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AGRICULTURAL POLICY SUPPORT IN THE 21ST CENTURY: A POLITICAL ECONOMY ANALYSIS

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INTER-AMERICAN DEVELOPMENT BANK
Agricultural Policy Support in the 21st Century: a Political Economy Analysis for LAC

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Introduction

The persistence of agricultural protection and support is a puzzle for several reasons. Mainly, as most economists point out, the costs of protecting and supporting the agricultural sector can potentially outweigh the benefits to our societies as a whole.

A political economy model that incorporates both the standard economic as well as political variables representing different institutional arrangements helps to shed greater light on agricultural support policies and their determinants than prior studies have done.

Objectives

The objective of this study is to disentangle the effects of political and economic determinants on the level and composition of agricultural policy support in Latin America and the Caribbean.

Methods

The methodology for this analysis consists of panel data regressions. A general reduced form for this model is the following:

$$y_{it} = X'_{it}\beta + Z'_{it}\gamma + \rho_t + \delta_i + \varepsilon_{it}$$

y_{it} will consist of the four different measures of the level and composition of support that the agricultural sector is receiving (%TSE, %PSE, %GSSE, %CSE) in country i for time t.

X'_{it} represents a matrix including the economic variables of country i at time t:
- _Log_ag_empl_: log of agricultural employment as % of total employment;
- _Log_ag_qdp_: log of Agricultural value added as percentage of GDP;
- _Recession_: Dummy =f 1 if GDP growth is negative for that year, 0 otherwise;
- _Terms_trade_: The ratio of the log exports over log imports;

Z'_{it} represents a matrix of the political economy variables of country i at time t:
- _Checks_: Checks and balances index, ranging from 1 to 6, with higher values meaning more checks;
- _State2_: Dummy = 1 if state/province governments are locally elected, 0 otherwise;
- _Frac_: The probability that two deputies picked at random from the legislature will be of different parties. It is a measure of fractionalization of the political system;
- _Ybefelec_: Dummy =1 if referred to a year before elections in the country, 0 otherwise;

ρ_t and δ_i are time and country fixed effects, respectively;

ε_{it} is a white noise.

Data: 21 Latin American and Caribbean countries with a median of 7 years. The data on agricultural policy support estimates are based on the Inter-American Development Bank (IDB) Agrimonitor database, whereas the economic variables based on the World Bank data and the political variables were retrieved from the Database of Political Institutions (DPI).

Agricultural Support Indicators

Percentage Total Support Estimate (%TSE): The annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures that support agriculture. It is expressed as percentage of GDP;
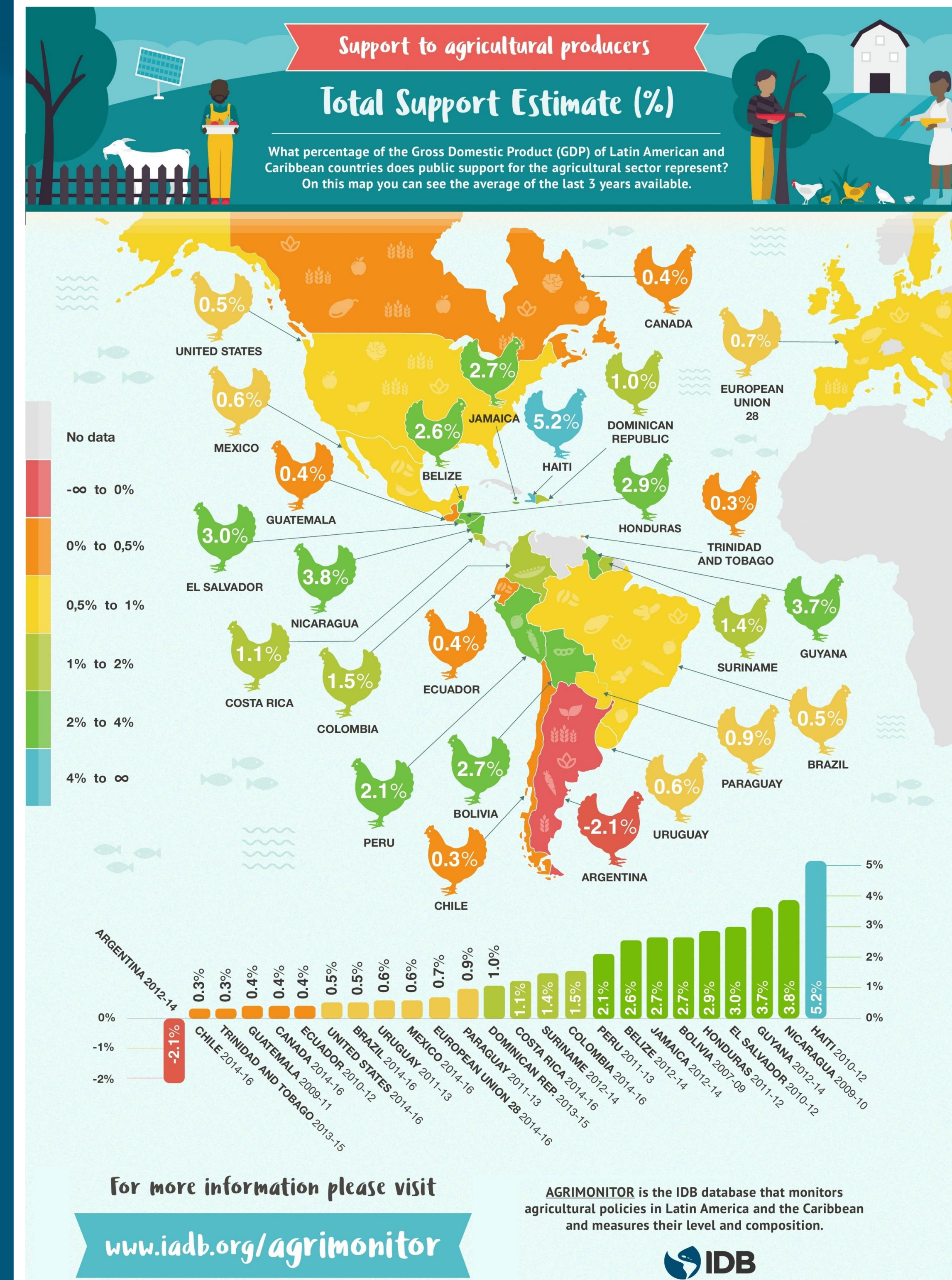
Percentage Producer Support Estimate (%PSE): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that support agriculture. It is expressed as a share of gross farm receipts (including support in the denominator);

Percentage General Services Support Estimate (%GSSE): This indicator measures the share of TSE represented by expenditures on general services (such as research, development, training, inspection, marketing and promotion);

Percentage Consumer Support Estimate (%CSE): The annual monetary value of gross transfers from (to) consumers of agricultural commodities, measured at the farm gate level, arising from policy measures that support agriculture. It is measured as a share of consumption expenditure (measured at farm gate) net of taxpayer transfers to consumers.

Results & Discussion

Economic and political variables are both relevant in determining the level of support that the agricultural sector receives. In line with Thies and Porche (2007), we find that a larger agricultural sector helps the sector to secure a proportionally higher policy support. Our results, mostly based on data from developing countries with sizeable agricultural sectors, show indeed that producers in Latin America and the Caribbean have found an effective way to influence political decisions.

VARIABLES	(1) %CSE	(2) %GSSE	(3) %PSE	(4) %TSE
checks	1.81*	-0.49	-1.65*	-0.08
	(1.04)	(0.98)	(0.95)	(0.10)
state2	4.68	45.22***	-24.08**	-3.33**
	(13.19)	(4.94)	(11.72)	(1.49)
frac	-27.33***	-41.87***	26.52***	1.17
	(8.02)	(8.89)	(7.43)	(0.76)
ybefelec	1.53	0.44	-0.58	0.03
	(1.39)	(1.23)	(1.29)	(0.14)
log_ag_empl	-7.47*	-9.40***	7.50**	0.56
	(3.94)	(3.37)	(3.45)	(0.44)
log_ag_gdp	-8.47	-13.41***	13.34**	1.35***
	(5.74)	(4.96)	(5.16)	(0.47)
recession	-2.47	-0.30	1.90	0.29*
	(2.01)	(1.71)	(1.56)	(0.17)
terms_trade	236.73*	-329.40***	-297.96***	-20.84
	(138.32)	(84.60)	(127.87)	(13.14)
Constant	-189.24	432.95***	244.80*	17.94
	(132.36)	(90.63)	(124.73)	(12.32)
Year Fixed Effects	YES	YES	YES	YES
Country Fixed Effects	YES	YES	YES	YES
Observations	172	157	172	165
R-squared	0.83	0.90	0.84	0.86

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Economic variables
Terms of trade is significant (except for TSE) and shows the expected sign: higher terms of trade indicate the country is more competitive and therefore needs less market price support. Recession is significant only for TSE: given the fixed nature of some components of the support, the ratio over GDP increases during recessions.

Political institutions
Countries with more checks and balances show lower producer support and higher consumer support: more democratic control leads to more care for the welfare of the majority, favoring consumers over producers. Similarly, the election of state/province governments reduces producer support. Fragmentation in legislative bodies makes them more vulnerable to pressure from agricultural lobbying. Election years do not have a significant effect on the structure of support, indicating that agricultural policies might be affected by a certain degree of "stickiness" over time.

Conclusions

Economic factors are relevant to explain the support to the agricultural sector but so are political institutions. Our results contribute to the understanding of the magnitude and composition of agricultural support in Latin America and the Caribbean, thus offering a valuable analytical tool for policy dialogue and reform on agricultural policy. Further research is needed at the national level to complement the aggregated results.

Support to agricultural producers
Total Support Estimate (%)

What percentage of the Gross Domestic Product (GDP) of Latin American and Caribbean countries does public support for the agricultural sector represent? On this map you can see the average of the last 3 years available.

No data
-∞ to 0%
0% to 0,5%
0,5% to 1%
1% to 2%
2% to 4%
4% to ∞

UNITED STATES 0.5%
CANADA 0.4%
EUROPEAN UNION 28 0.7%
MEXICO 0.6%
JAMAICA 2.7%
DOMINICAN REPUBLIC 1.0%
HAITI 5.2%
BELIZE 2.6%
GUATEMALA 0.4%
HONDURAS 2.9%
EL SALVADOR 3.0%
NICARAGUA 3.8%
TRINIDAD AND TOBAGO 0.3%
COSTA RICA 1.1%
ECUADOR 0.4%
GUYANA 3.7%
SURINAME 1.4%
COLOMBIA 1.5%
BRAZIL 0.5%
PARAGUAY 0.9%
BOLIVIA 2.7%
URUGUAY 0.6%
PERU 2.1%
ARGENTINA -2.1%
CHILE 0.3%

For more information please visit
www.iadb.org/agrimonitor

AGRIMONITOR is the IDB database that monitors agricultural policies in Latin America and the Caribbean and measures their level and composition.