

Seeds*

Economic Development and the Persistence of Authoritarianism

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Abstract

This study investigates whether citizens of autocratic governments become more or less authoritarian when benefiting from successful development policies. Divergent theories provide divergent predictions: modernization theory suggests that economic well-being fosters demands for democratization, while retrospective gratitude may bolster autocratic legitimacy. Additionally, autocrats often can facilitate positive responsibility attribution by relying on propaganda. To explore the question, this study leverages the Battle for Wheat, fascist Italy's cornerstone agricultural policy, which rapidly and substantially increased wheat yields throughout the country in the late 1920s. Employing an instrumental variable approach based on soil productivity changes from low to intermediate inputs, findings reveal that higher wheat yields led to increased support for the neo-fascist party MSI post-WWII, persisting for three to five decades despite democratization efforts. Heterogeneity based on radio signal strength, interpreted as a quasi-exogenous proxy for propaganda intensity, shows that the lingering support is concentrated in areas most heavily exposed to fascist media. In these same areas, more evidence of collective memory is indicated by street names and monuments glorifying the regime. However, an analysis of public opinion polling suggests that development outcomes are positively correlated with long-term democratic preferences and that, while neo-fascist voters generally display more authoritarian preferences, they do to a lesser extent in the locations most benefited by the policy. Overall, voters who likely associated themselves with neo-fascist parties due to lived or inherited policy benefits seem to harbour less anti-democratic tendencies. Operating distinctions based on the narratives that lead voters to autocratic parties is crucial to understanding their success and long-term persistence.

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1 Introduction

Authoritarian nostalgics often romanticise the riches and ease that autocracy had assured in the past. Forgone grandeur is a major theme of autocratic revanchism virtually in any post-authoritarian society (Langenohl 2008). For example, the infamous incipit “When *he* was around. . . ” in Italy is sometimes followed by claims of the utmost nefariousness, but typically some rather dull remark on good governance will follow (e.g. “... the trains were on time”). Such claims are often baseless (Filippi 2019), yet they tell us something about the ways autocratic preferences cling to politics after they democratise.

This study looks at a large post-authoritarian polity, Italy, and examines a case in which such claims have some base. Starting in 1925, the fascist regime implemented one of its flagship economic policies: the Battle for Wheat (BfW).¹ The objective of the policy - improving wheat productivity - was pursued by increasing tariffs on imports while subsidising the adoption of more advanced inputs: more fertile seed varieties, better machinery, and the diffusion of agricultural expertise were extensively promoted. While the Battle for Wheat’s impact on Italians’ diet and prosperity remains contentious, its success in achieving wheat independence is acknowledged: import reliance dwindled as domestic production surged, largely due to improved yields rather than expanded cultivation. The embrace of new technologies and agricultural education heralded a significant modernization of Italy’s farming landscape while bolstering the nation’s balance of payments (Carillo 2021; Nützenadel 2001).

The article investigates the protracted authoritarian legacy of the policy in post-democratisation Italy. It identifies a plausibly causal effect leveraging an instrumental variable strategy devised by Carillo (2021) based on the crop-specific difference in productivity of territories subject to different levels of agricultural inputs. Findings suggest that development led to the establishment of narratives of autocratic good governance, in turn fostering persistent neo-fascist cognitions (Simpser et al. 2018), as shown by the electoral dividends reaped by the main neo-fascist party until the 1980s. Interestingly, it is shown that such dividends are concentrated in areas where radio reception is better. That is ascribed to the effect of fascist regime propaganda. The regime strategically integrated the new mass medium to construct and promote its achievements, and the Battle for Wheat, as argued in Section 3.1, featured prominently in those efforts. In locations with good radio reception, more signs of collective memory were detected as well, leveraging a novel dataset of locations memorialising fascism throughout the country. While a growing number of contributions have looked at revealed political preferences guided by historical determinants in post-authoritarian societies (e.g. Rozenas et al. 2017; Bosshart 2024), most have focused on violent and deeply traumatic events: can a more peaceful accident - the implementation of an agricultural policy - shape future politics in an equally resilient fashion? This study and recent findings by Dasgupta and Ramirez (2024) on irrigation suggest so. Nonetheless, such a legacy is multidimensional. At the ballot box, it shows itself through neo-fascist support. However, analysis of public opinion suggests that voters supporting neo-fascist formations due to narratives of good government performance do not harbour the same authoritarian attitudes as their counterparts in

¹In Italian: *Battaglia del Grano*.

places not benefited from the policy in question.

The article proceeds as follows. Section 2 delves into the theory: on the one hand, a democratising quality is often attributed to development; on the other, good governance might entrench the autocrat further, building support for and compliance with autocratic regimes. Section 3 outlines the historical background. The data leveraged is described in Section 4 and results are detailed in 5. Section 6 takes stock of the evidence. Concluding, Section 7 briefly reflects on how to best argue for democracy and how to handle post-authoritarian legacies in democratised polities in light of the findings.

2 Theory

Economic development under autocratic rule can affect regime survival in two contrasting ways. Conditional modernisation theory argues that economic advancement puts autocracies in a democratic predisposition: when subject to triggering events, the country is increasingly likely to democratise. The literature has cyclically considered this effect of economic development as either fact or baseless conjecture (Treisman 2020). Moreover, research highlights several potential mechanisms. Demand-side factors, the focus of this study, are often synthesised in three strains: the creation of the bourgeoisie (Lankina and Libman 2021), the potential for mobilisation of industrial labour (Rueschemeyer et al. 1992), and wider access to education (Chang and Wu 2022). The policy in focus can be characterised as a labour-enhancing technological change and thus less likely to constitute a development trap (Bustos et al. 2016). Accordingly, Carillo (2021) documents both an increase in the share of manufacturing employees and longer schooling periods for pupils in locations that experienced higher increases in wheat yields: the Battle for Wheat seems an especially promising policy for the prospects of democracy in the long run.

Nonetheless, the impact of industrial labour might be contingent on institutional factors (Bellin 2000) and recent contributions intelligently problematise the democratising impact of education: in democratic settings, it is ex-ante unclear if a message of independence or obedience prevails (Degrave et al. 2024); in authoritarian settings, education is often shown to constitute an important avenue of indoctrination to prevent dissent (Cantoni et al. 2017; Neundorff et al. 2024) and the perception of upward mobility it provides may increase regime stability (Chang and Wu 2022). Thus, it remains to be determined if and through which channels modernisation affects mass-level demand to democratize.

Secondly, and most importantly for this study, good governance enhances legitimacy. Autocracies are constantly engaged in building legitimacy (Geddes and Zaller 1989), knowing this increases citizens' compliance with the regime's objectives (Beetham 2013). This form of Weberian legitimating beliefs (Weber 1978; Levi 2020) has been widely screened in democratic settings and is increasingly adapted to autocratic ones (Gerschewski 2013; Kim-Leffingwell 2023). In their comprehensive analysis, Tannenberg et al. (2021) define four bases of autocratic legitimation: ideological, personalistic, procedural, and performance-based.²

²Nathan (2020) offers consonant explanations for regime approval in Asian autocracies.

The latter, in particular, is increasingly popular among contemporary “informational” autocrats (Guriev and Treisman 2019, 2022): power legitimisation based on good governance is seen as “a key source of regime stability in nondemocracies” (Beazer and Reuter 2019, p. 649).

Good governance is multidimensional, but successful economic policies are a cornerstone of these arguments (Cassani 2017; Dukalskis and Gerschewski 2017) and it is clear that autocratic governments increasingly develop performance-related narratives (Rozenas and Stukal 2019), as exemplified by the Chinese Communist Party’s output-based claims (Zhao 2009; Zhu 2011). However, investigations of the political outcomes of policy success in autocracies outside of China (e.g. Palma and Reis 2021) remain rare. Some empirical studies have circumvented the structural limitations autocratic settings pose to the analysis of public opinion, either by studying voting in autocratic elections (Gandhi and Lust-Okar 2009; Beazer and Reuter 2019) or exploiting persistent effects in voting post-democratisation. Among others, Lupu and Peisakhin (2017) have analysed the long-lasting anti-Russian sentiment among Crimean Tartars communities that suffered more due to Soviet violence generations earlier; Rozenas et al. (2017) assess the impact on voting of Soviet deportations that occurred after WWII in western Ukraine. In the Italian setting, Fontana et al. (2017) examine the long-term effects of Nazi occupation in Italy on political preferences and beliefs, while Cremaschi et al. (2023) study the legacy of resistance on anti-fascist attitudes.

Two recent contributions offer rich theoretical frameworks for the present study. Leão (2022) discusses the post-democratisation impact of material benefits provided by autocrats, drawing insightful distinctions between the effects of general and particularistic outputs that will be addressed in the Section 6. Thomson (2019) investigates the relationship between regime stability and agricultural policy, concluding that protectionist policies leading to food price increases generally tend to enhance stability. However, the two quantitative test cases - XIX Century Germany and XX Century Malaysia - are both representative regimes and the studies mostly focus on the determinants of elite-level policy adoption rather than on its long-term impact at the mass level.

No study, to the best of the author’s knowledge, quantifies the causal impact of authoritarian agricultural policies on revealed political preferences across decades, even though it is known that changes in agricultural technologies can have lasting effects on economic and political equilibria (Dasgupta 2018; Dasgupta and Ramirez 2024).

2.1 The Italian case

Italy offers an opportunity to inquire into the long-term effect of authoritarian development due to the existence of a non-negligible neo-fascist party, the Italian Social Movement (MSI), after democratisation.³ Section ?? shows that the neo-fascist right reaped electoral benefits from the positive effects of the Battle for Wheat up to five decades after democratisation.

³Section 3.3 outlines the history of *Movimento Sociale Italiano* and argues votes for the party are plausible proxies of the presence of fascist-adjacent norms in the polity.

Moreover, economic policy offers two further opportunities to the autocrat: targeting and propaganda. A companion paper shows that higher-than-expected yield improvements are associated with areas ex-ante more politically impervious to the regime, instrumenting agricultural strikes with anomalous rainfall in previous seasons (Vicari 2025).

Secondly, it is reasonable to expect that economic success will pay the highest political returns when citizens attribute the merit of it to the ruler (Rudolph 2003).⁴ In fact, Section 5.2 shows that persistent support for the neo-fascist right can entirely be traced back to areas subject to more intense propaganda, proxied by radio signal strength. Development offers leaders an opportunity for strategic communication which autocrats tend not to miss (Guriev and Treisman 2019; Baturo and Tolstrup 2023). The necessity and success of the policy were extensively promoted in the print press (Segre 1982), but the implementation overlapped with the introduction of radio infrastructure in the country as well (Monteleone 2013). Several scholarly accounts underline the importance of radio in the political life of European nation-states in the period: Adena et al. (2015) persuasively reconstruct how controlling the radio helped the rise of the NSDAP in Germany, Gagliarducci et al. (2020) show how BBC transmissions helped coordinate partisan activity in northern Italy, and López-Pececño (2023) links radio and the demobilization of Republicans in the Spanish Civil War. Accordingly, the study shows that the confluence of regime-sponsored development and powerful communication tools has led to more profound political transformations.

However, policy-related gratitude, mostly studied in democracies (Distelhorst and Hou 2017) is typically shortlived (Bechtel and Hainmueller 2011). Neo-fascist cognitions have likely been fortified by the presence of territorial markers of memorialization (Jelin 2007) outlined in Section 5.3. Several studies capture this sign of shared norms and institutionalisation (as defined by Fouka and Voth 2023) by analysing street names and similar public displays of historical significance: Bosshart (2024) finds that more thorough denazification caused more streets named after victims of Nazi persecution; other contributions show that historical street names and monuments are still contentious issues in post-authoritarian societies like Spain (Villamil and Balcells 2021; Ruipérez Núñez and Dinas 2023) and Ukraine (Rozenas and Vlasenko 2022). In Italy, Cremaschi et al. (2023) show that wartime partisan resistance is remembered in public spaces and retains relevance in contemporary politics.

Lastly, the legacy of development coupled with propaganda is likely to have affected political attitudes beyond voting behaviour, helping to explain the observed persistence (Hatemi and McDermott 2016; Simpser et al. 2018). Studies of post-authoritarian societies, mainly exploiting measures of satisfaction with democracy in post-Soviet and South American countries, highlight persistent but sometimes contradictory effects (Neundorff and Pop-Eleches 2020). Both anti-dictator and pro-dictator political biases have been documented (Dinas and Northmore-Ball 2020; Kim-Leffingwell 2023) and unease with democracy, while present, is contingent on economic considerations (Neundorff 2010). The study finds that MSI voters in locations most heavily

⁴Anderson (2006, p. 450) defines clarity of responsibility as the “characteristics of the domestic political context which shape the ability of citizens to apportion responsibility for economic policy decisions to particular institutions, parties, or actors within the government”.

targeted by the BfW are, on average, more democratic than MSI voters elsewhere. It is thus conjectured that voters supporting neo-fascist parties due to performance-based arguments might not share in the party’s authoritarian rhetoric or motives.

At the macro level, fascist Italy’s case study seems to broadly confirm the outline of conditional modernisation theory (Miller 2012; Treisman 2020). Reconstructions of historical per-capita GDP trends show an increase of almost one-third between 1913 and 1938 (Berend 2016; Gabbuti 2020): once an opportunity for transition was triggered by conflict and leader removal, the country democratised. Nonetheless, this study shows that, at a more granular level, economic development and robust propaganda left some lingering autocratic legacies. On the other hand, it suggests that a vote for a neo-fascist party cannot be readily equated to autocratic preferences: analysing the narratives that lead voters to support such forces helps uncover if and when individuals come to embrace anti-democratic positions.

3 History

The fascist dictatorship that ruled Italy from 1922 had profound consequences on the political development the country underwent after its demise in 1943 (Foot 2022). It was established during a period of high political volatility. The echo of the October Revolution, coupled with dire economic conditions, generated intense social unrest and strikes among farmers and workers that culminated in the Two Red Years⁵ (Di Paola 2009). The end of WWI saw a sizeable number of former combatants whose reintegration into society proved problematic, with widespread dissatisfaction with the outcome of the War symbolised by the concept of ”mutilated Victory”⁶. The fascist movement, founded in 1919, presented itself as a ”third way” between liberalism and socialism (Rutherford 2009). With violent means such as squadrist (Franzini 2010) and meaningful elite support (Salvemini and Vivarelli 2015; Gagliardi 2012; Araya 2015) the National Fascist Party (PNF)⁷ rapidly rose to electoral fortune in 1921, after disappointing results in 1919. Seizing momentum, the movement marched on Rome in 1922 and was conceded power. In the elections of 1924, the PNF gained a vast absolute majority and began de facto dictatorial rule. Fascism proved to be a deeply illiberal, exclusionary, and repressive ideology with nationalism and authoritarianism at its core (Griffin 2013; Turner 1975). One of the most prominent ideologues of the regime states in his book *Origins And Doctrine Of Fascism* (Gentile 1932, p. 40):

With the law of the Grand Council, the Fascist Revolution completes its transformation and completely resolves itself in the State. The Party ceases to be a party among many. [...] The Party is totalitarian in law and in fact [...].

⁵ *Biennio Rosso*.

⁶ *Vittoria mutilata*

⁷ *Partito Nazionale Fascista*.

3.1 The Battle for Wheat

At the outset of its totalitarian rule, Mussolini's regime was mindful of the breakdown in international trade that occurred during World War I and of Italy's dependence on food imports. One of the main objectives became achieving autarchy (Lyttelton 2004). As wheat accounted for a quarter of total imports in the early 1920s, a core part of the strategy was to modernize Italy's lagging agricultural sector and increase domestic wheat production (Segre 1982).

The Battle for Wheat began in 1925, intervening both in wheat trade and production respectively. The regime steadily increased the tariff on wheat imports until 1935, gradually boosting domestic prices. To help the market cope with internal demand, the regime invested in agricultural research by financing Nazareno Strampelli, a scientist who proved able to breed more resistant and productive varieties of wheat by applying the principles of genetics (Salvi et al. 2013). Simultaneously, it fostered the adoption of new agricultural technologies (i.e. the aforementioned new high-yield strains paired with fertilisers and modern machinery) by subsidising their purchase. The policy was extensively advertised by the Travelling Chairs of Agriculture⁸, preexisting centres devoted to the diffusion of agricultural know-how.

The comprehensive impact of the Battle for Wheat on Italians' diet, health, and prosperity is debated and probably negative (Cohen 1979). Nonetheless, it was effective in achieving independence in the production of wheat (Cohen 1979; Segre 1982): imports largely declined throughout the following years and were substituted by increased domestic production. The amount of agricultural land devoted to wheat slightly increased, but the substantial improvement in volumes was due to improved yields per hectare (Carillo 2021). The adoption of new technologies and the diffusion of agricultural education contributed to a substantial modernization of the Italian agricultural landscape (Cohen 1979).⁹

3.2 Radio and Propaganda

This rhetoric of strength, modernization, and autonomy offered prime material for regime propaganda. The fascist leadership promoted the Battle for Wheat making use of all media channels (Antonelli et al. 2023) as exemplified by the short film on it produced by the Istituto L.U.C.E. at the time. As anticipated though, Mussolini's regime was quick to grasp the potential of the radio and came to make it its main avenue for propaganda (Monteleone 1976; Brendon 2000; Antonelli et al. 2023).

A specific effort was made outside of big centres entrusting the recently founded EIAR (*Ente Italiano Audizioni Radiofoniche*) with the creation of a device aptly named Rural Radio,¹⁰ whose inception and distribution in small countryside towns was explicitly aimed at broadening the reach of the regime's propaganda (Isola 1990; Monteleone 1976; Galdi et al. 2010). Its potential for indoctrination was such that Achille Starace, then secretary of the PNF, stated: "It is superfluous that I list the reasons why the Party [...] hopes

⁸*Cattedre ambulanti di agricoltura.*

⁹Moreover, this improved the country's balance of payment and conceivably eased the pressure that the international system, which in the late 1920s was relatively pro-democracy, could exert on the regime (Miller 2012).

¹⁰*Radio Rurale.*

for a wide spread of radio broadcasting in the countryside, and the advantages that may be derived from it for political propaganda purposes”.¹¹ Historians agree that programmes’ content was mainly propagandist (Cannistraro 1975). Galdi and colleagues rank the content of radio programmes in order of prevalence: fascist culture comes second, topped by singing only (Galdi et al. 2010, p. 5). In many instances, the Battle for Wheat was a central theme (Festa Campanile 1931; Galdi et al. 2010). For example, on the 10th of October 1926, the regime staged an award ceremony in Rome for the best wheat farmers by yield in the country and broadcasted a speech where Mussolini defined them as “the vanguard of the battle”¹² and remarked that the Battle for Wheat’s “watchword [...] has reached the last cottages in the last villages of Italy” (Mussolini 1926; Cannistraro 1975, p. 278).

In sum, the synergies between the new mass medium and the Battle for Wheat were not overlooked by the regime and were notably featured in propaganda efforts.

3.3 *Movimento Sociale Italiano*

The regime hoped the joint effect of successful agricultural policy and propaganda through mass media would have built support for fascist rule. Absent reliable public opinion polling from the time, this study argues that the variation in support for an openly neo-fascist party, MSI, can be traced to that effect.

MSI was founded in 1946 “in opposition to the democratic system to maintain the idea of fascism alive” (Ignazi 1998, p. 255) by veterans of the Italian Social Republic¹³ and former leaders of the regime.¹⁴ Its most charismatic secretary, Giorgio Almirante, would remain a Member of Parliament from 1948 until the end of his life in 1988, becoming one of the most recognisable figures in the Italian First Republic. Prior to WWII, Almirante wrote for *The Defence of the Race*,¹⁵ a prominent fascist publication focused on anti-Semitism, and had been Chief of Staff for the Ministry of Popular Culture of the Italian Social Republic.

After an initial phase of anti-system extremism, MSI established a more nuanced political strategy, leading the party to some electoral growth. Presenting itself as an anti-communist force, MSI supported various initiatives of the ruling Christian Democrats. Nonetheless, some more radical components opposed this cooperative line and ultimately led the party to abandon it. In 1969, Almirante returned to the leadership of the party and in the following years MSI showed a particularly extremist outlook: it promoted lively street demonstrations and some of its members were involved in episodes of subversion in the context of the Tension Strategy¹⁶ (Weinberg and Eubank 1988). In 1972, the Monarchist Party joined MSI and the party

¹¹ *L’Antenna*, Oct. 1st, 1934. Author’s translation.

¹² *I veliti della battaglia*.

¹³ *Repubblica di Salò*, the last fascist holdout organised by Mussolini and sustained by Nazi Germany after the armistice in 1943.

¹⁴ E.g. Augusto De Marsanich, Junior Minister for Communications; Arturo Michelini, vice-secretary of the PNF in Rome; Biagio Pace, National Councillor of the Chamber of Fasci and Corporations.

¹⁵ *La Difesa della Razza*. To quote an example of the rhetoric he frequently adopted, Almirante defended violent racism stating: “There is only one attestation with which one can impose a stop to crossbreeding and Judaism: the attestation of blood.” (May 5th, 1942).

¹⁶ *Strategia della Tensione*: subversive strategy based mainly on a prearranged series of terrorist acts, aimed at creating in Italy a state of tension and widespread fear in the population, such as to justify or even hope for authoritarian turns (translated and adapted from Historical Dictionary, Treccani, 2011).

was rebranded *MSI - Destra Nazionale* (National Right). In 1973, after quite considerable electoral growth, Parliament authorised proceedings against Almirante for the crime of reconstituting the Fascist Party. The inquiry was then abandoned after the party’s consensus faltered. In the 1980s, MSI-DN opposed the party system itself, in line with its anti-democratic tradition (Ignazi 1998). Gianfranco Fini, Almirante’s successor, transformed MSI into the National Alliance¹⁷, attempting to sever fascist roots and gather support from a wider political area (Ignazi 1994).

4 Data

The study relates five main sources of data to account for potential wheat yields, actual wheat yields, radio reception quality, memorialization, and political attitudes. The key dependent variable, the electoral results of MSI, was sourced from the Italian Ministry of Interior and organised in a panel dataset at the municipal level, leveraging work from Bailo (2021).

4.1 Core variables

Crop yields The data relative to the actual change in wheat productivity used to estimate the impact of the Battle for Wheat on the local economy is sourced from the Italian Census of Agriculture of 1929, as digitalised by Carillo (2021). The document provides data on the average wheat yield from 1923 to 1928, and the yield in 1929 alone. The variable for municipality i , referred to as BfW_i in model specifications, is thus constructed by subtracting the first measure from the second. It represents a very conservative estimate of the impact, as it includes in the baseline productivity level three harvests (1926 to 1928 inclusive) conducted after the policy began. Moreover, it is plausible to imagine that the benefits of the ongoing policy accrued further in wheat yields after 1929. The data was collected at the provincial level, thus calling for the inclusion of province-level fixed effects in the estimation to account for potential systematic errors between different provinces.

The potential for change is estimated using the Potential Revenue Index developed by Carillo (2021) and it is meant to represent a plausibly exogenous variation in the predisposition of each municipality to benefit from the implementation of the policy. The PRI is based on the dataset of Global Agro-Ecological Zones (FAO and IIASA 2012) designed by the UN’s Food and Agriculture Organisation, which calculates production capacity per crop at various levels of input for granular geographic cells. Since production depends on input, it is estimated based on three different hypothetical levels: low, intermediate, and high.¹⁸ The variation induced by the Battle of Grain is modelled by a change from low to intermediate input level, maintaining the other geographic and agricultural characteristics of the municipality fixed. This is consistent with the initial development of agriculture in the country and with the nature of the policy intervention. The

¹⁷*Alleanza Nazionale*

¹⁸The third version of the dataset is employed as the fourth and latest one does not include estimates for intermediate levels of input.

historical information about national crop prices is sourced from the National Institute for Statistics (ISTAT). This index of theoretical yield change is constructed in accordance with established practices in development economics (see, for example, [Bustos et al. 2016](#)). First, the status quo is modelled by calculating the potential revenues from wheat within the municipality as a share of the total revenues from other productive crops:

$$PRI_{low,i} = \sum_c \frac{\bar{p}_0^w \hat{q}_{c,(low)}^w}{\sum_j \bar{p}_0^j \hat{q}_{c,(low)}^j} P(c|c \in i) \quad (1)$$

where i represents the municipality, c the GAEZ cell, $P(c|c \in i)$ the intersection of the cell and municipal territory, p and q respectively represent prices and quantities of wheat (w) and other non-complementary crops (j) considered at time θ , before the policy.

The revenues after implementation are represented by:

$$PRI_{int,i} = \sum_c \frac{\bar{p}_0^w \hat{q}_{c,(int)}^w}{\sum_j \bar{p}_0^j \hat{q}_{c,(low)}^j} P(c|c \in i) \quad (2)$$

The index is finally obtained by calculating the variation between low and intermediate levels of input:

$$PRI_i = PRI_{int,i} - PRI_{low,i} \quad (3)$$

ultimately describing the economic impact on municipalities attributable to the technological component of the Battle for Wheat. The variation is thus entirely constituted by the varying increase in wheat productivity that different areas would receive by the introduction of the new technologies, i.e. $\hat{q}_{c,(int)}^w - \hat{q}_{c,(low)}^w$. For example, a particularly windy area will benefit from the introduction of short-straw wheat varieties more than an area without wind. Both the actual increase, BfW , and the instrument for it, $B\hat{f}W$, are standardised to allow for a more straightforward interpretation of the results.

Radio reception The average strength of radio reception between 1925 and 1929 is reconstructed thanks to previously unpublished data by Gagliarducci and colleagues ([2020](#)). The authors collected data on the transmitters' power, frequency, and location by month employing the records contained in the digest *Radio-rario*.¹⁹ Then, they calculated the average decibels transmitted at the centroid of the municipalities each month using the Irregular Terrain Model ([Hufford 2002](#)) and cross-checked it with historical accounts. This method combines the geomorphological characteristics of the terrain with those of the transmitters and predicts the quality of radio signal propagation across space. Averaging out the monthly values forgoes variation across time. Nonetheless, municipalities that were reached by transmitters later will tend to display lower average values - the intensity of propaganda is thus proxied by the time the radio signal was available times its quality.

¹⁹Available online at www.radiocorriere.teche.rai.it.

The free-space signal is also included as a control to address endogeneity concerns (see [Olken 2009](#); [Adena et al. 2015](#); [Durante et al. 2019](#)) which are discussed in more depth in Section 6.2.

Collective memory To detect signs of collective remembrance, I introduce a database of georeferenced fascist locations compiled by the Ferruccio Parri National Institute.²⁰ The locations are partly crowdsourced and validated by the Institute’s historians, partly scouted directly by them. Although a work in progress, the database constitutes the most exhaustive and systematic account of street names, monuments, street writings, and plaques memorialising fascism in Italy to date. Municipalities displaying one or more such locations are flagged by a dummy variable (as featured in Table 4).

Public opinion To gauge the persistent impact of the Battle for Wheat on public attitudes I employ opinion polling data from the 1996 Italian National Elections Study (ITANES). Sizable micro-level georeferenced samples are available from 1990. However, the study selected is the earliest one to feature questions about regime types: specifically, it investigates respondents’ preferences for democracy and satisfaction with democracy ([Gasperoni 1997](#)). Both variables will be featured in the analysis. Nonetheless, the main focus will be on the question of preference, as measures of satisfaction with democracy are widely shown to be heavily driven by contingent electoral fortunes (e.g. [Singh 2023](#)) and economic considerations (e.g. [Nadeau et al. 2019](#)).

4.2 Controls

The control variables are stably grouped in five tranches across specifications.

Agricultural controls consist of caloric suitability, which gauges the overall productive capacity of the land based on the Caloric Suitability Index developed by [Galor and Ozak \(2015\)](#). Standalone wheat suitability is included as well. These two measures allow us to better focus on the impact of the policy and distinguish the general political effect that might be connected to the variation in the general suitability for agriculture.

Geographic controls are compiled by [Carillo \(2021\)](#) and consist of measures of distance from major urban centres, the density of railroads (as measured in the 1931-1934 period), distance from major waterways, the total area within the municipal boundaries, and historical presence of malaria (as assessed in 1870). The latter control is especially appropriate due to the significant eradication effort conducted by the fascist regime during the policy period.

Societal controls capture several characteristics of the municipality: the share of the literate population in 1911; prevalence of day labourers, sharecroppers, bourgeoisie, and elites is included, as defined in [Acemoglu et al. \(2022\)](#) based on the 1911 Italian Census; the Gini coefficient of land ownership and the average size of local farms from [Carillo \(2021\)](#) is featured as well. The latter’s relevance finds extensive discussion in the work by [Leão \(2022\)](#).

²⁰Luoghi della Memoria dell’Italia Fascista. Locations range from via Italo Balbo, Castelnuovo del Garda (Balbo was a member of the Grand Council of Fascism and held several ministerial posts) to the quote “Mind you, Italy no longer has a policy of renunciation or cowardice, whatever the cost! Mussolini” still on display in via Roma, Caggiano.

The group of *political* controls, originally reconstructed in the works by [Acemoglu et al. \(2022\)](#) and [Gagliarducci et al. \(2020\)](#), consists of PNF vote shares in the national elections of 1919, 1921, and 1924; the United Socialist Party’s vote share in 1921; dummies for the presence of a fascist party branch, presence of known large donors to the fascist party, episodes of violence by fascist organizations, and Jewish deportations occurred before the beginning of WWII in the municipality; and finally the duration of Nazi occupation during the second half of WWII. The last measure is proven by [Fontana et al. \(2017\)](#) to have significantly affected the future political equilibria, tilting towards the Italian Communist Party the territories that experienced longer occupation (see also [Cremaschi et al. \(2023\)](#) on the legacy of resistance activity).

Figure 1 displays the geographic distribution of the sample of municipalities with complete information. The implications for external validity of the selection implied are addressed in Section 6.

Figure 1: Distribution of the Most Restrictive Sample.



On 6893 municipalities for which wheat yield data was available, 3581 also have all the agricultural, geographic, social, and political control variables non-missing.

Lastly, *individual*-level controls will be included when analysing public opinion in the ITANES survey ([Gasparoni 1997](#)): they include age, gender, level of education, and occupational status of respondents.

5 Empirical Strategy

The following section details the empirical strategy of the study and presents its results in the context of the theory outlined in Section 2.

The persistent association between policy outcome levels and support for neo-fascism throughout the post-war period is investigated from different empirical perspectives. The analysis first focuses on electoral

results to tease out a plausibly causal relationship with policy benefits. Secondly, it offers an explanation for persistence based on propaganda availability. Finally, it concludes by investigating long-run impacts on memorialisation and political attitudes.

5.1 Neo-fascist Advantage

Ordinary Least Squares First, a longitudinal regression is initially employed to gauge the correlation between the two variables of interest, reflecting the following specification:

$$y_{it} = \alpha_{pt} + \delta \text{BfW}_i + \Theta \mathbf{X}_i + \epsilon_{it} \quad (4)$$

where α_{pt} represent 1929 provinces times elections fixed effects and Θ captures the variation explained by the batteries of controls $\mathbf{X}_i$. ϵ_{it} is the error term. Most importantly, δ gauges the effect of the variation in wheat production due to the Battle for Wheat on MSI's vote share in post-war elections (y_{it}) from 1948 to 1992.

Table 1 presents the results of the model in Equation 4 progressively introducing control sets.

Table 1: The Long-run Effect of the Battle for Wheat (1948 - 1992) - OLS

	MSI vote %			
<i>BfW</i>	0.039** (0.013)	0.035** (0.014)	0.041** (0.014)	0.037** (0.014)
Caloric suitability	-0.180** (0.028)	-0.308** (0.032)	-0.289** (0.033)	-0.246** (0.033)
Wheat suitability	-0.059** (0.012)	-0.226** (0.017)	-0.225** (0.017)	-0.205** (0.017)
Provinces $\times$ elections FE	✓	✓	✓	✓
Agricultural	✓	✓	✓	✓
Geographic		✓	✓	✓
Societal			✓	✓
Fascist				✓
Mean outcome	3.236	3.236	3.236	3.236
Adjusted R ²	0.386	0.398	0.404	0.412
F-stat	32.342	75.655	66.991	74.430
Municipalities-elections	38725	38725	38725	38725

In all tables, robust standard errors are shown in parentheses.

***, **, and * represent 0.01, 0.05, and 0.1 p-values, respectively.

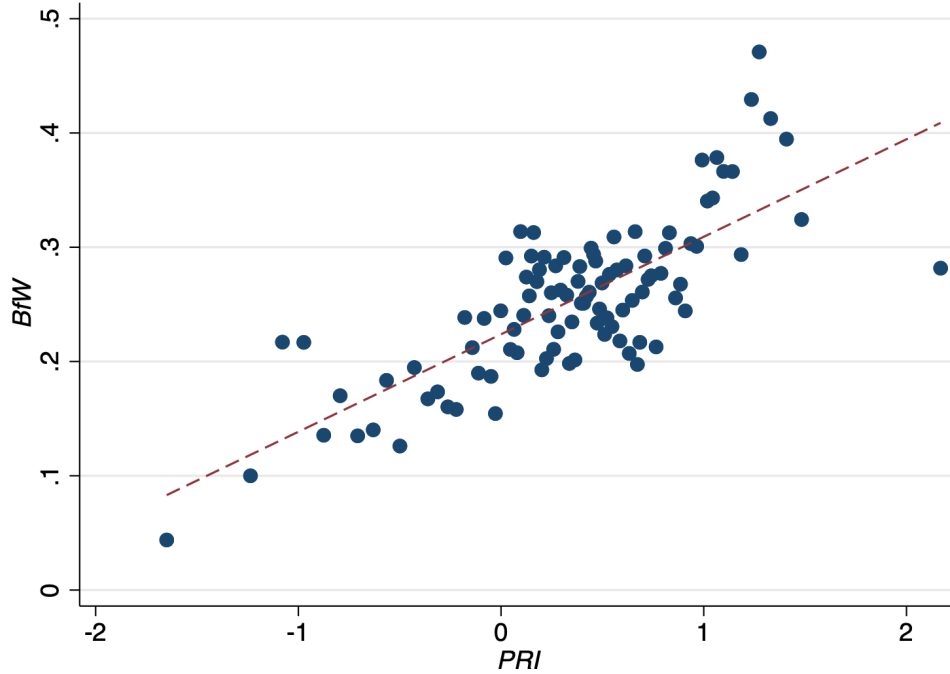
Estimations show a significant positive effect of the Battle for Wheat on support for MSI across the First Republic. The introduction of controls does not majorly influence the magnitude of the point estimate. Interestingly, very closely related controls such as general and wheat-specific suitability of the soil have a large effect of the opposite sign, swaying support *away* from MSI. It is thus harder to argue that certain

agricultural conditions bring about socio-economic features that favour far-right parties regardless of the political context that brought about such conditions. The negligible magnitude of the coefficient is discussed in depth in the next paragraph.

Two-Stage Least Squares Notwithstanding fixed effects and controls, the interpretation of these initial results warrants endogeneity concerns. It is possible that the locations most positively affected by the Battle for Wheat were politically targeted to reward or consolidate preexisting support for the regime. In this case, what δ would be capturing might be the higher resources poured into more fascist municipalities during the implementation. If this is the case, the comparatively larger consensus for MSI might be entirely driven by unobserved underlying fascism instead of being caused by policy intervention.

To address this potential endogeneity, the actual variation in wheat production is instrumented using the potential variation captured by *PRI*. The goodness of fit of the instrument is satisfactory, as represented in Figure 5.1 and later by F-stats for weak identification in Table 2.

Figure 2: Potential (*PRI*) and Actual (*BfW*) Variation in Wheat Yield



Scatter plot, province-time fixed effects included, measures not standardised.

The specification is a standard 2SLS one, progressively introducing batteries of time-invariant controls:

$$\begin{aligned} B\hat{f}W_i &= \alpha_{pt} + \lambda PRI_i + \Theta_1 \mathbf{X}_i \\ y_{it} &= \alpha_{pt} + \delta B\hat{f}W + \Theta_1 \mathbf{X}_i + \epsilon_{it} \end{aligned} \tag{5}$$

where δ again constitutes the coefficient of interest. Results are shown in Table 2.

Table 2: The Long-run Effect of the Battle for Wheat (1948 - 1992) - IV

	MSI vote %			
<i>BfW</i>	1.249** (0.154)	2.815** (0.569)	1.914** (0.483)	1.433** (0.472)
Provinces $\times$ elections FE	✓	✓	✓	✓
Agricultural	✓	✓	✓	✓
Geographic		✓	✓	✓
Societal			✓	✓
Political				✓
Mean outcome	3.258	3.258	3.258	3.258
Kleibergen-Paap F-stat	458.384	60.020	62.617	58.561
F-stat	53.133	43.335	45.453	50.111
Municipalities-elections	35842	35842	35842	35842

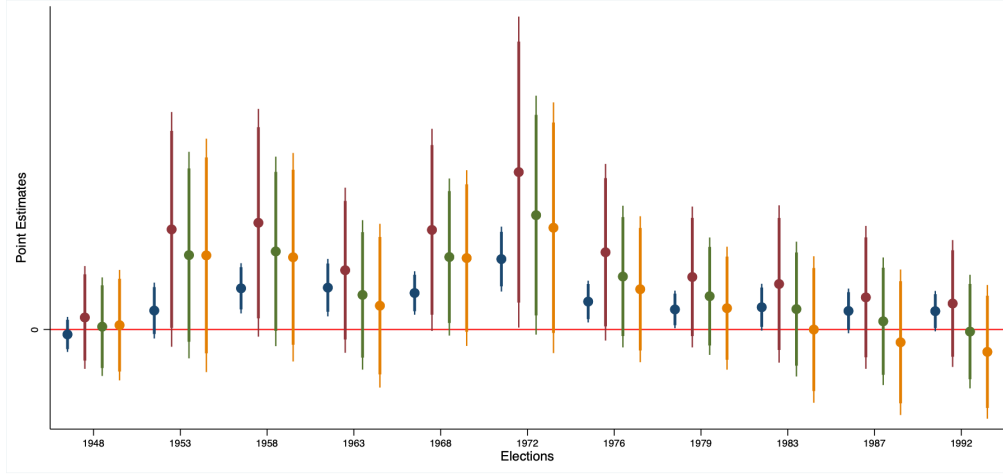
The 2SLS analysis of the relationship between the Battle for Wheat and support for MSI confirms the OLS results. The change in wheat productivity, as predicted by the switch from low to intermediate inputs in potential production gains in magnitude and significance. In Column 4, a 1 SD change in *PRI* leads to a 0.37 SD average increment in *BfW*, which in turn increases MSI's vote share on average by 0.42%: a non-trivial amount for a party that hovered around an average electoral result of 5.48%. The difference from the OLS estimate is notable: the latter suggests only a 0.03% increase in vote share for a one SD change in *BfW*.

In a related manuscript, I find the reason for this difference in policy targeting. It is reasonable to assume that gains are a function of underlying potential (captured by the first stage in Figure 5.1) and of policy implementation - the attention and the intensity with which the policy was implemented in different locations. While potential is likely to be exogenous to local politics, implementation intensity will be strategically allocated by the regime in response to it. In line with this reasoning, I show that productivity gains were directed toward areas that had previously shown signs of political opposition by exploiting exogenous variation in agricultural strikes induced by anomalous yearly rainfall (Vicari 2025). This implies that the units strategically treated in the OLS framework were probably more ex-ante opposed to fascism than the quasi-randomly treated units in the IV framework, explaining the smaller size of the OLS coefficient.

Figure 3 outlines the causal effect of the Battle for Wheat throughout the Italian First Republic, applying the same 2SLS specifications to each election. The impact of the policy shapes political equilibria up to 50 years after the beginning of its implementation. Interestingly, there is a period of initial hiatus where the influence of the Battle for Grain remains dormant before resurfacing. However, most estimates lose significance at the end of the 1970s.

However remarkable the economic improvements due to gains in productivity, such a persistent pattern needs an explanation. The following paragraph offers one based on the strength of propaganda.

Figure 3: Effect of *BfW* on MSI's Vote Share Across Elections - IV



Estimates from the models in Columns 1 to 4 in Table 2. Confidence intervals at 90% and 95% levels are reported.

5.2 Propaganda

The role of propaganda as a persistence mechanism is investigated by proxying it with the quality of radio propagation between 1925 and 1929 in the spirit of Adena et al. (2015) and Gagliarducci et al. (2020).

To this end, the same models in Equations 4 and 5 are applied separately to two samples with better and worse radio signal strength. To retain the focus on within-province variation, the median reception quality is calculated by province and a dummy for signal quality is then assigned for municipalities above or below the province-specific cutoff.

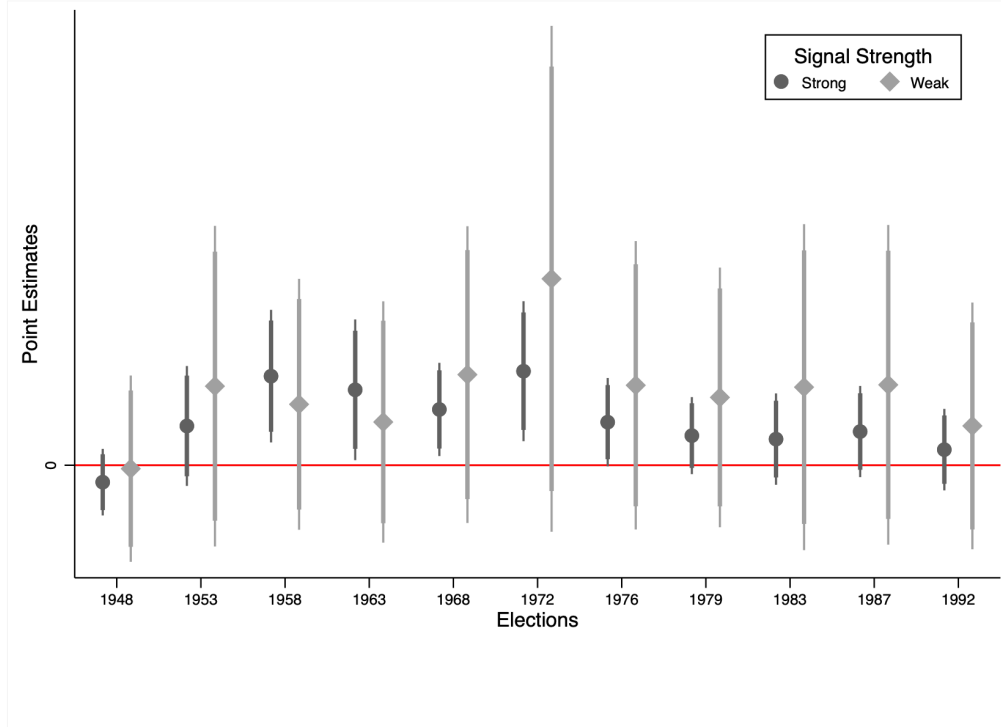
Table 3: Heterogeneous Effects by EIAR Radio Signal Strength (1925-1929)

	<i>MSI vote %</i>			
	Weak Signal		Strong Signal	
	OLS	IV	OLS	IV
BfW	-0.050** (0.025)	8.142 (9.562)	0.051*** (0.019)	2.768*** (0.754)
Provinces $\times$ elections FE	✓	✓	✓	✓
Free-space signal	✓	✓	✓	✓
All controls	✓	✓	✓	✓
Adjusted R ²	0.38		0.49	
F-stat	45.27	6.67	44.23	21.24
F-stat for weak identification		0.86		24.64
Municipalities $\times$ elections	18970	18970	19675	19675

Table 3 reports the estimates on the separate samples. As anticipated in Section 4, the free-space signal is added as a control to reduce the potential endogeneity implied by transmitters' locations (Olken 2009). The positive electoral impact of the Battle for Wheat is persistent only in locations with good radio reception.

Additionally, municipalities with weak signal provide suggestive evidence of a negative impact. As discussed in Section 6, this might mean that, in the absence of propaganda, the democratising effect of economic development prevails. The results of the IV are visualised by election in in Figure 4: once again, places where policy benefits materialized and propaganda was available entirely drive the effect.

Figure 4: Effect of *BfW* on MSI's Vote Share by Radio Reception Quality - IV



Estimates from the model in Column 1 in Table 2 applied to the two samples with confidence intervals at 90% and 95% levels.

It is reasonable to expect that a durable shift in fascist attitudes will be followed by other cultural and behavioral changes. To explore them, I now analyse novel evidence of collective memory and later move to individual political beliefs.

5.3 Memory

Evidence of collective remembering is directionally coherent with memorialization, but not as conclusive. Table 4 outlines the results of the analysis on the fascist locations datasets, applying Equations 4 and 5 to the two samples again. Coefficients seem to point in different directions, underscoring the two-fold nature of the policy's political effect. The lack of significance in the IV coefficients, both here and in the following subsection on micro-level attitudes, impedes a causal interpretation, as further dissected in Section 6.

Table 4: Heterogeneous Effects on Collective Memory

	<i>Fascist Locations</i>			
	Weak Signal		Strong Signal	
	OLS	IV	OLS	IV
BfW	-0.001 (0.010)	-1.128 (4.984)	0.018** (0.009)	0.406 (0.431)
Provinces $\times$ elections FE	✓	✓	✓	✓
Free-space signal	✓	✓	✓	✓
All controls	✓	✓	✓	✓
Adjusted R ²	0.17		0.14	
F-stat	5.55	0.61	7.59	2.17
F-stat for weak identification		0.06		1.53
Municipalities $\times$ elections	1780	1780	1842	1842

5.4 Attitudes

Moving to public opinion, a descriptive analysis of the full 1996 ITANES sample suggests that respondents who have ever voted for MSI prefer democracy over autocracy less than non-MSI voters and are also less satisfied with it, as reported in Table 5.

Table 5: MSI Voters' Opinion on Democracy in 1996 - OLS

	<i>Preference for Democracy</i>				<i>Satisfaction with Democracy</i>			
	<i>(dummy)</i>		<i>(levels)</i>		<i>(dummy)</i>		<i>(levels)</i>	
MSI voter	-0.162*** (0.020)	-0.162*** (0.020)	-0.202*** (0.031)	-0.201*** (0.031)	-0.179*** (0.026)	-0.173*** (0.026)	-0.353*** (0.042)	-0.343*** (0.042)
Individual	✓	✓	✓	✓	✓	✓	✓	✓
Municipal		✓		✓		✓		✓
Adjusted R ²	0.10	0.10	0.10	0.10	0.05	0.05	0.07	0.08
F-stat	44.02	27.71	46.33	29.22	19.60	13.87	30.89	20.89
Respondents	1945	1945	1945	1945	1945	1945	1945	1945

The question on preference for democracy is Q42: "I will now read you three statements on democracy. Listen to them carefully and tell me which of the three best reflects your opinion: (a) Democracy is preferable to any other form of government; (b) In certain situations an authoritarian regime, a dictatorship, is preferable to democracy; (c) For people like me, one system is as good as the other; (d) Does not know / Does not answer." The dummy variable codes (a) as 1, (b) and (c) as 0, and (d) as missing - The question on satisfaction with democracy is Q43: "Generally speaking, are you very, somewhat, not very or not at all satisfied with the way democracy works in Italy? (a) Very satisfied; (b) Somewhat satisfied; (c) Not very satisfied; (d) Not at all satisfied; (e) Does not know / Does not answer." The dummy variable codes (a) and (b) as 1, (c) and (d) as 0, and (e) as missing.

It would then be reasonable to expect that the Battle for Wheat and propaganda, as they produced more MSI supporters, would have made people generally less supportive of democracy. To investigate this dynamic, respondents are matched to their municipalities and the following specification is applied to the resulting sample, first without and then with the interaction:

$$y_{ri} = \alpha_p + \delta \text{BfW}_i + \phi \text{Radio}_i + \beta \text{BfW}_i \times \text{Radio}_i + \Theta_1 \mathbf{X}_{ri} + \epsilon_{ri}$$

where the subscript r identifies the respondent, ϕ captures the correlation with radio reception, and β that of good reception and BfW combined. The variables in the vector $\mathbf{X}_{ri}$ consist of all the individual- and municipal-level controls, including free-space radio signal, population and share of employees in manufacturing in 2001, and per-capita income in 2012. y_{it} , in this case, is a dummy that marks when the respondent always prefers democracy.

Table 6: Democratic Attitudes: Development and Propaganda - OLS

	<i>... democracy is always preferable.</i>	
BfW	0.003 (0.020)	0.090* (0.051)
Radio signal strength	0.002 (0.001)	0.002 (0.001)
BfW $\times$ Radio signal strength		0.001* (0.001)
Province FE	✓	✓
Theoretical signal	✓	✓
All controls	✓	✓
Adjusted R ²	0.09	0.09
F-stat	4.24	4.22
Respondents	1452	1452

When moving from preferences revealed by voting to stated preferences specifically about democracy, individuals seem to be slightly *more* democratic in places that were more subject to the combination of improved yields and radio propaganda. To understand why, Equation 5.4 is estimated in Table 7 switching *Radio* with the dummy identifying MSI voters. This aims at capturing the impact the policy specifically had on MSI supporters relative to other voters.

OLS results suggest that MSI voters in locations with a strong BfW performance hold more democratic preferences than their average counterparts. A potential explanation for this finding is that voters who associate themselves with a neo-fascist party due to performance-based narratives, either lived or inherited, are less permeable to the authoritarian aspect of the party's ideological bundle. The following Section delves deeper into this conjecture and structures and outlines a narrative in light of the findings.

Table 7: Democratic Attitudes: Development and Selective Neofascism - OLS

	<i>... democracy is always preferable.</i>					
BfW	-0.002 (0.019)	-0.015 (0.020)	0.001 (0.020)	-0.011 (0.019)	-0.023 (0.021)	-0.008 (0.020)
MSI voter	-0.154*** (0.028)	-0.157*** (0.028)	-0.153*** (0.027)	-0.160*** (0.028)	-0.163*** (0.028)	-0.159*** (0.027)
MSI voter $\times$ BfW				0.055** (0.026)	0.053** (0.027)	0.053** (0.026)
Province FE	✓	✓	✓	✓	✓	✓
Agricultural, Geographic	✓	✓	✓	✓	✓	✓
Social, Political		✓	✓		✓	✓
Municipal, Individual			✓			✓
Adjusted R ²	0.04	0.03	0.11	0.04	0.03	0.11
F-stat	4	2	5	4	2	5
Respondents	1332	1332	1332	1332	1332	1332

6 Discussion

6.1 Interpretation

Effective and targeted development policies by autocratic leaders can engender long-lasting performance-based regime legitimacy. Leao’s work describes the results of the Battle for Wheat as ”particularistic” benefits and helps to illuminate in which social strata this new support is likely to have been durably created affirming that: ”while the landless and small-landowning population did not improve their economic conditions during the dictatorship, medium and large landowners did” (Leão 2022, p. 149).

This case suggests the effect is persistent only when coupled with focused propaganda. The confluence of the two resiliently shifts norms around what is politically acceptable and desirable in target communities, leading to public memorialisation and enduring support for parties in the lineage of the regime. However, development seems to also have micro-level democratising effects. Neo-fascist voters in target communities exhibit less anti-democratic attitudes than peers in other locations. This variation, in the long term, leads individuals in these communities to have larger preferences for democracy. In sum, the process leads to more neo-fascist supporters, but these are not quite as authoritarian as the others. This distinction echoes results from the megastudy on authoritarian attitudes by Voelkel et al. (2023), which suggests that partisanship in favour of an authoritarian party and authoritarianism itself are concepts best not conflated.

This outcome offers insight into the study of autocratic regime stability. Insofar as MSI support is a credible proxy for the political dividends earned by the regime as the policy was being implemented, the thesis of Thomson (2019) is supported: under certain conditions, autocratic rulers implementing pro-farming policies tend to set their countries on a long-term development course²¹ and significantly improved regime

²¹Historical analysis has tended to consider fascist administration an economic failure (e.g. Cohen 1988; Rossi and Toniolo 1992). Recent scholarship offers a more nuanced take: GDP growth shows improvements relative to pre-dictatorial times (Felice and Vecchi 2015), while measures of inequality and economic well-being point to worse results and signpost the inefficacy of the fascist idea of welfare state (Gabbuti 2020; Dunnage 2007). On agrarian policy specifically, Nützenadel (2001) highlights the relative swiftness with which Italy recovered from the impact of the Great Depression.

stability. Nonetheless, such observations warrant an investigation of how food price increases impacted urban populations and their support for the fascist regime.

Moreover, the results outlined also relate to the growing literature focusing on autocratic ruling parties: after democratisation, the party previously running the regime might remain present in electoral competition. While the MSI and the PNF are not to be equated, they display some level of continuity. This study thus corroborates the conclusion drawn by [Miller \(2021\)](#) that mobilising previous autocratic policy benefits is crucial for the survival of such parties.

A natural question arising at this point is: if results roughly describe voters' gratitude without full authoritarian buy-in, why is the phenomenon so persistent? In other words, what is the mechanism that leads to such persistence, if voters' gratitude is notoriously described as short-lived ([Bechtel and Hainmueller 2011](#)), voters' retrospective economic horizon limited ([Healy and Lenz 2014](#)), and many of the actors to be rewarded are not around anymore?

Seminal work by [Bisin and Verdier \(2001\)](#) highlights that, when parents hold extreme views relative to society's, they will invest more effort in directly socializing their children to their own values. It follows that, as a society becomes more hostile to a view (e.g. neo-fascism in Italy after democratisation), parents holding neo-fascist cognitions - in the language of [Simpser et al. \(2018\)](#) - will increase the effort they put in transmitting such beliefs to children because society will most likely influence them otherwise. This mechanism of persistence is specifically corroborated by [Carillo \(2022\)](#)'s reflection on the inheritance of political preferences within families in fascist new towns. In the topology of persistence mechanisms proposed by [Cirone and Pepinsky \(2022\)](#), this would be an example of equilibrium dependence. This also suggests that, as neo-fascism becomes a minoritarian position, it becomes increasingly difficult to eradicate by social influence alone.

However, the legacy of the Battle for Wheat ultimately disappeared. [Simpser et al. \(2018, p. 427\)](#) rightfully underline that "formal institutions and cognitions [...] are often best understood in relation to each other rather than as alternative mechanisms." National institutions, which remained relatively impervious to fascist ideology ([Ignazi 1998](#); [Foot 2022](#)) probably have tipped the scale against the reproduction of such legacies, ultimately making this a case of outcome dependence where the phenomenon is not self-sustained ([Cirone and Pepinsky 2022](#)).

6.2 Limitations

This section discusses the challenges this study faces: some are eminently empirical, stemming from inferential concerns and data limitations, and others are conceptual. Most of them suggest avenues for further research.

First of all, it is necessary to discuss the credibility of the exclusion restriction assumption of the *PRI* instrument. The difference in the potential yields under low and intermediate input is ultimately a function of geo-morphological characteristics, which might influence other politically relevant outcomes directly. The study controls for geographic features (e.g. elevation, ruggedness, distance from waterways) and for more

general measures of agricultural suitability but - while unlikely - it cannot be excluded that other features included in the FAO-GAEZ model (e.g. solar exposure, soil composition) reverberate on socio-economic results in ways other than through the potential exposure to the Battle for Wheat. While measures of potential yields are extensively used as instruments in similar settings (e.g. [Bustos et al. 2016](#)), it is impossible to completely exclude confounding effects.

Moreover, while the core insight of the study (i.e. a portion of persistent neo-fascist support is a consequence of the Battle for Wheat) comes with a strong claim to causality, such a claim cannot be easily extended to all results, for three reasons. First, IV estimations relative to memorialisation and democratic attitudes are directionally coherent but not significant. As discussed in Section 5, this is unlikely to be due to underlying fascist predispositions predating the policy, as the BfW appears to have been targeted towards more opposed locations ([Vicari 2025](#)). Another possible explanation is that IV estimates may reflect weaker statistical power, as instrumenting a variable mechanically reduces its variance. Combined with lower variation in the dependent variable, this generates larger standard errors. Yet, it is not possible to rule out that the IV lacks significance because it weeds out confounders that bias the OLS estimates.

Secondly, radio signal strength is unlikely to be exogenous. Since the characteristics of the transmitters, and particularly the time of their placement, were certainly the subject of political discussion, this study follows established practices in the literature ([Crabtree and Kern 2018](#)) and controls for the predicted free-space signal strength, i.e. propagation calculated without taking into account the geomorphological characteristics of the terrain thus isolating the impact due to topographical idiosyncrasies ([Olken 2009](#)). Nonetheless, little can be done to account for the fact that fascist authorities probably placed transmitters earlier in locations most in need of propaganda. Modelling under which levels of ex-ante support propaganda is administered is beyond the scope of this study. Nonetheless, in Bayesian persuasion frameworks, propaganda works best in middle-of-the-road locations, where it is most likely to swing the target population. Thus, it is possible that this would not meaningfully affect the mediation exercise. Moreover, radio waves carry propaganda, but also development opportunities. This might be a parallel channel through which reception affects political attitudes. Still, in light of modernisation theory, that should apply downward pressure on the estimates presented.

Finally, data unavailability also curtails the validity of claims. Most importantly, no direct analysis of the content of regime rhetoric was conducted to directly support a thesis revolving around performance-based claims. The digitalisation and quantitative analysis of such, content, when available, constitutes a prolific avenue for future research. Several variables, especially the ones relative to political outcomes are present only for a subset of municipalities, which restricts the sample used for regression to slightly less than half of the municipalities historically present. Nonetheless, the sample seems broadly geographically representative, and province fixed effects ensure the proximity of comparisons. The analysis of public opinion is also complicated by the lack of data relative to the years before 1996. Yet, in a context of outcome dependence ([Cirone and Pepinsky 2022](#)), later attitudes can be arguably considered conservative estimates of previous attitudes.

Finally, adding data on fascist land reclamation ([Carillo et al. 2023](#)), new towns ([Carillo 2022](#)), and the post-war agrarian reform ([Caprettini et al. 2023](#)) would capture further political legacies interwoven in the agricultural landscape.

7 Conclusion

The case of agricultural policy in Fascist Italy suggests that development under autocracy, when coupled with propaganda, accrues long-term political dividends to political formations able to claim continuity with autocratic leadership. Such effect is proxied by support for the most prominent neo-fascist party in the post-democratisation period, whose ranks were ridden with pre-war fascist leaders. Despite evidence of public memorialisation, these persistent fascist narratives have not been institutionalised further.

This study does not disprove conditional modernisation theory at the national level - the Italian case supports it. Nonetheless, support for authoritarian parties is likely to linger, even when minoritarian.

Moreover, the way they have reflected on public attitudes is unexpected: supporters of the main post-democratisation neo-fascist party in locations where the most policy benefits were reaped display more democratic attitudes than neo-fascist voters elsewhere. A sign that the narratives leading voters to parties matters for their ideological buy-in.

This harbors a reflection on how to foster democratic values as well. In a time when it is increasingly necessary to make the case for democracy ([Wuttke and Foos 2021](#); [Lührmann and Lindberg 2019](#)), performance-based arguments might not be the most effective to endear people to democracy, even if consistent with socio-economic realities.

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