

Online Appendix

to

ECONOMIC POLICY AND ELECTORAL OUTCOMES

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This appendix details methodological aspects in the calculation of the gross geographic product generated in the agro-food chain (AFC), and the data on the 2007 and 2009 election results and the significance of the AFC in each municipality.

A. Methodology¹

Gross geographic product (GDP) of each municipality in 2008

In order to gauge the gross geographic product of each municipality in 2008, the descending method was adopted, applying coefficients in each municipality to a provincial added value, which permit to establish its participation in the provincial total. Thus, the structure of the gross product of each municipality is obtained for each sector of activity.

For each sector of activity the provincial added value was firstly estimated on the basis of the last officially available data (year 2006) by applying different indexes of growth of the quantities in order to obtain the gross geographic product in each sector of activity (16 in total) for the province of Buenos Aires in 2008. In each sector the growth was considered regarding the products which compose it. The consulted sources of information were, in general, those of the methodological report from the Provincial Department of Statistics for the estimates of the series 1993-2004. Alternative sources of data were obtained at a provincial, regional and national level.

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¹ For more details see Lodola, Brigo and Morra (2010).

Once the results in each sector of activity were obtained at a provincial level, the provincial total was disaggregated at the level of the 134 municipalities. In some sectors the coefficients which permit to disaggregate the provincial total in each municipality were obtained on the basis of the same aforementioned sources of information, whereas in other cases an alternative source was analyzed.² Where there was no data at all, the participation of the estimates corresponding to the year 2003 were maintained.

Without drawing up an exhaustive list, in the estimates in each municipality in the year 2008 the information came from the Provincial Department of Statistics (GGP in each municipality, shops included in the National Economic Census 2004/2005, etc.); National Institute of Statistics and Census (Survey on Occupancy Rate, cost indexes, etc.); Ministry of Agriculture, Livestock (agricultural crops, sea catches); National Office of Agri-food Commercial Control (bovine work); Central Bank of the Republic of Argentina (loans and deposits); Ministry of Economy of the Province of Buenos Aires (municipal transfers); and Department of Energy of the Nation (number of users and electrical energy invoiced) , among other sources.

Similarly, the years 2006 and 2009 were analyzed in order to obtain an indicator of municipal economic activity for those years. Then the variable *varae* (economic activity variation) was calculated as the variation of the economic activity of the year 2007(2009) with respect to the year 2005 (2007).

Estimates of agro-food chain (AFC)

In order to determine the importance of the AFC in the province of Buenos Aires and its municipalities, the first step was to define the comprised activities. These are divided into three groups:

Main activities: They are activities which give rise to the food complex. This group includes the primary sector (agriculture, livestock and fishing) and the secondary sector where the production is processed in order to obtain food products. According to the National Classification of Economic Activities 1997 (ClnAE'97) the MAIN activities comprise Agricultural Crops, Stockbreeding, Stock Farming Services, Fishing, and Food and Drink Production.

² For instance, for the agricultural sector the estimates at the level of the provincial total as well as each municipality were made on the basis of the information available at the Ministry of Agriculture, Livestock and Fishing of the Nation (ex Office of Agriculture, Livestock, Fishing and Food) about implanted surface, harvest and tons produced by administrative area in the different agricultural campaigns. Alternative sources were used, for instance, in the case of telecommunications, the provincial added value can be obtained from the information provided by the service supplier companies in their balances or accountant states; whereas for the geographic deduction it can be obtained from the population, number of lines in each administrative area, etc.

Backward activities: They are activities which provide input and machinery to the MAIN activities. This group includes all those activities in which more than a half of their production to the domestic market goes to the MAIN activities of the chain. This group comprises the production of fertilizers, pesticides and chemicals of farming use; medicine of veterinary use; plastic containers, parts and accessories of transmission; tractors, farming machinery and machinery for the food industry.

Forward activities: This group includes those activities, mainly of services, which depend totally or partially to what happens to the MAIN activities. Their demand has its origins in the incomes and expenditures generated by the main activities. The sectors of activity which were incorporated to this group are Wholesale and Retail Trade, Restaurants, Haulage Transport, Building, Electricity, Gas and Water, Financial Intermediation, Association Services, Telecommunications, Property and Domestic Services.

The criteria of assignment to the different municipalities are detailed below:

The main activities were assigned entirely to the municipality where they are produced. On average, this group represents 73% of the value added by the AFC.

For the backward activities the same percentage of the product to the one generated by the main activities was assigned to the AFC. That is to say, if the main activity represents x% of the total product of the municipality, that same x% of the product is assigned to the AFC of the totality of the forward activities. This group of activities provides, on average, 20% of the value added by the AFC.

Each of the backward activities was assigned regarding the participation of that input in the expenditure of the main activities. That proportion was obtained on the basis of the Input Product Matrix 1997, updated to 2007. For instance, the manufacture of agricultural machinery represents x% in the expenditure of the main activities of the chain; therefore, in the municipalities where this activity is developed, this proportion x was assigned to the AFC.

By adding up the three groups of activities, the value of the AFC for each municipality was obtained. The assignment of activities to the AFC can be observed formally in the following equation:

$$AFC^j = (Ma^j + Ma^j For^j + \beta_j In^j) GGP^j , \quad (A1)$$

where:

AFC^j : added value of the AFC in the municipality j ;

Ma^j : % of the GGP of the municipality j which is generated in the main activity;

For^j : % of the GGP of the municipality j which is generated in the forward activities;

β_j : participation of the inputs in the expenditure of the main activities (it is the same in all municipalities);

In^j : % of the GGP of the municipality j which is generated in the input- producing activities;

GGP^j : gross geographic product of the municipality j .

Net consumer and net producer municipalities

In order to characterise a particular municipality as a net consumer (NC) or a net producer (NP) of the AFC, the percentage of food consumed in each municipality was estimated. The data from the National Survey of Home Expenses 2005 were consulted. To differentiate between Greater Buenos Aires and interior, the proportions from the National Survey of Home Expenses 1995/1996 were used. Thus, the weight of each municipality in the food consumption of the province was obtained. That percentage, in comparison with the production of the AFC, determines the condition of NP or NC.

Price index of a municipality's production

The producer price index (PPI) in each municipality is a weighted average of prices of soybeans, wheat, corn, sunflower, meat, and other manufactured products.

The weighting used was the participation of each of these productions in the gross geographic product (GGP) of each municipality. Sources: Ministry of Agriculture, Livestock and Fisheries of the Nation and the National Institute of Statistics and Censuses (INDEC).

B. Statistics

Table A1. Percentage of votes obtained by the Frente para la Victoria (FPV) in 2007 and 2009 and weight of the agro-food chain (AFC) in the municipalities of the province of Buenos Aires

Municipalities	Percentage of votes FPV - National Deputies			Weight of the AFC in the GGP	Situation
	2007	2009	Difference		
Adolfo Alsina	50.1	17.6	-32.5	68.9	NP
Adolfo Gonzalez Chavez	54.5	26.6	-28.0	61.1	NP
Alberti	49.2	26.8	-22.4	60.6	NP
Almirante Brown	51.1	43.2	-7.9	8.2	NC
Arrecifes	48.3	23.5	-24.8	41.2	NP
Avellaneda	43.0	33.7	-9.3	6.7	NC
Ayacucho	51.2	24.6	-26.6	51.0	NP
Azul	35.2	19.2	-16.0	31.4	NP
Bahía Blanca	33.2	20.4	-12.9	11.6	NP
Balcarce	43.9	18.8	-25.1	43.1	NP
Baradero	50.5	30.8	-19.7	44.5	NP
Benito Juarez	46.7	27.5	-19.2	46.9	NP
Berazategui	54.3	42.5	-11.8	9.7	NC
Berisso	45.3	31.3	-14.0	2.7	NC
Bolívar	40.6	18.5	-22.1	50.5	NP
Bragado	49.6	27.7	-21.9	43.9	NP
Brandsen	45.4	22.5	-23.0	17.1	NP
Campana	49.4	31.4	-17.9	2.4	NC
Cañuelas	54.5	38.4	-16.0	38.9	NP
Capitán Sarmiento	49.3	34.6	-14.8	49.1	NP
Carlos Casares	41.9	15.6	-26.3	55.8	NP
Carlos Tejedor	50.0	26.7	-23.3	75.0	NP
Carmen De Areco	56.1	20.1	-36.0	58.4	NP
Castelli	53.5	31.3	-22.2	48.5	NP
Chacabuco	55.3	35.4	-19.9	61.5	NP
Chascomús	33.6	14.9	-18.7	44.7	NP
Chivilcoy	63.2	44.5	-18.8	32.1	NP
Colón	60.4	28.6	-31.7	45.0	NP
Coronel Dorrego	39.7	20.9	-18.8	69.8	NP
Coronel Pringles	35.8	19.7	-16.1	51.7	NP
Coronel Rosales	29.4	16.5	-12.9	15.8	NC
Coronel Suárez	56.0	32.9	-23.1	45.0	NP
Daireaux	43.0	15.4	-27.6	67.1	NP
Dolores	47.8	21.9	-25.9	12.3	NP
Ensenada	43.1	33.5	-9.6	0.5	NC
Escobar	42.6	38.6	-4.0	11.8	NP
Esteban Echeverría	53.9	41.1	-12.8	19.2	NP
Exaltación De La Cruz	56.7	29.3	-27.4	36.8	NP
Ezeiza	57.4	49.4	-7.9	7.2	NC
Florencio Varela	54.4	47.6	-6.8	9.1	NC
Florentino Ameghino	58.5	38.0	-20.5	74.0	NP
General Alvarado	53.8	28.5	-25.2	38.3	NP
General Alvear	48.7	16.7	-31.9	46.4	NP
General Arenales	55.1	20.8	-34.3	62.1	NP
General Belgrano	49.9	26.7	-23.2	35.3	NP
General Guido	34.3	26.5	-7.8	66.8	NP
General Lamadrid	61.3	33.4	-27.9	61.2	NP
General Las Heras	46.5	33.5	-13.0	41.3	NP

Municipalities	Percentage of votes FPV - National Deputies			Weight of the AFC in the GGP	Situation
	2007	2009	Difference		
General Lavalle	75.4	30.9	-44.4	66.4	NP
General Madariaga	50.9	19.4	-31.5	35.8	NP
General Paz	54.8	23.0	-31.8	36.6	NP
General Pinto	49.8	33.5	-16.3	74.0	NP
General Pueyrredón	34.6	26.3	-8.3	24.2	NP
General Rodríguez	43.4	28.8	-14.6	42.2	NP
General San Martín	45.2	31.6	-13.7	4.6	NC
General Viamonte	46.6	24.8	-21.8	56.1	NP
General Villegas	42.4	20.8	-21.6	73.2	NP
Guamini	47.7	17.5	-30.1	73.8	NP
Hipólito Yrigoyen	36.1	23.8	-12.3	61.4	NP
Hurlingham	48.4	33.7	-14.7	7.2	NC
Ituzaingo	37.8	28.3	-9.5	3.0	NC
Jose C. Paz	56.0	52.3	-3.8	2.3	NC
Junín	42.5	22.2	-20.3	47.2	NP
La Costa	44.8	27.7	-17.2	3.9	NC
La Matanza	50.5	42.6	-7.9	7.5	NC
La Plata	35.2	21.3	-13.9	3.2	NC
Lanús	45.7	32.0	-13.7	11.5	NC
Laprida	45.2	31.6	-13.6	53.6	NP
Las Flores	51.9	26.3	-25.6	34.4	NP
Leandro N. Alem	56.4	31.5	-24.8	69.3	NP
Lincoln	55.4	19.7	-35.6	59.7	NP
Lobería	47.6	27.0	-20.6	61.7	NP
Lobos	50.6	27.9	-22.7	37.9	NP
Lomas De Zamora	48.3	36.2	-12.1	5.6	NC
Luján	45.4	26.9	-18.5	12.8	NP
Magdalena	50.9	29.1	-21.8	32.5	NP
Maipú	35.9	16.7	-19.2	43.5	NP
Malvinas Argentinas	62.9	41.9	-21.0	4.9	NC
Mar Chiquita	47.8	37.4	-10.3	44.7	NP
Marcos Paz	61.4	38.6	-22.8	29.0	NP
Mercedes	43.8	22.2	-21.7	16.7	NP
Merlo	50.0	39.5	-10.5	5.7	NC
Monte	41.0	22.3	-18.7	44.7	NP
Monte Hermoso	53.8	33.8	-20.0	7.2	NC
Moreno	50.2	40.5	-9.7	5.0	NC
Morón	34.1	18.3	-15.9	7.3	NC
Navarro	43.3	26.7	-16.6	59.3	NP
Necochea	47.0	16.1	-30.9	40.5	NP
Nueve De Julio	40.6	17.0	-23.6	43.4	NP
Olavarría	50.3	27.1	-23.2	16.2	NP
Patagones	51.8	31.5	-20.3	45.9	NP
Pehuajó	47.0	24.7	-22.2	51.8	NP
Pellegrini	42.6	17.8	-24.9	65.3	NP
Pergamino	48.0	20.4	-27.7	39.0	NP
Pila	49.8	34.1	-15.7	54.9	NP
Pilar	50.7	38.2	-12.4	16.1	NP
Pinamar	49.1	24.0	-25.1	2.3	NC
Presidente Perón	58.0	45.8	-12.3	3.7	NC
Puan	35.7	13.6	-22.1	45.3	NP
Punta Indio	37.4	21.1	-16.3	38.0	NP
Quilmes	45.9	35.7	-10.2	9.6	NC
Ramallo	63.4	24.3	-39.1	40.2	NP

Municipalities	Percentage of votes FPV - National Deputies			Weight of the AFC in the GGP	Situation
	2007	2009	Difference		
Rauch	50.5	28.2	-22.3	45.9	NP
Rivadavia	31.9	12.4	-19.5	76.6	NP
Rojas	45.7	22.5	-23.2	69.3	NP
Roque Pérez	57.1	22.3	-34.8	57.0	NP
Saavedra	33.6	14.6	-19.0	45.5	NP
Saladillo	39.8	16.3	-23.6	45.4	NP
Salliqueló	44.9	18.9	-26.0	41.6	NP
Salto	54.7	21.5	-33.2	59.5	NP
San Andrés De Giles	54.8	22.3	-32.5	43.0	NP
San Antonio De Areco	51.5	21.0	-30.5	47.3	NP
San Cayetano	41.7	15.7	-26.0	73.4	NP
San Fernando	47.3	29.9	-17.4	15.0	NP
San Isidro	30.5	17.3	-13.2	4.8	NC
San Miguel	48.0	29.7	-18.3	2.4	NC
San Nicolás	58.6	31.0	-27.6	10.5	NC
San Pedro	52.0	18.2	-33.8	31.7	NP
San Vicente	46.9	31.5	-15.5	13.6	NC
Suipacha	52.7	29.6	-23.1	47.9	NP
Tandil	42.1	21.1	-21.0	23.0	NP
Tapalqué	47.3	26.9	-20.4	47.1	NP
Tigre	50.8	39.1	-11.8	7.0	NC
Tordillo	55.5	31.7	-23.8	57.6	NP
Tornquist	47.5	17.3	-30.2	47.2	NP
Trenque Lauquén	47.1	20.3	-26.8	58.3	NP
Tres Arroyos	43.0	28.0	-15.1	49.0	NP
Tres De Febrero	40.7	31.0	-9.8	10.5	NC
Tres Lomas	37.5	12.6	-24.9	62.8	NP
Veinticinco De Mayo	35.8	15.1	-20.7	46.4	NP
Vicente López	23.6	16.5	-7.1	15.8	NP
Villa Gesell	52.4	35.9	-16.5	2.4	NC
Villarino	52.1	14.8	-37.3	54.5	NP
Zárate	49.0	34.8	-14.2	29.3	NP
Total	46.0	32.1	-13.9	17.6	NP

Note: NP: net producer; NC: net consumer. Source: see methological appendix.