



Complementary Material. Castro Scavone, Pablo & Willebald, Henry – *Location of agricultural output and economic geography. Uruguay in the long-run (1870-2008)*

Appendix A. Density of the provincial agriculture VA in Uruguay 1870-2008

Año	1870	1884	1890	1900	1908	1916	1924	1937	1943	1951	1956	1966	1970	1980	1990	2000	2008
Artigas	1,20	2,10	2,28	2,53	2,44	2,71	3,50	3,27	4,34	4,78	5,61	5,56	7,23	10,65	14,58	9,28	13,15
Canelones	9,53	17,46	7,69	19,28	22,70	15,62	19,45	20,37	27,37	39,55	44,40	57,67	73,97	74,90	107,88	64,13	87,21
Cerro Largo	1,10	2,37	2,70	2,45	2,35	2,68	2,86	3,89	4,13	5,87	5,95	5,22	5,99	8,73	9,41	9,74	13,32
Colonia	2,06	3,58	5,47	7,17	10,58	5,14	8,87	12,71	15,07	16,39	19,44	19,65	20,45	27,91	35,63	35,24	46,28
Durazno	1,10	2,11	2,86	3,00	3,95	3,74	4,90	5,11	5,82	5,85	6,90	7,11	7,24	8,51	9,83	10,87	13,92
Flores	1,37	2,77	3,89	4,16	5,15	6,11	6,10	6,64	7,60	8,99	8,38	9,50	9,37	11,34	12,49	16,61	22,62
Florida	1,03	1,81	2,47	3,46	4,54	5,15	6,39	6,69	7,41	8,75	10,62	12,55	13,64	15,17	16,77	18,65	23,57
Lavalleja	1,33	2,05	2,03	2,77	4,64	5,42	5,82	6,21	6,42	7,06	7,19	7,13	7,67	8,50	9,77	11,11	13,15
Maldonado	4,54	3,63	1,74	4,26	4,29	5,38	7,05	6,25	7,13	7,75	8,01	7,18	8,54	11,93	10,96	9,26	11,43
Paysandú	1,07	2,21	2,44	2,56	2,56	1,96	3,11	4,33	4,81	6,97	9,79	9,12	9,46	12,43	15,54	15,28	22,39
Río Negro	1,09	2,38	3,00	3,23	2,57	2,83	3,47	5,20	6,91	7,24	9,85	9,94	10,24	13,11	16,70	21,43	33,65
Rivera	1,27	1,86	1,81	1,89	1,91	1,77	2,73	3,03	3,71	4,75	5,25	4,98	5,90	8,81	9,87	11,31	15,19
Rocha	0,94	1,79	1,86	2,64	3,23	2,88	4,37	4,63	5,23	5,50	6,09	5,63	6,70	10,57	12,74	12,78	15,63
Salto	1,25	2,24	2,59	2,77	2,05	2,66	3,90	3,40	5,15	6,04	6,71	6,84	8,94	11,13	12,75	12,41	16,73
San José	2,92	6,23	5,03	7,70	6,26	5,53	8,94	12,69	13,96	16,78	22,01	30,52	31,05	34,82	38,76	44,75	55,34
Soriano	2,06	3,52	3,52	4,48	5,22	5,43	6,32	9,03	12,83	12,53	13,89	14,41	14,38	18,08	24,20	29,20	34,59
Tacuarembó	1,41	2,46	2,70	2,46	2,24	2,34	2,89	3,59	4,21	4,89	5,75	5,35	6,50	8,49	9,40	9,41	12,76
Treinta y Tres	0,95	1,87	2,27	2,43	2,60	2,42	3,31	4,25	5,15	4,88	5,00	5,61	6,76	9,93	13,05	16,25	22,24

Source: our own data.

Appendix B. Description and operationalization of variables

First nature geography

We consider land quality, measures of distances (both are constant in time) and climatic conditions.

First, we used a variable that reflects the natural condition of the soil and offers an idea of the quality of the land. This variable, which we call index of quality of the soil (*landq_i*), takes the provincial CONEAT index (widely used in Uruguay) as a reference. The CONEAT index is used as a measure of land quality because it attempts to express the production capacity of the soils in terms of meat and wool (CONEAT, 1979; Lanfranco & Sapriza, 2011).

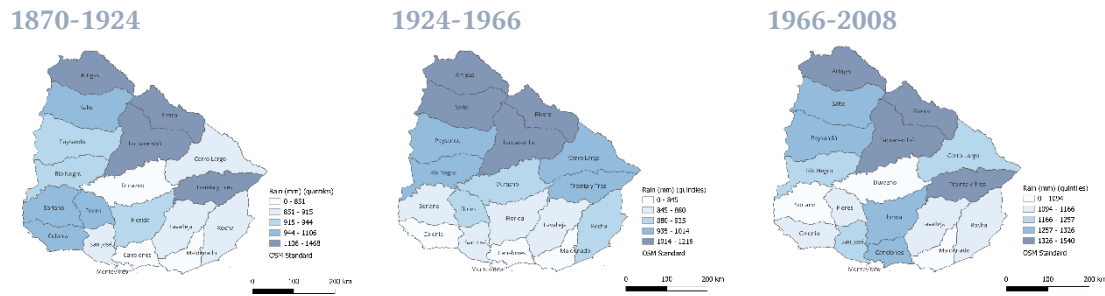
Second, given the historical importance of the capital city for agricultural production as the main market –for internal consumption and exports–, we constructed a variable that measures the Euclidean distance between each provincial capital and Montevideo (*distcap_i*).

Finally, we represent the climatic differences between provinces through a measure of annual rainfall (litres/ha²) (*rain_{i,t}*). Institutions responsible for measuring and systematizing information on rainfall in Uruguay integrate several weather stations located in the major basins of the country corresponding to significant rivers: *Negro, Uruguay, Santa Lucía, de la Plata* and *Merín* lagoon.

From that information, the institutions report the rainfall activity by province (or by cities as is the case of the data corresponding to 1902-1908). Although the importance of climate as a determinant of the distribution of the production is a combination of factors, of which rainfall is only one –temperature, sunlight, etc. could also be considered–, rainfall constitutes a main determinant of agriculture and turns out to be a good proxy for our analysis.

Uruguay's subtropical-temperate climate exhibits marked long-run stability and only moderate spatial variation (Castaño et al., 2011). The historical record does not indicate structural breaks in the climatic regime, but rather episodic droughts and surges in precipitation without persistent effects on the territorial organization of production. Moreover, there is evidence of an upward trend in precipitation and in the intensity of rainfall events over time (Taks, 2024). Accordingly, annual precipitation is an appropriate climatic control to capture regional differences without resorting to complex reconstructions. This methodological choice keeps the focus on long-term spatial determinants, for which transitory climatic variability is not decisive.

Figure B.1. Mean Annual Rainfall in Uruguay (mm) by Period, 1870–2008



Second nature geography

As second nature factors we consider market forces, infrastructure and transport.

First, access to markets and its importance in the distribution of economic activity has been highlighted in several studies of economic history (Crafts, 2005; Martinez-Galarraga, 2013). Our indicator of market access in a historical perspective is inspired by the equation of market potential, originally presented by Harris (1954). The original idea put forward by the author can be represented by the following equation:

$$P_i = \sum \frac{M_j}{d_{i,j}} \quad (\text{B.1})$$

P_i is the market potential of the region i , M_j is a measure of economic activity in the rest of the regions j and $d_{i,j}$ the distance between the i and the j regions.

This indicator can be interpreted as the volume of economic activity that has access to region i after having deducted transportation costs to cover the distances needed to reach the rest of regions j .

The information used to calculate the domestic market potential included, on the one hand, the total VA of Uruguay's provinces and the main border markets, considering the centroids of Buenos Aires (province and metropolitan area) to the south, the province of Entre Ríos towards the Littoral region, and Rio Grande do Sul to the north as well as the distances between provincial capitals. On the other hand, to obtain the market potential within each province, we calculated the intra-provincial distance following the proposal by Keeble et al. (1982), who calculated intra-provincial distance using a measure equivalent to one-third of the radius of a circle with an area similar to that of the region.¹ To obtain a comparable measure of the total VA of Uruguay's provinces and its neighboring regions, we used the aggregated data reported in Badía-Miró et al. (2020) expressed in 2011 dollars PPP (see Aráoz et al., 2020, for Argentina; Bucciferro & Ferreira de Souza, 2020, for Brazil; and Martínez-Galarraga et al., 2020, for Uruguay).

Second, plots located close to the points of sale or with access to better transport infrastructure or logistic systems will have, probably, a better performance because the costs of transporting the products to the markets are lower. This situation determines the location of

¹ Calculation is as follows: $d_{rr} = \frac{1}{3} \sqrt{\frac{\text{size of the province}}{\pi}}$, d_{rr} is the intraregional distance.

the production and we need indicators that capture these differences in the connectivity of the regions. This indicator reflects one of the main contributions of Von Thünen (1826), which was the introduction of the concept of location rent, where transportation costs play a central role in explaining the relationship between different types of production, their intensity, and the available markets. In Uruguay, since the colonial times, Montevideo has been the main port and the capital, so we considered it as a reference point. However, the lineal distance is not enough to represent the economic distance between provinces and Montevideo.

The transport and communications system in Uruguay, which connects various provinces and, through its main ports, the country with the rest of the world, consists of rivers, railways and roads. Both the railways and inland waterway networks were important means of transport, but since the 20th century the continual construction of highways and roads gained prominence as a way of connecting the different regions of Uruguay (Baracchini, 1981).

The scarcity of transport infrastructure can invalidate any considerations regarding distance. We constructed indicators of connectivity for three networks and then proposed a combination that would allow us to obtain a global measure of the transport network in the period 1870-2008 ($connect_{i,t}$). The general equation is as follows:

$$transport_{j,i,t} = \frac{Use\ of\ the\ network_{j,i,t}}{distance\ to\ capital_{j,i,t} / network\ density_{j,i,t}} \quad (B.2)$$

With j : railway, road and inland navigation, i : Artigas, ..., Treinta y Tres and t : 1870, ..., 2008

For the railway network, we used the amount of cargo transported per department, adjusted for the distance to Montevideo and the density of railway tracks. This reflects the railway's capacity to integrate regions into national and international trade. The river network is constructed based on the cargo transported through ports, considering the river distance to Montevideo's port and the number of ports in each department. Inland navigation was crucial until the early 20th century, when it lost prominence to the railway. Finally, the road network indicator is built using road density and the number of trucks per department as a measure of road transport usage for goods mobility. This mode of transport began to replace the railway starting in the 1930s (see details in Castro Scavone, 2017).

The lower the distance to the main port of the country (Montevideo), the higher the density of roads and railways, the larger the number of ports, the greater the cargo or load transported as well as a greater use by the number of trucks to transport by road, better connectivity of the province and, therefore, greater access to the market.

The calculation of the global transport connectivity indicator is based on a weighted combination of Uruguay's three main transport networks: railway, river, and road. Dynamic weights ($\lambda_{i,t}$) are assigned to reflect the changing relative importance of each transport mode over time. First, river transport is considered to lose relevance after 1916 due to the expansion of the railway network, leading to a reduction in its weight in the indicator from that year onward. Second, the transition from rail to road transport between 1924 and 2008 is incorporated, using Gross Production Value data for freight transport, which show that the railway sector declined from nearly 100% in 1920 to around 0% in 1955, while the road network expanded with the construction of highways and the increase in the truck fleet. Finally, for the 1870-1916 period, an inverse

relationship is established between river and rail transport, assuming that the importance of the former decreased at the same rate as the latter increased. To ensure comparability across time series, the indicator values are standardized between 0 and 1 before applying the weighting scheme (see details in Castro Scavone, 2017).

The construction of the connectivity indicator is similar in each modality of transport j (railway, road, navigation) and combines transport networks ($connect_{i,t}$) calculated as follows:

$$\begin{aligned} connect_{i,t} = & \lambda_{1,t}E\left(transport\ network\ railway_{i,t}\right) \\ & + \lambda_{2,t}E\left(transport\ network\ road_{i,t}\right) \\ & + \lambda_{3,t}E\left(transport\ network\ navigation_{i,t}\right) \end{aligned} \quad (B.3)$$

With E a function that standardizes values between 0 and 1, i =Artigas, ..., Treinta y Tres, $\lambda_{i,t}$: weights of each network and t = 1870, 1884, 1890, 1900, 1908, 1916, 1924 and 1937, 1943, 1951, 1956, 1966, 1970, 1980, 1990, 2000, 2008.

Control variables

We consider institutional arrangements, technological change and some relevant prices in agrarian production (land prices and commodities prices).

- Institutional arrangements

We considered two types of institutional arrangements. On the one hand, we represented the institutions most associated with modalities of ownership and concentration of land and, on the other hand, a variable that represents the agricultural technological policy.

First, we considered the type of land tenure and the average size of the agricultural plots. Considering modalities of landownership, we calculated the ratio between the leased area and the area owned by the proprietors.

$$hold_{i,t} = \frac{area\ of\ leased\ land_{i,t}}{area\ of\ owned\ land_{i,t}} \quad (B.4)$$

A second variable corresponds to the average farm size.

$$size_{i,t} = \frac{total\ agricultural\ area_{i,t}}{number\ of\ agricultural\ plots_{i,t}} \quad (B.5)$$

Both variables are particularly important for Latin American countries because the latifundia has been a structural feature of the land ownership systems and leases have been, mostly, short-time contracts (Álvarez Scanniello & Willebald, 2013).

Lastly, the public policy has a broad and varied field of action to influence agricultural location. We considered the support of agricultural production with soil preservation programmes, technical advice and assistance, and knowledge diffusion to improve land productivity. In Uruguay, the creation of agricultural experimental stations has a long history from the first decades of the 20th century (Baptista, 2016) and we considered the existence of a station in a province as an indicator of those types of programmes. Nowadays, these stations are part of a research network in agricultural matters and constitute the *Instituto Nacional de Investigación Agropecuaria (INIA)*; so, we referred to this variable as $inia_{it}$. We proxied this type of government support

through a dummy variable that takes the value 1 in the province where an experimental station is installed, 0.5 in the border provinces and 0.25 in the provinces adjacent to the latter.

- Technological progress

Historically, technological progress opened possibilities of production in different territories. Many times, unsuitable soils for growing certain crops or raising determined animal species became useful because of the application of new techniques.

The diffusion of technology does not occur instantaneously in the economic and social structure (Mansfield, 1961; Rogers, 2003/1962), rather it is a process in which the information and the reduction of uncertainty are key factors in the early stages, in which individuals interact and learn a new way of doing things on the basis of experimentation.

The process of learning is subject to a lot of trial and error until, progressively, the learning capacity is reached. In a social system, transmission plays a central role, in which each individual –or adopter– accepts or rejects the innovation; ultimately, the acceptance of a new idea is the result of human interaction. Jarvis (1981) argues that the first adopters are producers with less aversion to risk and after that the new technologies are incorporated by the other producers gradually. However, once the information circulates faster diffusion accelerates and increases the number of adopters. Finally, the transmission slows down until, gradually, the benefits of the technology declines and its maturity is reached. Using this approach, the technology diffusion can be modelled through a normal distribution which, if assessed in accumulated terms, takes a S-shape. Similarly, Neo-shumpeterian authors emphasize that innovation and diffusion are not processes that can be separated into watertight compartments, but are integrated and mutually reinforcing (Rosenberg, 1976; Metcalfe, 1981; Pérez, 2009).

Given these considerations, technology follows a pattern of dissemination in an S-shape that can be represented by a logistic function with respect to time. Background on the use of this methodology can be found at Griliches (1960), who identified the S-shape in the pattern of diffusion of maize hybrid and agricultural machinery of the United States in the period (1933-1958) and Jarvis (1981) who analyzed the pattern of transmission in the improvement of pastures in Uruguay in the period (1960-1978). We followed this type of analysis and estimated the patterns of diffusion of relevant technological changes in agricultural production over the long term, considering the mature period of each technological paradigm. First, we analyzed the crossbreeding of livestock (cattle and sheep) during the period 1870-1937, using the ratio between the stock of crossbred livestock and the total livestock stock. Second, we examined an indicator of agricultural mechanization from 1908 to 2008, based on tractor horsepower. Third, we considered pasture improvement, measured as the ratio of improved pastures to total pastures, for the period 1951-2008. Finally, we calculated the intensity of fertilizer consumption between 1970 and 2008. Fertilizer consumption for Uruguay was used, and the provincial distribution was determined based on the number of fertilized hectares (1970, 1980, and 1990) and agricultural land area (2000 and 2010) –see details in Castro Scavone (2017).

Analytically, we apply the following expression:

$$P_t = \frac{S}{1 + ke^{-bt}}, \text{ with } S, b, k > 0. \quad (\text{B.6})$$

Where,

S : represent the theoretical maximum of logistic function.

b : represents a diffusion coefficient of the technology.

k : is a constant.

Initially, we apply a mathematical linearization of equation (B.6) and then we estimate the parameters b and k with the OLS method using the available data. S is chosen in accordance with the available evidence (see Castro Scavone, 2018, for an application to the Uruguayan case).

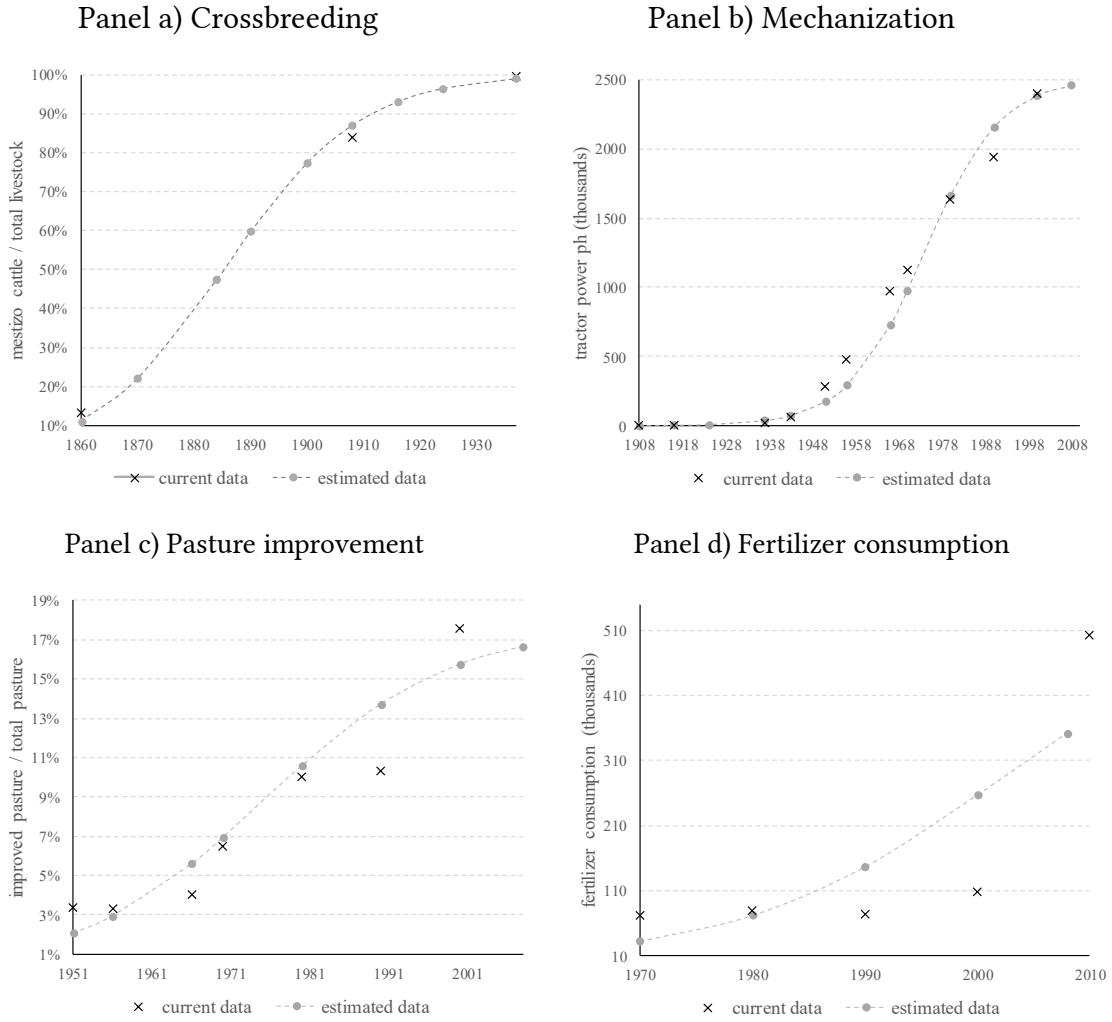
In order to illustrate this point, in Figure B.1, we present estimates of the four technological paths in the case of Uruguay; the same procedure is followed for the 18 provinces.

Finally, we calculated a global indicator of technological change, and with the objective of evaluating different paths altogether, we propose a standardization between 0 and 1 of the data obtained in the four trajectories. It is assumed that when a path declines, as is the case with genetic improvements (based on the crossbreeding of cattle) towards the end of the 1930s, the effect remains stable in the maximum value until the end of the period.

From the previous considerations, the indicator of technological change ($tech_{i,t}$) is calculated by adding the normalized values of estimated technological trajectories: crossbreeding of livestock ($tcgenetic_{i,t}$) between 1900 and 1937, mechanization ($tcmeci_{i,t}$) between 1908 and 2008, pasture improvement ($tcpast_{i,t}$) between 1951-2008 and consumption of fertilizers ($tcfert_{i,t}$) between 1970 and 2008. As we mentioned, the only trajectory which is considered exhausted is that referring to the genetic improvement of the cattle, while mechanization and the pastures in 2008 are close to decline, and consumption of fertilizers seems to even have potential to increase.

$$tech_{i,t} = E(tcgenetic_{i,t}) + E(tcmeci_{i,t}) + E(tcpast_{i,t}) + E(tcfert_{i,t}) \quad (\text{B.7})$$

Where E is a function that standardizes values in the period of duration of the path between 0 and 1, i = Artigas, ..., Treinta y Tres and t = 1870, 1884, ..., 2008.

Figure B.1 Logistic model estimation (Uruguay)

Source: our own data.

- Relevant prices in agrarian production

Firstly, we consider a commodity price index. The information used to calculate the weighted index is as follows: international prices of three products (expressed in dollars), an exchange rate index which allows the conversion from dollars to pesos, the implicit price of Uruguayan agricultural value-added and a weight index of relative GDP of each product –meat, wool and wheat– in the 18 provinces. We calculated the index with the prices presented in Ocampo & Parra (2010) weighed according to the shares of those three activities in the productive structure of the provinces (Araujo et al., 2015; Castro Scavone, 2017), and the conversion to local currency allows us to capture the effect of devaluation on the dynamics of production and location. This index is divided by an implicit prices index of agricultural production (see Table C.1) In analytical terms the weighted index of prices of commodities ($commp_{i,t}$) is expressed as follows:

$$commp_{i,t} = \sum_j (p_{j,t} \cdot er_t) / (ipi_t) \times \frac{VA_{i,j,t}}{VA_{i,t}} \quad (B.8)$$

Where $p_{j,t}$: prices index in dollars for the product j (with j =meat, wool and wheat) in the period t (1870-2008)

er_t : (*pesos/usd*) exchange rate index.

ipi_t : implicit deflator of agriculture output.

$VA_{i,j,t}$: VA of the province i (Artigas, ..., Treinta y Tres), in the period t (1870-2008) for the category j (meat, wool and wheat).

$VA_{i,t}$: total VA of the three products (meat, wool and wheat).

Finally, a variable that measures the evolution of land prices ($landp_{i,t}$) is included. It expresses a relative price as the ratio between the land price of each province i in the period t and the consumer price index in time t (this index is the same for the whole country) —see details in Castro Scavone, 2017—. This variable is considered because land has historically been the main production factor in agricultural activities in Uruguay. Land is a durable, non-reproducible, and immobile factor that influences market dynamics.

Appendix C. Statistical sources

Table C.1

Variable:		Observation year	Source and publication year
landq		1979	MGAP-CONENAT (1979)
distcap		2017	Web tourism services
rain		1884 -1890, 1902-1904 (average of the period), 1907, 1916, 1917, 1936, 1937, 1951, 1954, 1966, 1979, 1980, 1990, 2000 and 2008	Anuario Estadístico (AE) (1890, 1905, 1908, 1916, 1917, 1938, 1955, 1964-1966, 1983) and INUMET (2016)
markpot		1870, 1884, 1890, 1900, 1908, 1916, 1936, 1955, 1961, 1966, 1978, 1993 and 2008	Araóz et. al. (2020) from Argentina; Bucciferro & Ferreira de Souza (2020) for Brazil; and Martínez-Galarraga et al. (2020) for Uruguay
commp		1870, 1884, 1890, 1900, 1908, 1916, 1936, 1955, 1961, 1966, 1978, 1993 and 2008	Ocampo & Parra (2010) e HISTECO-IECON
connect	railway	1869-1939, 1910	AE (1940) and Travieso (2017)
	Inland navigation	1884, 1890, 1900, 1909, 1916 and 1937	AE (1884, 1890, 1900, 1909, 1916 and 1937)
	Road	1924, 1957, 1965, 1975, 1989 and 2000-2008	Guardia et al. (2016), Anuario Estadístico (1974) CIDE (1965), MTOP (1989), MTOP (web) and SUCIVE (web)
tech	crossbreeding	1852, 1860, 1908, 1930 and 1937	AE (1905, 1938), Estadística Agrícola (1916), Censo General Agropecuario (CGA) (1930, 1937), Anuario Estadístico (AE) (1975)
	mechanization	1870, 1884, 1890, 1900, 1908, 1916, 1936, 1955, 1961, 1966, 1978, 1993 and 2008	AE (1908), EA (1916), CGA (1937, 1943, 1951, 1966, 1970, 1980, 1990, 2000, 2010)
	pasture improvement	1955, 1961, 1966, 1978, 1993 and 2008	CGA (1951, 1966, 1970, 1980, 1990, 2000, 2010)
	fertilization	1970, 1980, 1990, 2000 y 2010	FAO (web), INE (web), CGA (2000, 2010)
size		1870, 1884, 1890, 1900, 1908, 1916, 1936, 1955, 1961, 1966, 1978, 1993 and 2008	CGA (1908, 1916, 1924, 1937, 1943, 1951, 1966, 1970, 1980, 1990, 2000 and 2010)
hold		1870, 1884, 1890, 1900, 1908, 1916, 1936, 1955, 1961, 1966, 1978, 1993, 2008 and 2010	CGA (1908, 1916, 1924, 1937, 1943, 1951, 1966, 1970, 1980, 1990, 2000 and 2010)
inia		1914, 1947, 1964, 1970 and 1972.	INIA (2010)
landp		1870, 1884, 1890, 1900, 1908, 1916, 1936, 1955, 1961, 1966, 1978, 1993 and 2008	Castro Scavone (2017) based on: Barran & Nahum (1977), Balbis (1994), Reig & Vigorito (1986), MGAP (1988), Piriz (1987), Bértola et al. (1999) and MGAP-DIEA (2010).

Source: our own data. See explanation and details of the sources in Castro Scavone (2017).

Appendix D

Table D.1 Descriptive statistics

Variable	SSSS	Mean	SD	Min	Max	Observations
ln (dens)	overall	1.88	0.91	-0.07	4.68	N = 306
	between		0.54	1.35	3.45	n = 18
	within		0.74	-0.03	3.58	T = 17
markpot	overall	0.66	0.42	0.21	2.32	N = 306
	between		0.43	0.27	2.09	n = 18
	within		0.07	0.39	0.94	T = 17
connect	overall	0.03	0.09	0.00	1.00	N = 297
	between		0.05	0.00	0.19	n = 18
	within		0.08	-0.17	0.83	T-bar = 16.5
landq	overall	97.56	23.67	68.00	138.00	N = 306
	between		24.31	68.00	138.00	n = 18
	within		0.00	97.56	97.56	T = 17
rain	overall	1070.82	337.38	337.20	2381.82	N = 306
	between		135.78	929.59	1335.90	n = 18
	within		310.41	413.80	2116.74	T = 17
size	overall	484.78	407.20	20.20	2084.50	N = 306
	between		272.26	33.04	1037.66	n = 18
	within		309.15	-24.80	1666.30	T = 17
tech	overall	1.70	1.36	0.03	6.82	N = 306
	between		0.79	0.90	3.65	n = 18
	within		1.12	-0.99	5.23	T = 17
landp	overall	62.44	45.21	0.00	322.17	N = 306
	between		16.53	30.01	89.45	n = 18
	within		42.25	3.52	310.92	T = 17
hold	overall	0.61	0.41	0.13	3.01	N = 306
	between		0.21	0.39	1.21	n = 18
	within		0.35	-0.36	2.41	T = 17
inia	overall	0.29	0.33	0.00	1.00	N = 306
	between		0.12	0.03	0.54	n = 18
	within		0.31	-0.26	1.17	T = 17
commp	overall	120.32	52.25	29.70	269.89	N = 306
	between		5.76	111.18	130.08	n = 18
	within		51.94	24.60	267.02	T = 17

Source: our own data.

Appendix E. Decomposition of R²

Table E.1									
LMG (Lindeman, Merenda, and Gold)									
<i>years</i>	<i>markpot</i>	<i>connect</i>	<i>landq</i>	<i>rain</i>	<i>size</i>	<i>tech</i>	<i>landp</i>	<i>hold</i>	<i>inia</i>
1870-1924	0.24	0.02	0.15	0.04	0.17	0.05	0.22	0.05	0.06
1884-1937	0.23	0.02	0.16	0.03	0.15	0.07	0.18	0.07	0.09
1890-1943	0.21	0.01	0.15	0.03	0.14	0.08	0.21	0.06	0.11
1900-1951	0.24	0.01	0.13	0.01	0.15	0.1	0.18	0.09	0.09
1908-1956	0.21	0.01	0.12	0.01	0.17	0.16	0.18	0.05	0.08
1916-1966	0.27	0.02	0.15	0.02	0.14	0.22	0.11	0.02	0.05
1924-1970	0.32	0.02	0.18	0.01	0.12	0.22	0.08	0.01	0.04
1937-1980	0.31	0.04	0.21	0.01	0.1	0.21	0.06	0.03	0.04
1943-1990	0.26	0.12	0.2	0.03	0.07	0.19	0.07	0.03	0.02
1951-2000	0.29	0.06	0.21	0.04	0.07	0.23	0.04	0.05	0.01
1956-2008	0.27	0.08	0.22	0.01	0.06	0.24	0.1	0.01	0.01

Source: our own data.

