”Înainte spre socialism!”: The Economic Legacy of Agricultural Collectivization across Romania

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Between 1949 and 1962, the Romanian state oversaw a significant collectivization campaign that fundamentally altered rural property rights often through violence rather than voluntary reform. Utilizing an identification strategy based on novel digitized archival data of peasant resistance and local bureaucratic fervor, the proposal attempts to isolate the causal impact of this historical shock. We investigate the following: to what extent does the historical intensity of forced collectivization explain contemporary regional underdevelopment? We examine if this legacy of repression continues to distort agricultural productivity and foster voter clientelism today.

Keywords: Collectivization, Development, Property Rights, Political Clientelism, Persistence

I. Introduction

The Sovietization of Romania marked a significant, violent departure from the pre-war agrarian structure by implementing a distinct agricultural collectivization model adopted *ad-litteram* from the USSR. Borsă (2013) notes this process was not merely an administrative reform but a far-reaching social engineering project dramatically reorganizing rural life between 1949 and 1962. The regime nationalized private farmland transforming ownership into a state-granted usufruct right and dismantling secure property concepts. Furthermore, the state waged a ”class war” against the *chiaburi* (wealthy peasants representing the countryside’s entrepreneurial basis) destroying expertise accumulated over generations. While aggregate statistics from Kligman and Verdery (2011) suggest most regions reached near-total collectivization (Table 1), these figures obscure significant subnational variation in brutality at the 1959 peak. In many regions, the state employed severe repression through the secret police *Securitate* to overcome fierce resistance using arrests and coercion to enforce quotas, as documented by Iordachi and Dobrincu (2009).

Region	1958	1960	1962
Argeş	*4*	*36*	*91*
Bacău	*3*	*12*	*95*
Banat	**42**	**76**	89
Braşov	**22**	38	94
Bucureşti	16	**95**	**100**
Cluj	*8*	*37*	*87*
Constanţa	**90**	**97**	**100**
Crişana	*8*	*29*	*89*
Galaţi	**52**	**72**	**97**
Hunedoara	*7*	*33*	*74*
Iaşi	8	38	**100**
Maghiar Autonomous Region	12	33	93
Maramureş	*9*	*35*	*87*
Oltenia	7	33	94
Ploieşti	*7*	*19*	*94*
Suceava	*3*	*14*	***96***
Total for Romania	**20**	**50**	**94**

Source: Kligman & Verdery (2011)
Notes: Figures exclude land in state units. The top four regions in each year are in boldface; figures for mountainous regions are in italics.

TABLE 1: PERCENTAGE OF ARABLE LAND COLLECTIVIZED IN EACH REGION

Building on this historical context, we will address the following question: *To what extent did the intensity of agricultural collectivization in Romania contribute to the persistent economic and political disparities observed across Romania today?* We investigate whether the trauma of collectivization created a legacy of **"dead capital"** (De Soto, 2001) and **state dependency** that prevents faster modern development.

This proposal contributes to the literature in three ways: (1) it empirically tests institutional persistence examining how communist-era property rights destruction causally affects modern agricultural productivity and political clientelism, (2) it employs a rigorous identification strategy using novel instrumental variables like regional secretaries' zeal and *Securitate* enforcement to address endogeneity, (3) it assembles a unique regional dataset by digitizing archival records on peasant arrests and resistance combined with mid-20th century collectivization rates.

II. Literature Review

The proposal engages with the literature on the long-term economic consequences of coercive reforms. Firstly, it builds on historical accounts by Borsă (2013) and Kligman and Verdery (2011) which document the violent, Soviet-style imposition of collectivization of Romania.

We connect this historical shock to the broader economic literature on property rights and productivity. Adamopoulos and Restuccia (2020) demonstrate that distortions in farm size, an important feature of Romania's fragmented post-communist restitution, significantly lower agricultural productivity while Heldring et al. (2015 and 2022) highlight how the reorganization of property rights fundamentally alters long-run development trajectories.

Secondly, our focus on the intensity of repression contributes to the political economy of development. We draw on Dutronc-Postel and Zhuang (2024) who show that high-powered incentives of bureaucrats, analogous to the "Zeal" of communist secretaries, can drive officials to prioritize aggressive land expropriation and visible quotas over genuine local welfare. This aligns with Acemoglu et al. (2000) and Nunn (2007) on institutional persistence suggesting that the specific violence of these initial shocks eroded social capital. Finally, we engage with Swinnen and Rozelle (2006) who argue that the persistence of these distorted agrarian structures ultimately hindered the success of post-communist transition and fostered clientelistic relations between voters and political parties.

III. Data

For this research project, most of the data for the identification strategy is readily available in national statistics' and archival databases. However, regional instrumental variable data was compiled by us during the proposal preparation.

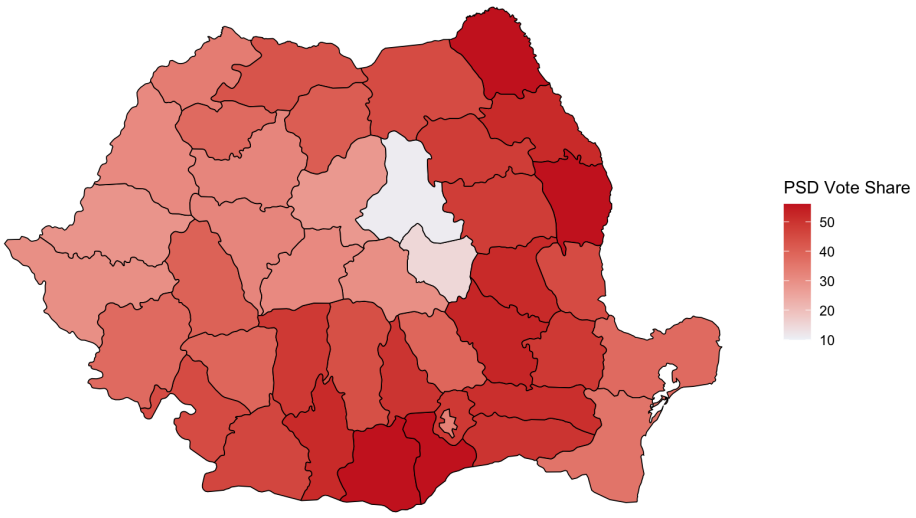
Pre-Treatment Controls: In order to capture the initial conditions of Romanian regions, we utilize the 1930 Romanian Census. This provides regional data on literacy, urbanization, and ethnic composition (specifically Hungarian and German percentages) as well as controls for labor force structure via the percentage employed in agriculture. For exogenous geographic factors affecting agricultural suitability, we employ the FAO Global Agro-Ecological Zones database for soil quality. We also use NASA SRTM elevation data to calculate a Terrain Ruggedness Index. Furthermore, for the robustness check, we include historical institutional variables like the distance from the commune to the historical Habsburg Empire border derived from Euratlas and National Archives of Romania maps.

Reference Data: To establish a baseline for the population's living standards at the onset of the Sovietization drive, we use reference data from the early communist period outlined in the 1956 Census which, although less extensive than the 1930 Census, provides key outcomes and related administrative records. This data should serve as a point for reference in our identification with regards to the pre-shock economic environment. We collect regional indicators on literacy rates, rural population density, and the occupational structure of the workforce that help measure the dependency on subsistence agriculture in contrast to the nascent industrial employment.

Importantly, we draw on Ivănescu (2015) to reconstruct the social stratification of the countryside at this pivotal moment by quantifying the density of *chiaburi*, *mijlocași* (middle peasants), and *gospodărie mică* (smallholders) prior to their systematic liquidation. This reference data allows us to produce a comparative analysis regarding the distribution of economic assets

and social capital that the collectivization sought to dismantle ensuring that our estimates of modern ”dead capital” are not confounded by initial regional wealth disparities.

Modern Outcomes & Controls: Assessing long-run divergence requires compiling outcomes for 1990-2019. We rely on Ionită and Mărcuță (2023) for granular yield and profitability data which measures wheat production stagnation. We interpret productivity gaps through Foster and Rosenzweig (2022) using Eurostat farm size data to proxy labor transaction costs and machine underutilization in Romania's fragmented sector. For institutional outcomes, we draw on Swinnen and Rozelle (2006) to categorize restitution patterns and their correlation with prior collectivization intensity. Moreover, we map political data like PSD vote share during Presidential Elections (see Figure 1) from the Permanent Electoral Authority to test Wegren's (2005) ”moral economy” hypothesis by measuring state transfer reliance and voting alignment in collectivized regions.



Based on: Permanent Electoral Authority of Romania

FIGURE 1: PSD VOTE SHARE IN 2004 PRESIDENTIAL ELECTIONS

Treatment and Instrumental Variable Data: We introduce a novel dataset quantifying the intensity of the ”class war” in rural Romania moving beyond administrative statistics. Our primary treatment variable is collectivization intensity which is defined as the year-specific percentage of agricultural land collectivized per region between 1958 and 1962 digitized by Kligman and Verdery (2011) (see Table 1). However, official rates are not a perfect measure of intensity and brutality as they may be correlated with economic variables like regional unemployment.

To address endogeneity, we digitize a unique instrumental variable which is peasant arrests. Based on Ivănescu (2015) and CNSAS archives, our dataset compiles arrests per region by

social class during peak years (1959) (Table 2). It lets us establish an intensity index estimated by weighting peasant arrests, that are plausibly random (thus, exogenous) due to protest spontaneity, by regional rural populations from the 1956 Census. The index allows us to isolate the component of collectivization driven by state violence rather than voluntary compliance.

Region	Total Peasants	Chiaburi
Argeş	*236*	*129*
Bacău	*99*	*55*
Banat	328	87
Braşov	201	42
Bucureşti	465	110
Cluj	***4025***	***1751***
Constanța	**1484**	**1210**
Crişana	***9760***	***2919***
Galaţi	198	114
Hunedoara	***16146***	***14394***
Iaşi	350	201
Maghiar Autonomous Region	234	57
Maramureş	*170*	*28*
Oltenia	940	842
Ploieşti	*98*	*65*
Suceava	*4*	*4*
Total for Romania	**34738**	**22008**

Source: Ivănescu (2015)
Notes: The top four regions in each category are in boldface; figures for mountainous regions are in italics.

TABLE 2: TOTAL PEASANT AND CHIABURI ARRESTS BY REGION IN 1959

We also construct a ”Secretary Zeal” variable based on First Secretaries’ backgrounds including USSR training, pre-1945 underground membership, and repressive apparatus roles. We defend the exclusion restriction appealing to the multitasking framework of Dutronc-Postel and Zhuang (2024). Their findings suggest officials facing high-powered political incentives prioritize observable ”hard targets”, such as collectivization quotas, while systematically neglecting ”soft” developmental tasks. This ensures ”Zeal” proxies specifically for the intensity of the extractive institutional shock rather than general administrative competence, hence, satisfying the exclusion restriction.

IV. Identification Strategy

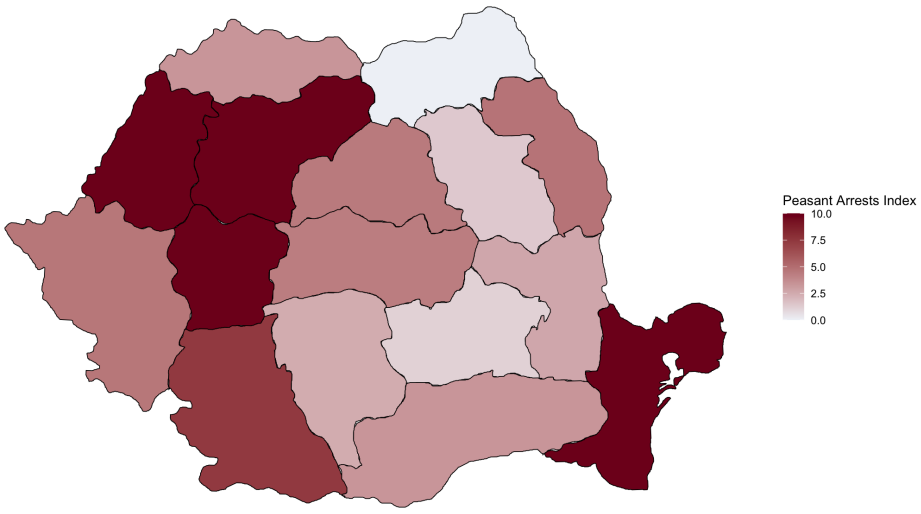
Addressing the empirical question regarding the link between historical repression and modern outcomes will require quantifying the regional variation in state repression as well in the ”Zeal” of Secretaries using our unique datasets. For the arrests, we would define the index of

intensity of resistance in region r as follows:

$$\text{ArrestIndex}_r = \frac{\text{PeasantsArrests}_r}{\text{RuralPopulation}_r} \times 10,000$$

The index weighs the number of all peasants' arrests by the respective rural population (in 1956) of a region per 10,000 people. A similar coefficient weighting different biographical factors of the Secretaries would be utilized to produce an index measuring their "Zeal" in implementing the collectivization.

Furthermore, using GIS software, we map these indices across Romanian regions (see Figure 2 for arrests' data). They indicate that regions in the West and adjacent to Black Sea (East) experienced the highest arrest frequency. Comparing this with aforementioned PSD vote shares (Figure 1) indicates a possible negative correlation. The South and Northeast, regions with lowest resistance intensity, are more likely to vote for the successor party (PSD). This may suggest that regions which offered less resistance experienced profound erosion of private property institutions. This institutional vacuum potentially allowed clientelistic politicians to substitute for the private sector after 1990, hence, fostering a persistent culture of state dependency.



Based on: Ivănescu (2015)

FIGURE 2: PEASANT ARRESTS INDEX ACROSS ROMANIA

Causal Inference: Firstly, before employing our Two-Stage Least Squares (2SLS) strategy, we define the baseline OLS specification to establish the correlation between the intensity of the shock and current development indicators:

$$Y_r = \alpha + \beta \cdot \text{ColInt}_r + \gamma \cdot \mathbf{X}_r + \varepsilon_r \tag{1}$$

Where Y_r denotes the modern outcome in region r like agricultural productivity, PSD vote share or emigration. ColInt_r is the continuous treatment variable representing collectivization intensity defined as the percentage of land collectivized in the peak process in 1960. $\mathbf{X}_r$ is a vector of pre-treatment controls from the 1930 Census including literacy and urbanization to account for initial heterogeneity. The error term is ε_r. While informative, the OLS estimate of β is likely biased due to endogeneity of central planning targets as regions may be selected based on unobserved agricultural potential. Thus, the OLS specification will mostly be useful for us in order to determine the direction of the bias coming from this endogeneity.

To correct for the bias, we estimate a 2SLS model using peasant arrests and Secretaries' zeal indexes as instrumental variables (IV_r). The first stage isolates the variation in collectivization intensity driven purely by repression:

$$\text{ColInt}_r = \pi_0 + \pi_1 \cdot \text{IV}_r + \pi_2 \cdot \mathbf{X}_r + v_r \tag{2}$$

In this specification, IV_r represents either of the two instrumental variables. The parameter π_1 captures the relevance of the instrument relying on the historical fact that repression was the primary mechanism for overcoming peasant resistance and enforcing quotas. The predicted values from the first stage, $\widehat{\text{ColInt}}_r$, are then used to estimate the causal effect in the second stage:

$$Y_r = \alpha + \beta \cdot \widehat{\text{ColInt}}_r + \gamma \cdot \mathbf{X}_r + u_r \tag{3}$$

The identification relies on the exclusion restriction assuming $cov(IV_r, u_r) = 0$. For peasant arrests, we posit the volume affects outcomes like "dead capital" exclusively through collectivization intensity, not direct channels. Similarly, we assume Secretaries' zeal affected outcomes only by accelerating land seizure brutality. By isolating this repressive component, β_{IV} identifies the local average treatment effect of forced institutional change on modern regional underdevelopment.

Identifying the specific economic mechanisms driving this underdevelopment will demand estimating the impact of collectivization intensity on intermediate mechanism variables. We employ the following specification:

$$M_{rt} = \alpha + \beta \cdot \text{ColInt}_r + \gamma \cdot \mathbf{X}_{rt} + \delta_r + \lambda_t + \varepsilon_{rt} \tag{4}$$

Where M_{rt} represents the mechanism outcome in region r in year t. We focus on two primary mechanisms. The first one is the distortion of land markets and agricultural expertise measured by cereal yields and land fragmentation indexes. The second concerns labor market monopsony that is estimated by small business density, emigration, and voting for clientelistic political parties. In order to capture unobserved heterogeneity, we include region δ_r and year λ_t fixed effects. Moreover, we estimate heterogeneous effects by interacting intensity with soil quality:

$$M_r = \alpha + \beta_1 \cdot \text{ColInt}_r + \beta_2 \cdot \text{Soil}_r + \beta_3 \cdot (\text{ColInt} \times \text{Soil})_r + \gamma \cdot \mathbf{X}_r + \varepsilon_r \tag{5}$$

This tests the assumption that the destruction of property rights was particularly damaging in high-potential regions leading to a severe misallocation of resources where the gap between potential and realized productivity is largest.

Robustness Check: Despite the reliability of the aforementioned identification strategy, there are some concerns regarding the limited degrees of freedom in our main regional analysis given the sample size of approximately 20 regions is not as extensive as one would want it to be. Thus, we propose a robustness check that would exploit more granular commune-level data regarding the historical Austro-Hungarian border. We would employ a spatial Regression Discontinuity Design (RDD) to compare villages immediately on either side of the institutional fault line:

$$Y_i = \alpha + \beta \cdot \text{Habsburg}_i + f(\text{Dist}_i) + \gamma \cdot \mathbf{X}_i + \varepsilon_i \tag{6}$$

Where $Habsburg_i$ identifies former imperial territories and $f(\text{Dist}_i)$ represents a flexible polynomial of the distance to the border. While initial archival work regarding such data seems promising, this strategy also validates our main findings by isolating pre-communist institutional legacies, such as stronger property rights, that influenced resistance levels allowing for a more granular comparison of otherwise culturally similar communities. By triangulating these micro-level results with our instrumented regional estimates, this research aims to conclusively trace Romania's modern economic divergence back to the violent institutional trauma of forced collectivization.

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