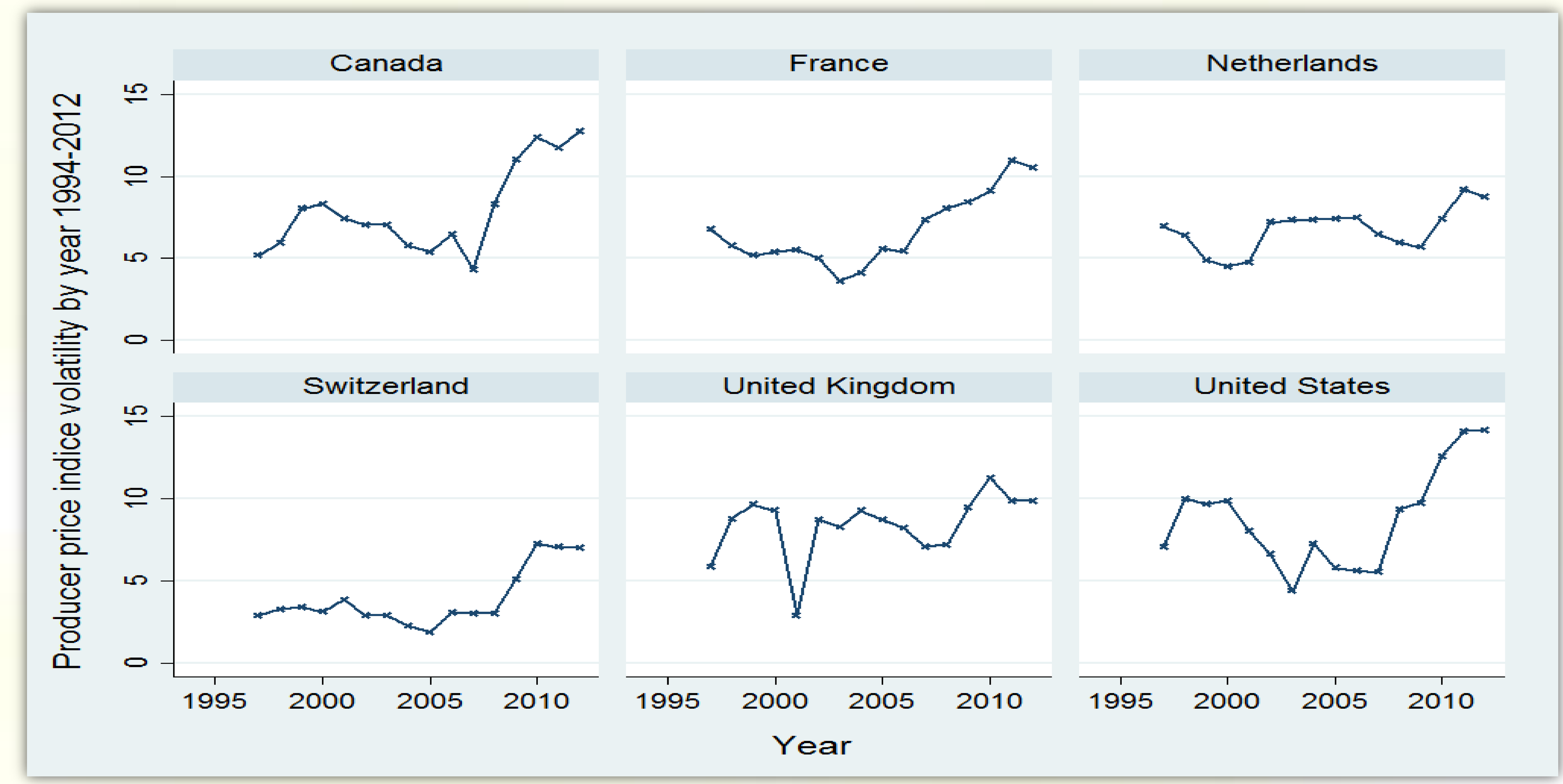


Fig2: Share of destination countries for FDI (average 1994-2012)



Results

Fig3: Evolution of agricultural producer price indice standard deviation by year



Regression results

Variables	Poisson	Tobit
Log GDP Destination	0.533***	0.942***
Log GDP Origin	0.930***	1.388***
Log Distance	-1.970***	-2.718***
Log GDP per capita Destination	0.744	-0.941**
Log GDP per capita Origin	4.710***	2.714***
Colony	0.893**	2.985***
Log Volatility Destination	-1.027***	-0.862**
Log Volatility Origin	0.396**	1.264***
Log Distance x Log Volatility Destination	0.524***	0.526***

*(p<0.1), **(p<0.05), ***(p<0.01)

➢ The pattern of FDI stock is influenced by the volatility of agricultural prices of the destination country;

➢ A larger share of FDI goes abroad when the volatility of agricultural prices in the country of origin increases and when the volatility of agricultural prices in the country of destination decreases;

➢ The origin country volatility is the most important factor (the volatility of the country of destination is not always significant in the various specifications).

Policy recommendations

➢ We are likely to see this type of investment where prices of agricultural products are less uncertain and where trade costs from the host country back to the parent country are not excessive;

➢ However, when destination market uncertainty is not very important and even trade costs close to zero, we are likely to observe fewer FDI if fixed costs are high. FDI is not profitable in this case.

References

➢ Antle, J. M. (1983). Incorporating risk in production analysis. *American Journal of Agricultural Economics*, 65(5):1099-1106.

➢ Kleinert, J. and Toubal, F. (2010). Gravity for FDI. *Review of International Economics*, 18(1):1-13.

➢ Ramondo, N. and Rappoport, V. (2010). The role of multinational production in a risky environment. *Journal of International Economics*, 81(2):240-252.