# How does land privatisation affect migration? Evidence from Galicia during the Age of Mass Migration

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## 1 Introduction

Between 1870 and 1930, Spain experienced massive emigration to the Americas, led by Galicia. While traditional historiography emphasises structural factors like demographic pressure and low productivity, this paper highlights institutional shocks. I examine whether nineteenth-century land privatisation —specifically the Madoz Disentailment (1855–1896)— acted as a primary disruptor of rural stability. Aligning Galicia with international cases such as Scotland and Russia, I test how 'disruptor' the disentailment was in a region dominated by a hereditary emphyteutic lease, which underwent intense privatisation of ecclesiastical and municipal lands.

Methodologically, I digitise original auction registers to construct municipal-level indicators of privatisation value, share of commons, and buyer concentration. These data are linked to population censuses to track adult sex ratios as a proxy for male-biased emigration. The empirical analysis exploits cross-sectional variation to estimate the association between land sales and subsequent outflows. Results reveal that privatisation acted as a disruptor through its exclusionary composition rather than sheer volume. Municipalities where auctions involved communal lands and high buyer concentration saw significantly higher emigration; the erosion of communal safety nets and emerging inequality —rather than mere marketability— drove the incentive to leave.

This paper makes three contributions. First, it provides rare European municipal-level evidence on the land-migration link, traditionally dominated by Latin American and African cases. Second, it challenges structural narratives by identifying institutional shocks as a key driver of Spanish emigration. Third, it demonstrates that land privatisation can catalyse mass migration even within stable smallholding regimes, provided the reform erodes communal resources or concentrates ownership.

## 2 Background and mechanisms

Property rights influence international migration via three forces: enabling, displacing, and anchoring. Tenure changes —including privatisation, formalisation, or redistribution— alter migration

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beyond simple asset liquidation. Secure, transferable rights can facilitate movement by relaxing credit constraints and increasing liquidity, or encourage local investment through 'anchoring' effects. Conversely, elite appropriation and tenure insecurity act as disruptive shocks, triggering displacement as individuals seek alternative livelihoods.

The first mechanism treats land reform as a financial enabler. By individualising rights or enclosing commons, reforms raise land values and allow for collateralisation, unlocking capital to fund long-distance moves or reallocate labour (Boberg-Fazlić et al. 2022; Chernina, Castañeda Dower and Markevich 2014; Valsecchi 2014). Contemporary titling programmes similarly increase asset prices and credit access, facilitating a shift towards non-agricultural activities (Aikaeli and Markussen 2017, 2022; Aragón 2015; Subramanian and Kumar 2024).

The second mechanism views privatisation as a disruptive push factor. The abolition of commons and the erosion of customary rights can deprive households of essential resources, making migration a response to dispossession rather than a choice (Devine 2018; Humphries 1990; Winchester 2024). Similar dynamics in Palestine or Latin America show how reforms favouring commercial elites amplified inequality and pushed smallholders into the migratory stream (Doumani 1995; Thiesenhusen 1995). The long-run impact depends on the interplay between reform, demographic pressure, and mobility responses (Bardhan et al. 2014), though pro-tenant formalisation can sometimes protect vulnerable groups (Botea et al. 2025).

A third set of mechanisms involves institutional context and subjective attachment. If reforms benefit wealthy landowners, they may use land as an investment to finance migration, while the poor remain immobile (Garni 2013; VanWey 2005). Conversely, secure rights may create "anchors" via the endowment effect, where emotional ties raise the perceived cost of relocation (R. Liu et al. 2021; T. Liu 2023; Yan, Yang and Xia 2021; Zhu, Paudel and Luo 2021). Finally, the quality of legal enforcement determines whether reforms stabilise livelihoods or produce the legal uncertainty and conflict that drive mobility (Barnes and Griffith-Charles 2007; Doumani 1995; Iwarere 2008).

In nineteenth-century Spain, the Madoz Disentailment acted as a catalyst for these mechanisms by monetising Church and municipal property, consolidating elite ownership, and eroding customary arrangements (Moreno Ballesteros 2015; Vallejo Pousada 1992). Galicia is a critical case; unlike the southern *latifundia*, it was dominated by smallholdings under the *foro* system —a long-term hereditary lease where tenants paid an annual *canon* for the *de facto* ownership of the land, and a *laudemio* upon transmission (Simpson 1995; Villares 1982a)—, which also suffered the disentailment and with it the updating of rents. Despite strong plot attachment, high population density, and partible inheritance, extreme fragmentation and chronic financial vulnerability led to the need for external income.

Common lands were the second pillar of this regime. Accounting for 75% of the Galician territory, they provided vital grazing, fuel, and fertiliser that underpinned the viability of smallholdings (Artiaga Rego 1990; Artiaga Rego and Balboa López 1992) and livestock trade (Carmona Badía 1982). Legally held through neighbourhood-based collective ownership, these commons were both economic safety nets and institutions of local autonomy. Liberal disentailment, however, imposed a strict public-private dichotomy, reclassifying Galician commons as municipal property and triggering their sale or fragmentation under the Madoz Law (Artiaga Rego 1990, 1991; Artiaga Rego and Balboa López 1992; De Moor 2009). While the volume of actual sales remained low, the mere threat of privatisation weakened customary governance and compelled a defensive individualisation of the land to prevent state confiscation.[1]

[1]During the Madoz Disentailment, commoners employed various legal manoeuvres to circumvent the privatisation

These reforms coincided with Galicia's emergence as a primary source of Atlantic emigration (Sánchez-Alonso 2000). Migration addressed rural scarcity, while remittances funded *foro* rents and land redemptions (Villares 1982b). Municipal variation in disentailment intensity and communal individualisation provides a natural experiment for the 'disruptor' thesis. Since outcomes likely depended on buyer identity and resource loss, I test two hypotheses:

H1: Privatisation without redistribution increases migration. Municipalities where land marketability increased without broad redistribution towards smallholders experienced higher emigration.

H2: The loss of communal lands intensified migration pressures. The privatisation of common lands deprived the population of shared resources, pushing landless and smallholding families to migrate in response to economic hardship.

# 3 Data and methods

Municipal-level international emigration is measured using a demographic proxy: the sex ratio (females per 100 males) for the 13–30 age group. Significant imbalances —specifically female surpluses— reflect cumulative male emigration, capturing Galicia's structural bias towards individual male rather than family-based migration. See Table 1. Following Fernández Sánchez (2022), this robust proxy is validated for the Galician context.[2] Data is drawn from Spanish population censuses (1857, 1860, 1877, 1887, and 1897) provided by the *Instituto Nacional de Estadística* (National Institute of Statistics, INE). These offer municipal-level counts disaggregated by age and sex, conducted on 31 December to minimise seasonal noise from harvests or festivities. Consequently, these records primarily capture the medium-to-long-term departures characteristic of international migration.

**Table 1.** Socio-demographic profile of Galician emigrants, 1840–1900

| Men | Younger than 10 | Aged 10–14 | Aged 15–25 | Older than 25 | Single | Literate |
|---|---|---|---|---|---|---|
| 81% | 7% | 25% | 29% | 39% | 65% | 51% |

*Source*: Own elaboration from Vázquez González (1999).

To quantify the extent of land privatisation during the Madoz Law across Galician municipalities, I use original archival material from the *Registro de Fincas Vendidas* (Registry of Sold Properties), preserved at the *Archivo Histórico Nacional* (National Historical Archive, AHN).[3]

These official ledgers document disentailment sales across the four Galician provinces from 1859

of their resources, ensuring that ultimately only around 1% of the acreage was auctioned off (Artiaga Rego 1990). Nevertheless, despite this limited aggregate scale, it is imperative that this paper examines the localised impact of these sales on emigration patterns within the municipalities where auctions were successfully conducted, as even marginal losses of communal access could critically undermine household viability.

[2] Fernández Sánchez (2022) shows how the share of missing men —defined as the proportion of adult males officially registered as residents in the municipality but absent from their place of habitual residence at the time of the census— is strongly correlated with external migration records, and by systematically ruling out alternative explanations, such as fishing, maritime trade, or internal displacement. While the share of missing men provides a more direct and dynamic proxy for international migration, it is limited to censuses conducted from 1877 onward. Historical censuses prior to 1877 did not distinguish between present and absent residents, making it infeasible to construct this variable for this analysis.

[3] AHN, FC-Mº_HACIENDA, L. 4234; AHN, FC-Mº_HACIENDA, L. 4247; AHN, FC-Mº_HACIENDA, L. 4259; AHN, FC-Mº_HACIENDA, L. 4202; AHN, FC-Mº_HACIENDA, L. 4235; AHN, FC-Mº_HACIENDA, L. 4248; AHN, FC-Mº_HACIENDA, L. 4260; AHN, FC-Mº_HACIENDA, L. 4203; AHN, FC-Mº_HACIENDA, L. 4261; AHN, FC-Mº_HACIENDA, L. 4249.

to 1885. Entries specify asset origin (e.g. ecclesiastical, municipal), adjudication and payment dates, property designation (e.g. woodland, meadow, arable), location, buyer identity, and auction prices; both starting and hammer.[4]

The empirical strategy estimates two cross-sectional models:

$$sexratio_{i,1897} = \alpha + sexratio_{i,1857} + \ln(valuelandpc_i) + common_i + buyer_i + X_i + \varepsilon_i \quad (1)$$

$$sexratio\_growth_i = \alpha + \ln(valuelandpc_i) + common_i + buyer_i + X_i + \varepsilon_i \quad (2)$$

First, equation (1) explains $sexratio_{i,1897}$, the emigration proxy (13–30 sex ratio) for municipality $i$ in 1897, by its own value in 1857 ($sexratio_{i,1857}$), the natural logarithm of nominal per capita value of all disentailed land in the municipality (*valuelandpc*), the share of common land among all lots sold (*common*), and the degree of buyer concentration measured by the Herfindahl-Hirschman Index (*buyer*). It also considers a vector of controls $X_i$ including the main determinants of emigration already demostrated in the literature: population density (*popdens*), measured as thousand inhabitants in the municipality per square kilometre; literacy rate (*literacy*), measured as the proportion of individuals who declared they could read and write relative to the total municipal population in 1860;[5] and distance to the nearest port (*distport*). For information on descriptive statistics, go to Appendix A. Finally, $\alpha$ is the constant and $\varepsilon_i$ is the error term.

Equation (2) shifts the focus from demographic stocks to migration dynamics, using the sex ratio growth rate ($sexratio\_growth_i$) to isolate disentailment as a catalyst for accelerating male outflows. This specification provides an internal consistency check; by focusing on changes, it implicitly accounts for time-invariant municipal idiosyncrasies, ensuring results reflect genuine migratory acceleration rather than historical persistence.

Three key interactions test specific mechanisms. The interaction between land value per capita and buyer concentration captures whether high land prices became more exclusionary under monopolistic structures, intensifying peasant displacement. The interaction between land value per capita and the share of common land determines if privatising high-productivity commons exerted a stronger 'push' than losing marginal lands. Finally, the interaction between the share of common land and buyer concentration assesses whether the erosion of communal safety nets was further exacerbated by ownership concentration and subsequent proletarianisation.

Although a panel framework would be ideal, the data's temporal sparsity and clustering around census years make it infeasible. Instead, using distinct levels and growth models allows for a clear distinction between long-term structural imbalances and the subsequent acceleration of migratory flows.

# 4 Results

Results of models on the 1897 sex ratio are displayed in Table 2, while models on the sex ratio growth are shown in Table 3. Both provide consistent evidence that the nature and composition of the Madoz disentailment acted as a significant catalyst for Galician emigration during the late nineteenth century.

Regarding the first bunch of models, the strong, positive coefficient of the 1857 sex ratio confirms

[4] Occasional notes document payment defaults or administrative irregularities.
[5] I am obliged to use the 1860 census because there is no information on literacy in the 1857.

the high degree of path dependency and historical persistence in migratory patterns; in line with the existing literature. However, once initial conditions are controlled for, the variables capturing the privatisation process reveal a nuanced impact on demographic imbalances. While the per capita value of privatised land shows a negative association with the 1897 migration proxy, its interaction with buyer concentration is positive and highly significant. My take here is that the exclusionary nature of the land market —rather than the volume of sales alone— intensified migratory pressures in municipalities where land was both expensive and acquired by a narrow elite. The results from the growth model, proxying for the emigration rate, further clarify these dynamics by isolating the role of disentailment as a driver of the acceleration in male outflows.

In line with H1, the degree of buyer concentration has a positive and statistically significant effect on the growth of the sex ratio across all specifications. This indicates that municipalities where land auctions resulted in more unequal ownership structures experienced a sharper intensification of emigration. The data suggest that land consolidation by a few buyers limited the rural peasantry's ability to access or improve their holdings, thereby lowering the opportunity cost of departure. Furthermore, the inclusion of the interaction between per capita value and buyer concentration in the levels model (Table 2, Model 2) reinforces the idea that when high-value land was coupled with monopolistic acquisition, the displacing effect was significantly magnified.

Regarding the role of communal resources, the evidence strongly supports the hypothesis that the loss of common lands pushed the rural population towards the Atlantic. In Table 3, the share of commons is positive and highly significant, although its magnitude is quite small: a 1% increase in the proportion of commons disentailed would increase emigration by only a 0.10%. This is not surprising considering that, of the huge amount of communal land that was intended to be disentailed, only 1% was actually carried out. Nevertheless, my findings suggest that the erosion of the collective safety net provided by the commons undermined the viability of the smallholding system, particularly for households dependent on communal inputs for livestock and subsistence. The question now is: What would have happened if the government had been able to privatise all the communal lands it had planned? Model 5 of Table 3 also highlights how the positive effect of both the loss of commons and the buyer concentration is halved by their interaction. This points to two diverging institutional mechanisms: a 'fragmented competition' scenario, where numerous small-scale buyers enforced strict enclosures to secure quick returns, thereby exacerbating the subsistence crisis; and a 'paternalistic buffer' scenario, where high buyer concentration —often involving traditional elites— likely permitted informal customary access to preserve the rural social fabric and the stability of foral rent payments. Ultimately, while the loss of the commons acted as a primary push factor, this concentrated ownership effectively dampened the disruptive impact of the process, reducing the immediate need for peasant flight compared to areas with more aggressive, fragmented privatisation.

The control variables behave as expected. Literacy rates are consistently associated with higher sex ratios and growth. Similarly, the negative coefficient for distance to the nearest port in both tables highlights the importance of physical proximity to maritime infrastructure in enabling the rural-to-Atlantic transition, contradicting the idea that coastal regions mitigated emigration by offering new economic opportunities.

Models 5 in each table replace the common variable with a categorical variable that captures the impact of each soil type. Table 4 shows the results for the most important soil types in Galicia, ordered by their historical prevalence as communal assets. The estimates reveal that while the loss of almost all land types acted as a 'push' factor for emigration —as evidenced by the positive coefficients in the sex ratio growth model—, the magnitude of this effect was highly sensitive to

the land's productive value. Although the privatisation of traditionally common *monte* (scrubland or woodland) was a major driver of demographic shift, the impact of losing core arable assets such as *labradío* and specifically *tierra* was substantially larger.[6]

The disproportionate impact of mills (*molinos*), often quantified in historical records as 'mill hours', highlights the importance of processing infrastructure in the peasant economy. Unlike marginal scrublands, the mill represented a technological bottleneck; its privatisation effectively stripped households of their ancestral rights to process grain without incurring market costs. The loss of these specific 'usage hours' —a sophisticated form of shared property right— forced families to pay high processing fees (*maquilas*)[7], drastically increasing the cost of subsistence.

**Table 2.** Regression results on the 1897 migration proxy

| VARIABLES | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| sexratio 1857 | 0.117*** | 0.110*** | 0.117*** | 0.105*** | 0.0911*** |
| | (0.027) | (0.027) | (0.028) | (0.028) | (0.0267) |
| ln(valuelandpc) | -0.687** | -2.798*** | -0.764 | -0.674** | -3.260** |
| | (0.311) | (0.778) | (0.693) | (0.311) | (0.329) |
| common | 0.0103 | 0.0099 | -0.0443 | -0.106 | |
| | (0.0302) | (0.0305) | (0.437) | (0.0670) | |
| buyer | -0.0399*** | -0.314*** | -0.0407*** | -0.0564*** | -0.387*** |
| | (0.0132) | (0.104) | (0.0132) | (0.0154) | (0.115) |
| popdens | -4.527*** | -5.062*** | -4.517*** | -4.035*** | -4.931*** |
| | (1.284) | (1.249) | (1.302) | (1.211) | (1.229) |
| literacy | 0.127** | 0.227*** | 0.115 | 0.159*** | 0.275*** |
| | (0.0549) | (0.0868) | (0.111) | (0.0569) | (0.0839) |
| distport | -0.223*** | -0.227*** | -0.225*** | -0.199*** | -0.222*** |
| | (0.0260) | (0.0253) | (0.0264) | (0.0301) | (0.0263) |
| value × buyer | | 0.0368*** | | | 0.0460*** |
| | | (0.0136) | | | (0.0150) |
| value × common | | | 0.00731 | | |
| | | | (0.0601) | | |
| common × buyer | | | | 0.00310 | |
| | | | | (0.00212) | |
| Constant | 112.8*** | 113.4*** | 113.1*** | 113.6*** | 112.0*** |
| | (5.070) | (5.024) | (5.128) | (5.045) | (5.353) |
| Observations | 414 | 414 | 414 | 414 | 414 |
| Includes type of land | No | No | No | No | Yes |
| R-squared | 0.373 | 0.388 | 0.373 | 0.395 | 0.441 |

Dependent variable is the 1897 sex ratio
Robust standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

[6] It is important to note that the vast majority of the properties sold correspond to the *tierra* category (farmland).
[7] See Moreno Ballesteros (2015).

**Table 3.** Regression results on the migration rate proxy

| VARIABLES | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| ln(valuelandpc) | 0.357 | 2.216** | -0.209 | 0.337 | 0.419 |
| | (0.662) | (1.077) | (0.906) | (0.660) | (0.683) |
| common | 0.0764*** | 0.0757*** | -0.323 | 0.137*** | |
| | (0.0206) | (0.0206) | (0.347) | (0.0368) | |
| buyer | 0.0746*** | 0.317** | 0.0688*** | 0.0822*** | 0.0741*** |
| | (0.0176) | (0.137) | (0.0176) | (0.0186) | (0.0178) |
| popdens | 3.848* | 4.249** | 3.912* | 3.517 | 4.686** |
| | (2.217) | (2.132) | (2.180) | (2.264) | (2.176) |
| literacy | 0.280*** | 0.189* | 0.196 | 0.261** | 0.266** |
| | (0.101) | (0.110) | (0.124) | (0.102) | (0.104) |
| distport | 0.0948*** | 0.0946*** | 0.0847*** | 0.0792*** | 0.108*** |
| | (0.0214) | (0.0202) | (0.0236) | (0.0241) | (0.0215) |
| value × buyer | | -0.0327* | | | |
| | | (0.0178) | | | |
| value × common | | | 0.0535 | | 0.0102*** |
| | | | (0.0458) | | (0.00300) |
| common × buyer | | | | -0.00165** | |
| | | | | (0.000827) | |
| Constant | -27.43*** | -26.76*** | -25.05*** | -26.68*** | -32.46*** |
| | (2.552) | (2.619) | (3.375) | (2.599) | (2.441) |
| Observations | 414 | 414 | 414 | 414 | 414 |
| Includes type of land | No | No | No | No | Yes |
| R-squared | 0.115 | 0.124 | 0.118 | 0.120 | 0.158 |

Dependent variable is the sex ratio growth

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

**Table 4.** Effects of the type of land on migration

| **Type of Land** | **Model on 1897 sex ratio** | **Model on sex ratio growth** |
|---|---|---|
| *Tojal* (Gorse-land) | $-0.04^{***}$ | $4.43^{***}$ |
| *Monte* (Scrubland) | $0.02^{*}$ | $6.82^{***}$ |
| *Dehesa* (Wooded pasture) | 0.00 | −0.000 |
| *Pinar* (Pine forest) | $0.20^{***}$ | 2.95 |
| *Terreno* (Land plot) | $0.03^{***}$ | $4.80^{***}$ |
| *Robleda* (Oak grove) | 0.08 | $11.82^{***}$ |
| *Prado* (Meadow) | $0.01^{***}$ | $6.12^{***}$ |
| *Molino* (Mill) | $0.01^{**}$ | $15.88^{***}$ |
| *Labradío* (Arable land) | $0.04^{**}$ | $9.58^{***}$ |
| *Tierra* (Farmland) | $-0.05^{**}$ | $23.54^{***}$ |

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

# 5 Conclusion

This paper sought to determine whether the Madoz Disentailment served as the definitive institutional disruptor triggering the great Galician exodus.

Beyond traditional structural accounts of overpopulation and low productivity, results have shown that the privatisation process acted as a critical catalyst for mass departure through two distinct channels: The transition to an exclusionary land market, characterised by high buyer concentration, increased the pressure on the peasantry to seek alternatives abroad. Simultaneously, the erosion of common resources dismantled the economic safety nets that underpinned the viability of the smallholding system. Rather than a mere choice of economic improvement, this evidence supports the idea that, for many, migration was a direct response to an institutional shock that shattered household autonomy, particularly through the loss of high-value assets such as arable plots and village mills.

Beyond its local implications, this work contributes to the broader literature by shifting the focus from long-term demographic trends to sudden institutional disruptions as primary drivers of migration. It demonstrates that the specific nature of the land being privatised was as significant as the sale itself, placing Galicia alongside international cases of enclosure and displacement. Importantly, these findings offer vital lessons for contemporary policy-making in the Global South, where land titling and privatisation programmes are frequently implemented as tools for economic modernisation. The Galician experience serves as a cautionary tale for developing nations: the formalisation of property rights, if decoupled from the protection of communal resources or local equity, can inadvertently act as a 'push factor' that accelerates rural flight rather than anchoring the population.

Looking ahead, this story of dispossession opens a compelling agenda for exploring the feedback loops of migration. Specifically, it remains to be seen how the remittances sent by these very emigrants eventually flowed back into the regional economy, potentially allowing the displaced to use their overseas earnings to reclaim or purchase the very lands they were once forced to leave.

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# Appendix

## A Data

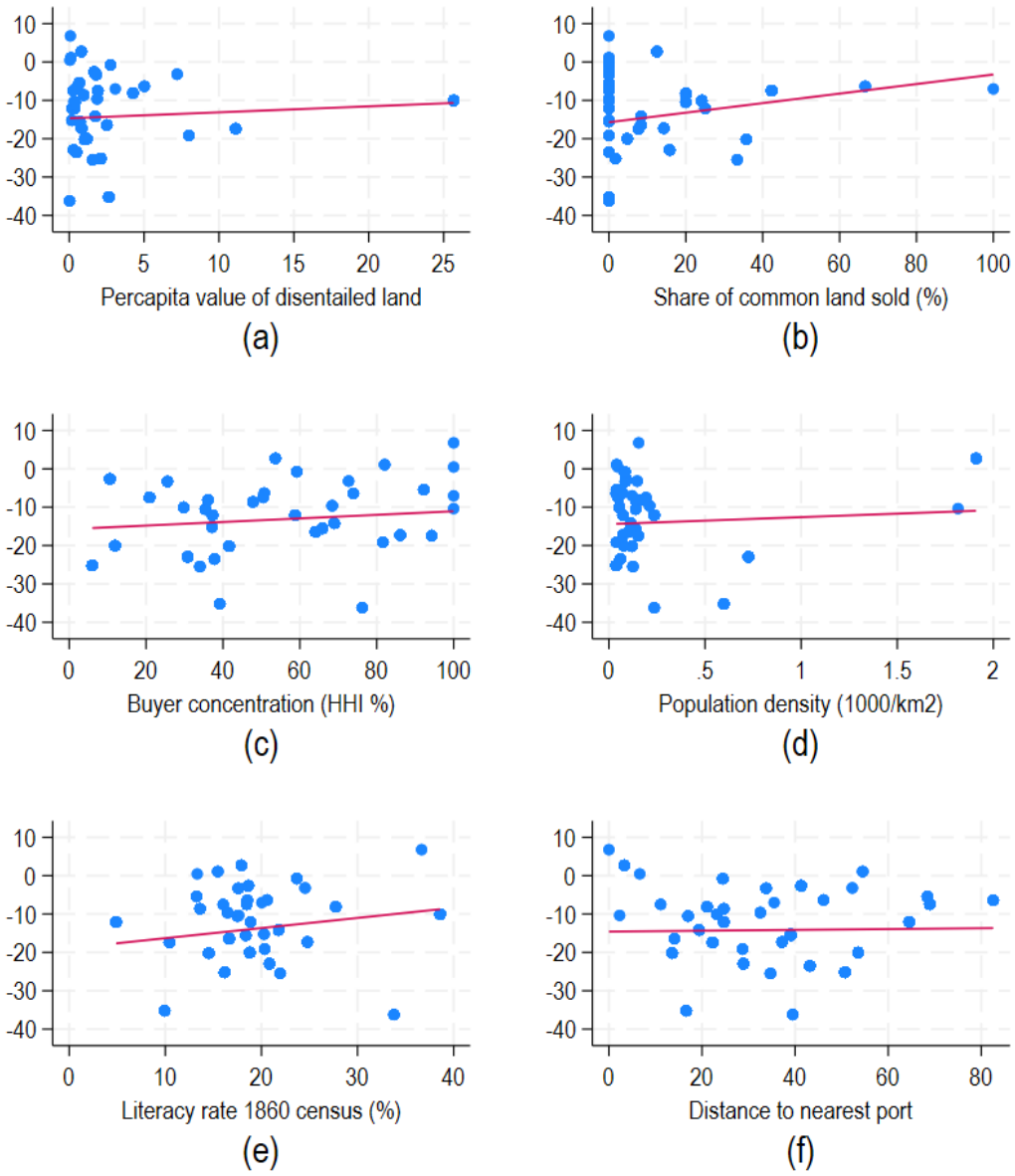
**Table A.1.** Descriptive Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| 1897 sexratio | 468 | 121.307 | 7.380 | 102.583 | 144.063 |
| 1857 sexratio | 450 | 142.806 | 16.992 | 101.476 | 210.776 |
| sexratio growth | 427 | −14.134 | 8.927 | −36.212 | 6.794 |
| value land pc | 450 | 3.377 | 6.167 | 0.037 | 25.666 |
| common | 531 | 12.618 | 16.978 | 0 | 100 |
| buyer | 531 | 35.226 | 25.164 | 5.987 | 100 |
| popdens | 450 | 0.156 | 0.291 | 0.038 | 1.911 |
| literacy | 437 | 19.513 | 6.424 | 4.883 | 38.591 |
| dist port | 530 | 36.809 | 19.181 | 0 | 82.592 |

**Table A.2.** Matrix of correlations of the main variables

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| (1) 1897 sexratio | 1.000 | | | | | | | | | |
| (2) 1857 sexratio | 0.417 | 1.000 | | | | | | | | |
| (3) sexratio growth | 0.106 | −0.851 | 1.000 | | | | | | | |
| (4) value land pc | 0.180 | −0.015 | 0.096 | 1.000 | | | | | | |
| (5) common | −0.124 | −0.261 | 0.201 | 0.178 | 0.181 | 1.000 | | | | |
| (6) buyer | 0.048 | −0.092 | 0.144 | 0.059 | −0.088 | −0.002 | 1.000 | | | |
| (7) popdens | 0.059 | 0.023 | 0.051 | −0.134 | −0.260 | −0.034 | 0.184 | 1.000 | | |
| (8) literacy | 0.149 | −0.100 | 0.194 | 0.729 | 0.433 | 0.152 | −0.055 | −0.082 | 1.000 | |
| (9) dist port | −0.489 | −0.275 | 0.028 | −0.285 | −0.142 | 0.146 | −0.436 | −0.437 | −0.151 | 1.000 |

**Figure A.1.** Bivariate relationships between key explanatory variables and emigration proxy




*Source:* Own elaboration.
*Notes:* Emigration proxy is the 1857-1897 sex ratio growth, measured on the y-axis.