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# Public Perceptions of the Twin Transition: Insights from the EU's Common Agricultural Policy

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**Abstract**

Discussions of the European Union's (EU) "twin transition," that is, the simultaneous pursuit of digitalisation and green transformation, typically centre on measures adopted within climate, energy, and environmental policy, on the one hand, and digital policy, on the other. In this paper, however, we argue that the achievement of the twin transition also depends on already existing EU policy frameworks, such as the Common Agricultural Policy (CAP). Drawing on Special Eurobarometer 504, this study investigates which factors explain whether EU citizens support CAP priorities oriented toward digital solutions, on the one hand, and climate action, on the other. We focus on two explanatory factors: ideological self-placement on the left-right scale and type of community of residence (rural area/village, small/medium town, or large town). Multilevel logistic regression models reveal that right-leaning respondents are more supportive of digital priorities, whereas left-leaning respondents favour climate action. The relationship between ideology and support for digital priorities does not vary significantly by community type. For climate action, however, the ideology effect is significantly more pronounced in small/medium towns than in rural areas: left-leaning residents of small/medium towns are comparatively more supportive of climate action, relative to their right-leaning counterparts, than left-leaning rural residents are.

**Keywords:** Common Agricultural Policy; Eurobarometer; ideology; place of residence; twin transition.

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## Introduction

The European Union (EU) has long committed itself to digitalisation. In this context, the Digital Economy and Society Index (DESI) was introduced in 2014 as a tool to monitor the progress the member states have made in this process (Benedetti *et al.*, 2023). Over time, digitalisation became combined with sustainability and competitiveness challenges as reflected in the European Commission's 2020 Communication on *A New Industrial Strategy for Europe*. The EU's rhetoric on the green-digital combination, which was initially soft, became notably stronger, framing the two transitions as mutually supportive in the NextGenerationEU package, adopted to help EU member states' economies recover after the COVID-19 pandemic (Faggian *et al.*, 2025).

At first glance, the twin transition appears to rest on two broader policy tracks: climate, energy, and environmental policy for the green transition, and digital policy for the digital transition. However, the Joint Research Centre (JRC), the European Commission's science and knowledge service, highlights in its report on the key requirements for successful twin transitions in the EU the importance of the agriculture sector. It justifies this by alluding to the importance the sector plays for greenhouse gas emissions (GHGs) resulting from food production but also a source of biomass that is used for power generation. Building on that, it identifies how digital technologies could accelerate the green transition in agriculture (Muench *et al.*, 2022).

While the JRC report focuses on digital innovations and their role in greening agriculture, it also briefly mentions the Common Agricultural Policy (CAP), which governs this policy field in the EU. The CAP is designed to support farmers and improve agricultural productivity, ensure farmers can earn a reasonable living, maintain rural areas and landscapes across the EU, and sustain the rural economy by promoting jobs in farming, agri-food industries, and associated sectors (Grant, 2010). We contend that these functions broadly align with how the public perceives the CAP.

Beyond these core objectives, the CAP is also designed to help tackle climate change and support the sustainable management of natural resources (Pe'er *et al.*, 2019; Daugbjerg and Swinbank, 2016). Similarly, the CAP can support digitalization in agriculture (van der Velden *et al.*, 2025). However, we are less certain whether EU citizens widely associate the CAP with either of these roles. The CAP has historically been understood primarily as a subsidy regime that supports farm incomes and ensures food security. We assume that this framing continues to dominate both political discourse and public perception. Its environmental and digital ambitions, by contrast, are relatively recent additions to the policy's objectives, and may therefore not yet have entered widespread public awareness. We therefore aim to assess which factors make EU citizens more likely to associate the CAP with these functions, examining the agriculture-specific green and digital dimensions together.

Understanding how EU citizens perceive the CAP matters for several reasons. Public support is widely regarded as a precondition for the long-term legitimacy and stability of major policy

programmes, and the CAP — as one of the EU's oldest and most resource-intensive policies (Pe'er *et al.*, 2019)— is no exception. Moreover, based on the concept of responsive government (Hobolt and Klemmensen, 2005), if citizens fail to associate the CAP with its environmental and digital objectives, this may weaken political pressure on policymakers to prioritise these dimensions, ultimately undermining the EU's broader goals regarding the green and digital transition.

In this paper, we rely on survey data provided by Special Eurobarometer 504 in order to assess the public's perception of how the CAP drives the twin transition. In so doing, we focus on two key explanatory factors: ideological self-placement and place of residence. These factors have been shown to structure political attitudes broadly, and we argue they are also relevant for understanding public perception of the role the CAP plays for the twin transition in agriculture.

By estimating multilevel logistic regression models on Eurobarometer data, we show that ideology is a consistent predictor of both digital- and climate-related CAP priorities, whereas the urban-rural divide does not translate into a robust influence on public perceptions of the CAP's green and digital roles. While place of residence has no effect on its own, its interaction with ideology is also limited. Whether a respondent lives in a rural area, a small/medium town, or a large town, the ideology effect on support for digital priorities is essentially the same in magnitude. For climate action, by contrast, the ideology effect is significantly stronger in small/medium towns than in rural areas: left-leaning residents of small/medium towns are comparatively more supportive of climate action, relative to their right-leaning counterparts, than left-leaning rural residents are. In large towns/cities, however, the interaction is not statistically significant, indicating no detectable difference in the ideology–climate relationship between large cities and rural areas.

The remainder of the paper proceeds as follows. First, it develops the theoretical framework and hypotheses. Then, it describes the data, operationalisation, and estimation strategy. The subsequent sections present the descriptive and analytical findings, which support our reasoning that right-leaning respondents are more supportive of digital priorities, whereas left-leaning respondents favour climate action. The final sections discuss the results and offer some concluding remarks.

Overall, our results reveal that citizens perceive the multi-sectoral character of the twin transition and even attribute to agricultural policy a role in achieving it, contributing to the broader literature on governing transitions and transformation processes in the EU's multi-level system (Papadopoulos *et al.*, 2024; Piattoni, 2009; Bátora *et al.*, 2026), as well as the more specific literature on cross-sectoral policy integration (Trein and Maggetti, 2020; Tosun and Lang, 2017) and 'post-exceptionalism' in agricultural policy (Daugbjerg and Feindt, 2017). These findings also carry implications for the co-creation of transformation processes, and 'Green European citizenship' (Machin and Tan, 2024).

## Analytical Framework and Hypotheses

There is a growing literature that draws attention to the urban-rural divide in attitudes, mostly with regard to political attitudes, such as support for far-right or right-wing populist parties or 'new' left parties. Most of this literature studies individual countries (Bornschier *et al.*, 2021), but there is also comparative research demonstrating the increased importance of place of residence (Kenny and Luca, 2021; Tosun *et al.*, 2024a; Tosun *et al.*, 2024b; Rodríguez-Pose, 2018). We contribute to this literature by assessing whether the urban-rural divide also holds true concerning attitudes toward EU public policy on green and digital ambitions. In so doing, we follow the basic tenet of the literature on post-exceptionalism in agricultural policy.

Post-exceptionalism begins from the following premise: agricultural producers are no longer the sole protagonists of agricultural policy-making, as was the case under 'exceptionalism' (Skogstad, 1998), but one actor among many (Daugbjerg and Feindt, 2017). Processors, suppliers, wholesalers, retailers, NGOs, consumers, and consumer associations — long relegated to the margins of agricultural politics — are now explicitly recognised as legitimate participants. Post-exceptionalism, in this sense, is defined by an expansion in the number and diversity of actors involved, and by a shift toward more pluralist forms of interest intermediation (Daugbjerg and Feindt, 2017), a dynamic also referred to as 'de-compartmentalisation' (Greer, 2017).

This dynamic bears directly on how the green and digital transition takes shape within agricultural policy. As de-compartmentalisation draws climate, environmental, and increasingly digital considerations into the heart of agricultural politics, it creates the very conditions under which the CAP can be reimagined as a vehicle for the twin transition rather than merely an income-support mechanism.

The most straightforward theoretical angle for explaining why an urban-rural divide can be expected in attitudes toward the priorities of agricultural policy is social cleavage theory. Taking the industrial revolution of the 18th and 19th centuries as the key historical event, Lipset and Rokkan (1967), the founders of this perspective, identified the political divide between the interests of people living in rural areas and engaged in agricultural production, and those living in cities and working in manufacturing. As a consequence, agrarian parties emerged, of which some continue to exist today (Arter, 2025; Batory and Sitter, 2004).

In the second half of the 20th century, the urban-rural cleavage was largely replaced by the cleavage over labour and capital and the question of the role of the state in society (Kenny and Luca, 2021). However, globalisation has reinvigorated the urban-rural cleavage, which eminent scholars such as Iversen and Soskice (2019) associate with a constellation in which highly educated people with green and progressive views concentrate in cities, while people with more conservative views reside in rural areas. A further indication of the enduring relevance of this cleavage is the way in which the geographical characteristics of electoral districts shape legislator behaviour (Papp, 2021).

Upon closer inspection, the literature on the urban-rural divide in political attitudes identifies three individual-level factors that explain why place of residence could matter. The first, which also features in Iversen and Soskice's (2019) account, is education. The second is social class, which approximates whether one feels like a 'winner' or 'loser' in a globalised economy (Kriesi *et al.*, 2006) or in a knowledge-based economy (Rodríguez-Pose, 2018). The third factor is ideology, which can be conceptualised in different ways. A frequent conceptualisation refers to the green-alternative-left versus traditional-authoritarian-nationalist dimension (Dassonneville *et al.*, 2024), which resonates with the 'new' cleavage perspective put forth by Inglehart (1981) and differentiates between materialism and post-materialism. These variables can be operationalised directly and measured for each individual participating in a survey, and we therefore treat them as individual-level constructs.

However, our main theoretical argument is that place of residence also matters at the collective level (Tosun *et al.*, 2024a). Rural communities have historically been sites where agricultural innovation has directly translated into productivity gains, income stability, and employment (Grodzicki and Jankiewicz, 2022). Because rural residents are more likely to witness, either directly or through their social networks, how technological and research-driven advances shape the viability of local farms and the broader agricultural economy, they are also more likely to perceive digitalisation and research investment as tools that safeguard the sector's future. This does not require rural residents to work in agriculture themselves: following the logic of bounded rationality (Shafir and LeBoeuf, 2002), individuals rely on locally available cues, including social interactions, community narratives, and local media coverage of agricultural modernisation, to form judgements about what the sector needs to remain competitive.

Given that digital and research-based innovation is often framed, in these local contexts, as a means of sustaining farm incomes, improving productivity, and securing the long-term viability of rural economies, we expect rural residents to be more supportive of CAP priorities that channel resources toward research and digital solutions. Urban residents, by contrast, are less likely to be embedded in these information environments and may therefore be less inclined to see digital and research investment as a priority specific to agricultural policy. This leads to our hypothesis that, compared to persons living in urban areas, persons living in rural areas are more likely to agree that an important priority of the CAP should be to develop research and digital solutions to support the agriculture sector.

**Hypothesis H1:** Compared to persons living in small/medium towns or large towns, persons living in rural areas/villages are more likely to agree that an important priority of the CAP should be to develop research and digital solutions to support the agriculture sectors.

Turning to the CAP's green dimension, research has shown that farmers are not uniformly dismissive of the need to address negative environmental externalities, and that variation exists in the climate- and environment-related attitudes of farmers (e.g. Mitter *et al.*, 2019). However, both farmers and rural communities tend to believe that farmers are already good environmental stewards (Howley *et al.*, 2014). This shared positive self-image — itself a

product of collective rural identity — leads rural populations to perceive less need for the CAP to impose additional environmental or climate obligations on the farming sector. Urban residents, by contrast, are less embedded in agricultural communities and may be more likely to view climate action as a necessary and insufficiently addressed CAP priority (Tosun *et al.*, 2024a; Tosun *et al.*, 2024b).

**Hypothesis H2:** Compared to persons living in small/medium towns or large towns, persons living in rural areas/villages are less likely to agree that an important priority of the CAP should be to help tackle climate change.

The literature on environmental policy preferences shows that left-leaning ideological orientation is a consistent predictor of support for climate and environmental policies, while right-leaning individuals tend to prioritise economic growth and are more sceptical of regulatory environmental agendas (Jagers *et al.*, 2018). This ideological divide maps closely onto the green-alternative-left versus traditional-authoritarian-nationalist (GAL-TAN) dimension identified in the broader cleavage literature (Dassonneville *et al.*, 2024). Left-leaning individuals, more likely to hold post-materialist values, tend to prioritise quality-of-life concerns, including environmental protection and climate action, over narrowly economic ones. Right-leaning individuals, by contrast, tend to adhere to more materialist orientations, placing greater weight on economic security, productive efficiency, and sectoral competitiveness.

Given that climate action is strongly associated with the progressive-left in European politics, we expect ideology to be a particularly powerful predictor of support for climate action as a CAP priority (Tosun *et al.*, 2024a; Tosun *et al.*, 2024b). At the same time, ideological orientation is also relevant for understanding attitudes toward the CAP's digital and research dimension. Right-leaning individuals may view digital solutions as consistent with their preference for efficiency-enhancing, innovation-led policy rather than regulatory intervention. Left-leaning individuals, while not necessarily opposed to technological progress, may be more ambivalent about the digital dimension if they perceive it as primarily serving the interests of large agri-business rather than addressing social or environmental concerns.

**Hypothesis H3:** Left-leaning individuals are more likely to support climate action as a CAP priority than right-leaning individuals.

**Hypothesis H4:** Right-leaning individuals are more likely to support the digital and research dimension as a CAP priority than left-leaning individuals.

This ideological logic intersects with the urban-rural divide theorised above. Urban settings tend to concentrate like-minded, post-materialist networks, media environments, and civic discourse that reinforce and amplify pre-existing left-leaning attitudes toward climate action (Iversen and Soskice, 2019). Conversely, rural settings tend to embed individuals in agricultural-community networks and local information environments in which efficiency- and productivity-oriented framings of technological progress are more salient, thereby reinforcing right-leaning support for digital and research priorities. We therefore expect place of residence

to moderate the effect of ideology on CAP attitudes, and we test this via interaction effects. We focus specifically on these reinforcing pairings, that is, left-leaning ideology combined with urban residence, and right-leaning ideology combined with rural residence, as they are theoretically the most likely to produce a detectable moderation effect, since both the ideological predisposition and the contextual environment point in the same direction and are thus expected to compound one another.

**Hypothesis H5:** The positive effect of left-leaning ideology on support for climate action as a CAP priority is stronger among residents of large towns than among residents of rural areas/villages.

**Hypothesis H6:** The positive effect of right-leaning ideology on support for the digital and research dimension as a CAP priority is stronger among residents of rural areas/villages than among residents of small/medium towns and large towns.

## Operationalisation and Estimation Strategy

The Special Eurobarometer 504 collected data on citizens' perceptions of the CAP across all EU member states, which allows for systematic comparison of public attitudes toward agricultural policy priorities. The survey was conducted in 2021 and covers a representative sample of the EU adult population. Furthermore, the dataset contains information on the sociodemographic and attitudinal characteristics of participating individuals, which assists us in explaining response variations between citizens across different national contexts.

*Outcome Variables*

We investigate two outcome variables, both drawn from the item battery Qa4, which asks respondents how important they consider specific priorities of the CAP. We focus on the following two:

- Agreement on the statement: an important priority of the CAP should be "help tackle climate change"
- Agreement on the statement: an important priority of the CAP should be "developing research and digital solutions to support the agriculture and food sectors"

These two items were selected because they directly reflect the green and digital transitions. The climate change item captures the green dimension of the CAP, tapping into citizens' willingness to see agricultural policy contribute to broader environmental and climate objectives – a goal that lies at the heart of the Farm to Fork Strategy of the European Green Deal (Schebesta and Candel, 2020). The digital and research item captures the digital dimension, reflecting expectations that the CAP should actively support technological modernisation of the agriculture and food sectors.

Both outcome variables are ordinal, ranging from “very important” to “fairly important”, “not very important”, and “not important at all.” We report the country-specific responses drawing on the ordinal scale, but we recode the outcome variables into a binary format for the analysis.

*Estimation Strategy*

We chose to code the outcome variables in a binary fashion since ordered logistic regressions failed to meet the parallel slopes assumption which is key for ensuring the accuracy of the estimation findings. The binary nature of both outcome variables led us to conduct multilevel mixed-effects logistic regression models. This approach is appropriate for two reasons. First, logistic regression is the standard estimator for binary dependent variables, yielding coefficient estimates that can be interpreted in terms of the log-odds of agreeing that a given item constitutes an important CAP priority. Second, the multilevel structure of the data requires an estimation strategy that accounts for the non-independence of observations within the same national context. We therefore specify models with fixed-effect estimates at the individual level and random effects at the member state level.

The random intercepts at the member state level allow baseline levels of support for each CAP priority to vary across countries, capturing the influence of idiosyncratic national factors such as political culture, institutional arrangements, the economic weight of the agricultural sector, and historically rooted relationships between farming communities and the state. All models are estimated using maximum likelihood, and standard errors are clustered at the member state level.

*Focal Explanatory Variables*

Turning to the focal explanatory variables, we first rely on *Community*, which indicates whether a respondent is based in a rural area/village, small/medium town, or large town. This variable is derived from respondents' self-reported characterisation of their place of residence and is used as the primary measure of the urban-rural divide in our analysis.

*Ideology* captures the ideological self-placement of individuals on a 10-point scale ranging from 1 (left) to 10 (right). The data for these and all additional variables included in the analysis come from the same Eurobarometer dataset, ensuring consistency of measurement across all observations.

*Control Variables*

The control variables included are based on the battery used by Tosun *et al.* (2024a) and Tosun *et al.* (2024b).

*Age* is included to capture a range of potentially intervening factors associated with life stage and generational socialisation, including interest in agricultural issues, occupational status, and the balance between materialist and post-materialist value orientations. Older respondents may have stronger ties to rural and agricultural ways of life, while younger cohorts socialised in the post-materialist era may be more attuned to environmental concerns. *Gender*

is included to control for well-documented gender differences in environmental attitudes, with women consistently found to be more aware of and concerned about sustainability issues than men.

*Income* is a classic variable associated with attitudes toward sustainability and environmental policy, with higher-income individuals generally more able to express post-materialist preferences unconstrained by immediate economic pressures. Here we are able to use an innovative measurement of income offered by the Eurobarometer data, based on the question of whether respondents experienced difficulties paying their bills during the last year (*Difficulties paying bills*). This indicator serves as a proxy for financial vulnerability and captures the degree to which immediate economic pressures may crowd out support for regulatory or transformative policy agendas. Likewise, the dataset offers information on respondents' self-assignment to a *Social Class*, which provides a complementary dimension of socioeconomic position that goes beyond income alone, capturing subjective perceptions of status and economic security that may independently shape policy preferences.

The variable *Children* is binary and indicates whether children under the age of ten live in a respondent's household. The presence of young children in the household may heighten sensitivity to the environmental and health implications of agricultural production, potentially increasing support for green CAP priorities.

Table 1 presents the descriptive statistics for the focal explanatory variables and control variables. The outcome variables are assessed in detail in the next section.

[Table 1 here]

## Descriptive Findings

The first chart displays the share of respondents across all EU member states who consider developing research and digital solutions an important CAP priority, broken down into four response categories: "very important" (blue), "fairly important" (orange), "not very important" (green), and "not at all important" (red).

Across virtually all member states, the combined share of "very important" and "fairly important" responses is dominant, typically accounting for 70–80% or more of all responses. This suggests that there is broad cross-national support for this CAP dimension. Greece (GR) stands out with one of the highest combined shares of positive responses, with approximately 52% rating it "very important" alone. Bulgaria (BG) and Malta (MT) also show particularly high levels of support.

By contrast, Finland (FI) and Sweden (SE) show comparatively more moderate levels of "very important" responses (around 22–26%), though their "fairly important" shares remain substantial. The shares of "not very important" and "not at all important" responses are consistently small across all countries, rarely amounting to 20% combined, suggesting that scepticism toward the digital dimension of the CAP is a minority position in all member states.

[Figure 1 here]

The second chart displays the equivalent breakdown for climate action as a CAP priority. The pattern here is notably stronger than for the digital dimension: the blue "very important" bars are visibly larger across most countries, indicating that climate action commands even higher salience as a perceived CAP priority among EU citizens.

Cyprus (CY) stands out with an exceptionally high "very important" share of approximately 70%, the highest of any country in either chart. Denmark (DK), Germany (DE), Sweden (SE), and Malta (MT) also show very high "very important" shares, all ranging from approximately 55 to 64%. This is consistent with those countries' reputations for strong environmental awareness. At the lower end, Hungary (HU) and Ireland (IE) show comparatively more modest "very important" shares (around 32–42%), and Ireland in particular has a notably higher "fairly important" share. The "not very important" and "not at all important" shares are again consistently small across all countries, though slightly more visible in some Eastern European member states such as Estonia (EE) and Latvia (LV).

[Figure 2 here]

Comparing the two charts, climate action consistently elicits higher shares of "very important" responses than the digital and research dimension across most member states, suggesting that EU citizens view climate action as the more urgent of the two CAP priorities. However, support for both dimensions is broadly high across the EU, with very few countries showing majority opposition to either. The variation across member states is more pronounced for climate action than for the digital dimension.

## Analytical Findings

Table 2 presents the multilevel mixed-effects logistic regression models. We begin by discussing the two focal explanatory variables and their interaction, before turning to the control variables.

[Table 2 here]

Contrary to Hypothesis H1, place of residence does not emerge as a significant predictor of support for the digital and research dimension: neither respondents living in small/medium towns nor those living in large towns differ significantly from respondents living in rural areas in terms of their priorities. For climate action, however, the picture is more nuanced. Small/medium-town residents show significantly higher odds of supporting climate action as a CAP priority relative to rural residents (OR = 1.84, $p < 0.01$), while large-town residents do not differ significantly from rural residents. This provides evidence of an effect in the opposite direction from what was hypothesised: rather than being less likely to prioritise climate action, small/medium-town residents are considerably more likely to do so than their rural counterparts.

Ideology is a statistically significant predictor of both outcome variables, though its direction differs across the two models. For the digital and research dimension, the odds ratio is 1.05 ($p < 0.01$), indicating that moving rightward on the ideological scale is associated with a modest but significant increase in the odds of viewing digital solutions as an important CAP priority. For climate action, the odds ratio is 0.91 ($p < 0.01$), indicating that right-leaning individuals are significantly less likely to support climate action as a CAP priority. These findings are consistent with H3 and H4: ideology operates in opposite directions for the two dimensions, with right-leaning individuals more favourably disposed toward the productive-modernisation logic of digital CAP investment and more sceptical of the regulatory-environmental logic of climate action. Figure 3 illustrates the effect of ideology on the digital and research dimension, and Figure 4 illustrates the effect of ideology on the climate dimension, by visualising the predicted probabilities of supporting each CAP priority as ideology moves from left to right.

[Figure 3 here]

[Figure 4 here]

Turning to the interaction between community type and ideology, the results offer only partial support for our moderation hypotheses. For the digital and research dimension, neither interaction term is significant, indicating that the positive ideology effect on digital-priority support is essentially constant across rural, small/medium-town, and large-town residents. This rejects H6, which anticipated that the right-leaning ideology effect on digital priorities would be stronger specifically among rural residents.

For climate action, the interaction between small/medium town and ideology is significant (OR = 0.91, $p < 0.01$), while the interaction between large town and ideology is not. Combining the main and interaction effects for small/medium towns ($0.91 \times 0.91 \approx 0.83$) indicates that the negative relationship between right-leaning ideology and climate-action support is significantly stronger there than in rural areas. In other words, left-leaning residents of small/medium towns are comparatively more supportive of climate action, relative to their right-leaning counterparts, than left-leaning rural residents are. This provides only partial support for H5, which anticipated that this amplification would occur specifically in large towns/cities rather than small/medium towns. Furthermore, the absence of a significant interaction for large towns suggests that the moderating role of place of residence is concentrated in an intermediate category rather than in the most urbanised areas. Figure 5 illustrates the interaction effect between place of residence and ideology for the digital and research dimension, and Figure 6 illustrates the interaction effect for the climate dimension.

[Figure 5 here]

[Figure 6 here]

As Table 2 further reveals, the variable capturing whether respondents agree that agriculture causes climate change is among the strongest predictors in both models. Those who agree have 1.46 times higher odds of supporting the digital dimension ($p < 0.01$) and 2.32 times

higher odds of supporting climate action as a CAP priority ($p < 0.01$). This is a particularly striking finding for the green dimension, suggesting that individuals' prior beliefs about the relationship between farming and environmental harm are a powerful driver of their expectations for what the CAP should prioritise.

Age is a small but consistently significant predictor in both models (OR = 1.01, $p < 0.01$ for both outcome variables), indicating that older respondents are marginally more likely to consider both dimensions important CAP priorities. The effect is modest in magnitude but robust across both outcomes.

Being female is associated with significantly higher odds of supporting both CAP priorities. The effect is larger for climate action (OR = 1.60, $p < 0.01$) than for the digital dimension (OR = 1.18, $p < 0.01$), consistent with the broader literature showing women tend to be more environmentally oriented than men (Tosun *et al.*, 2024a; Tosun *et al.*, 2024b).

Financial vulnerability shows a mixed pattern. Respondents who experience difficulty paying bills only from time to time have slightly higher odds of supporting the digital dimension (OR = 1.18, $p < 0.05$), but this effect does not reach significance for climate action. Those who almost never or never struggle financially show a significant positive association only with climate action support (OR = 1.24, $p < 0.05$). This suggests that financial security matters somewhat more for climate attitudes than for digital ones, though the effects are modest throughout.

Compared to the working-class reference category, members of the lower middle class, middle class, and upper middle class all show significantly lower odds of supporting both CAP priorities. For the digital dimension, the odds ratios range from 0.76 to 0.84 (all $p < 0.01$). For the green dimension, they range from 0.79 to 0.86 ($p < 0.01$ to $p < 0.05$). Higher class shows negative but non-significant coefficients in both models. This downward pattern across the class categories is somewhat counterintuitive and may reflect that respondents self-identifying as members of the working class, who are more economically exposed to food price and rural livelihood concerns, assign higher importance to both dimensions of the CAP across the board.

The education results are nuanced. Lower levels of education are associated with higher odds of supporting both dimensions relative to the upper secondary reference category: primary education, in particular, shows significant positive associations with both digital (OR = 1.37, $p < 0.05$) and climate priorities (OR = 1.80, $p < 0.01$). Lower secondary education also shows a significant positive association with climate action support (OR = 1.27, $p < 0.01$), though not with digital priorities. By contrast, higher levels of education produce negative associations: short-cycle tertiary and Master's degree holders are significantly less likely to support the digital dimension, and doctoral degree holders are significantly less likely to support both dimensions. This inverse education gradient may reflect that highly educated respondents hold more differentiated views of the CAP's capacity to deliver on these ambitions, rather than simply being less supportive of them in principle.

The presence of children under ten in the household does not reach statistical significance in either model, suggesting that parental status does not independently shape CAP priority attitudes in this sample once other variables are controlled for.

Taken together, the regression results point to ideology, beliefs about the agriculture-climate relationship, gender, and education as the most substantively important individual-level predictors of CAP priority attitudes. Place of residence, by contrast, does not predict digital-priority attitudes, and only weakly moderates the ideology-climate relationship, but it does exert a robust direct effect on climate-priority support among small/medium-town residents specifically. This suggests that the urban-rural divide, as conventionally theorised, may be too coarse a distinction for capturing citizens' attitudes on the twin transition: our findings point to small/medium towns as a distinct context in which both direct and interactive effects of place on climate attitudes are concentrated, which may deserve attention in future research.

## Conclusion

This paper set out to examine which individual-level factors shape EU citizens' perceptions of whether the CAP should prioritise the green and/or digital transition in the agriculture sector. Against the backdrop of the European Green Deal and the broader twin transition agenda, understanding public attitudes toward these dimensions of the CAP is of both academic and political importance. A policy that lacks public resonance risks losing the societal support needed to sustain its ambitions over time, while citizens who do not associate the CAP with its environmental and digital objectives may exert less pressure on policymakers to deliver on them (Tosun *et al.*, 2024a; Tosun *et al.*, 2024b).

The descriptive findings revealed broadly positive attitudes toward both dimensions across all EU member states, with particularly high levels of support for climate action, most strikingly in Cyprus, Denmark, Germany, and Sweden. The digital and research dimension attracted somewhat more moderate but still consistently high endorsement across the EU. These country-level patterns, however, concealed important individual-level heterogeneity that the regression analysis was able to unpack.

Ideology emerged as a consistent predictor of both outcome variables. Right-leaning individuals were more likely to support the digital and research dimension of the CAP, while left-leaning individuals were more likely to endorse climate action as a priority. This finding lends empirical support to Hypotheses H3 and H4 and confirms that the GAL-TAN cleavage (Dassonneville *et al.*, 2024) extends meaningfully into the domain of agricultural policy preferences.

At first glance, this pattern may appear to align with a simple productivist-versus-post-materialist reading of the left-right divide, in which environmental concern is treated as an inherently left-wing preserve. However, a growing body of literature cautions against this reading: conservative political thought has historically included strands of environmental stewardship and conservation, and recent scholarship has documented the emergence of a

distinct far-right environmentalism, often articulated through nativist or ethno-nationalist framings of "protecting the homeland" rather than through the internationalist, climate-focused discourse typically associated with the political left (Forchtner, 2019).

Our findings should therefore not be read as suggesting that environmental concern is inherently or exclusively a left-wing disposition. Rather, they indicate that, within the specific context of CAP-related climate action the conventional left-right alignment holds empirically, even as the ideological relationship between conservatism and environmentalism proves more heterogeneous in other contexts and discourses (Tosun, 2017). Prior beliefs about the relationship between agriculture and climate change also proved to be among the most powerful predictors in both models, suggesting that factual knowledge and causal attribution shape policy expectations in ways that cut across ideological lines. Gender and age were further significant predictors, with women and older respondents consistently more likely to view both dimensions as important CAP priorities.

The role of community type, however, proved more complex than a simple confirmation or rejection of the urban-rural divide thesis. Contrary to Hypothesis H1, place of residence did not emerge as a significant predictor of support for the digital dimension, either directly or in interaction with ideology. For climate action, by contrast, small/medium-town residents showed significantly higher support than rural residents, an effect running counter to Hypothesis H2, which had anticipated lower rural support for climate action rather than a distinctly elevated small/medium-town effect. The interaction between ideology and community type further revealed that the negative relationship between right-leaning ideology and climate-action support was significantly stronger in small/medium towns than in rural areas, offering partial support for Hypothesis H5. No comparable moderation was found for the digital dimension, meaning Hypothesis H6 was not supported. Taken together, these results suggest that the conventional urban-rural dichotomy is too coarse to capture how place of residence shapes CAP attitudes: rather than a straightforward gradient, our findings point to small/medium towns as a distinct context in which both direct and interactive effects of place on climate-related attitudes are concentrated, while large cities and rural areas remain statistically indistinguishable from one another on this dimension.

These findings carry concrete implications for the politics of the twin transition in agriculture. As recent years have demonstrated with farmer protests across Europe and the partial rolling back of Farm to Fork targets following the 2024 European Parliament elections (Nagel *et al.*, 2025; Finger *et al.*, 2024), building and sustaining a broad public coalition for an environmentally ambitious CAP requires active communication strategies that speak across ideological divides. The finding that beliefs about agriculture's role in causing climate change are a strong driver of support for green CAP priorities further underscores the importance of public information and science communication: citizens who understand the sector's environmental footprint are substantially more likely to demand that the CAP address it. For the digital dimension, the positive association with right-leaning orientations suggests that framing digital CAP investment in terms of productivity, competitiveness, and farm

modernisation rather than regulatory compliance may broaden its political appeal. The concentration of climate-related effects in small/medium towns, meanwhile, suggests that place-sensitive communication strategies may need to look beyond the urban-rural binary, targeting intermediate communities as a distinct constituency for building support around the CAP's green ambitions.

Beyond these specific empirical contributions, our findings speak to several broader bodies of literature. First, by demonstrating that EU citizens perceive the CAP as a legitimate vehicle for delivering the twin transition, our results contribute to the literature on governing transitions and transformation processes within the EU's multi-level system. This literature has emphasised that major transformation agendas rarely unfold through a single, centrally coordinated policy channel but are instead distributed across multiple levels of governance and policy domains; our findings suggest that citizens themselves recognise and internalise this multi-sectoral, multi-level character, rather than viewing the twin transition as confined to dedicated climate and digital tracks alone (Dupont *et al.*, 2024; Øjvind Nielsen *et al.*, 2024; Sandmann *et al.*, 2024).

Second, our results speak to the more specific literature on cross-sectoral policy integration (Tosun and Lang, 2017; Trein and Maggetti, 2020; Feindt, 2010; Skagen and Boasson, 2024), which examines how objectives from one policy domain come to be absorbed into another. The fact that citizens attribute to agricultural policy a meaningful role in achieving both green and digital objectives indicates that such integration is not merely an elite-level or institutional phenomenon documented in policy texts, but one that is also perceptible by the public. This lends empirical, citizen-level support to arguments in this literature that cross-sectoral integration reshapes not only formal policy instruments but also the boundaries of what a given policy is understood to be responsible for.

Third, our findings resonate closely with the literature on post-exceptionalism in agricultural policy (Daugbjerg and Feindt, 2017). Post-exceptionalism describes how agricultural policy has been progressively opened up to actors, concerns, and logics beyond the traditional productivist paradigm; our results suggest that this opening-up is mirrored in public perceptions. Citizens no longer view the CAP purely through the lens of income support and productivity, but as a policy plausibly tied to climate and digital ambitions — indicating that the de-compartmentalisation identified at the institutional level appears to be paralleled, at least partially, in the attitudes of the citizenry.

Finally, our findings carry implications beyond these literatures for the co-creation of transformation processes and the emerging concept of 'Green European citizenship' (Machin and Tan, 2024). If citizens already perceive agricultural policy as implicated in delivering the twin transition, this creates a potential foundation for more participatory and co-productive approaches to CAP reform and individual components of it (Schiller-Merkens and Machin, 2023): one in which citizens are not merely recipients of top-down environmental and digital objectives, but active participants who already hold views on how these objectives should be pursued. At the same time, our finding that these perceptions vary systematically by ideology

and, to a more limited extent, by place of residence suggests that any such co-production process would need to account for persistent divides in how different segments of the public understand the CAP's role, rather than assuming a uniform baseline of citizen engagement with the twin transition.

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Table 1: Descriptive statistics

| | Response Categories | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Rural area or village* | *Small /medium town* | *Large town* | | | | | | | *Missing values % (n)* |
| **Place of Residence** | 33.66 | 36.06 | 30.24 | | | | | | | 0.04 (11) |
| | *Male* | *Female* | | | | | | | | |
| **Gender** | 46.01 | 53.99 | | | | | | | | 0 |
| | *No* | *Yes* | | | | | | | | |
| **Children** | 83.34 | 16.66 | | | | | | | | 0 |
| | *Most of the time* | *From time to time* | *Almost never/never* | | | | | | | |
| **Difficulties Paying Bills** | 7.11 | 23.26 | 68.90 | | | | | | | 0.73 (198) |
| | *Working class* | *Lower middle class* | *Middle class* | *Upper middle class* | *Upper class* | | | | | |
| **Social Class** | 23.83 | 15.30 | 19.72 | 8.71 | 0.94 | | | | | 1.51 (412) |
| | *No/Pre-primary* | *Primary* | *Lower secondary* | *Upper secondary* | *Post-secondary non tertiary* | *Short-cycle tertiary* | *Bachelor* | *Master* | *Doctor* | |
| **Education** | 0.76 | 4.75 | 16.82 | 34.95 | 7.90 | 8.01 | 12.34 | 13.09 | 1.24 | 0.14 (39) |
| | *Median* | *Mean* | *Standard Deviation* | *Minimum* | *Maximum* | | | | | |
| **Ideology** | 5 | 5.33 | 2.09 | 1 | 10 | | | | | 9.41 (2563) |
| **Age** | 52 | 50.64 | 17.70 | 15 | 99 | | | | | 0.01 (4) |

Notes: N(dataset) = 27,237; N(analysis) = 24,328; total observations with missing values = 2,909.

Figure 1: CAP Priority: Research and Digital Solutions

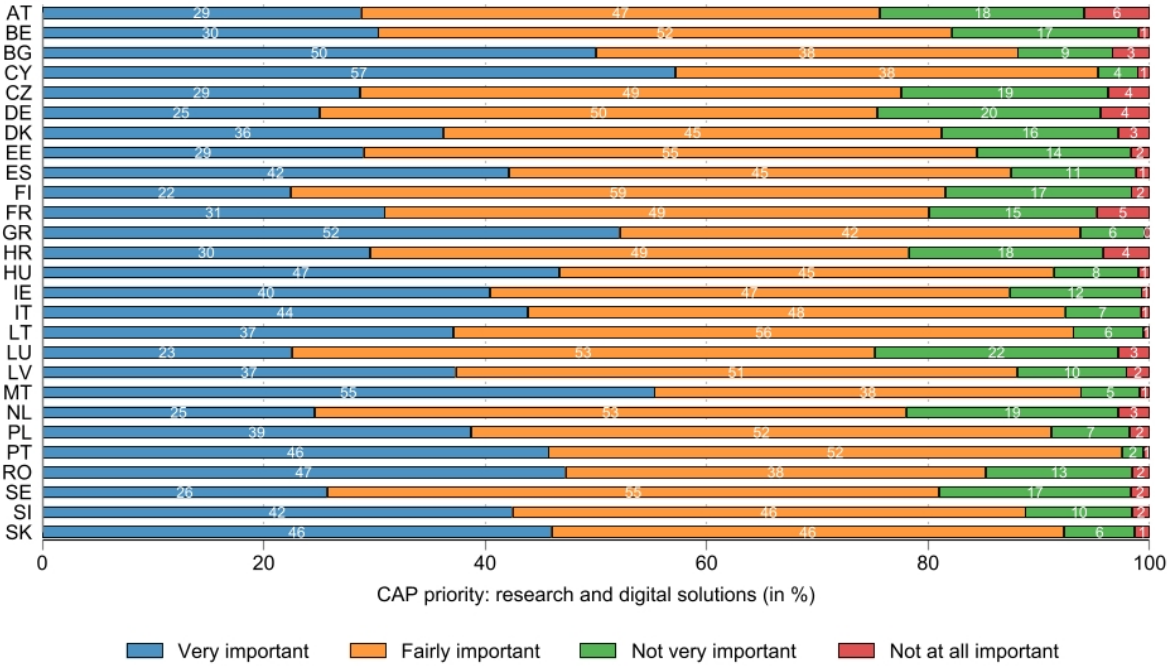

Figure 2: CAP Priority: Climate Action

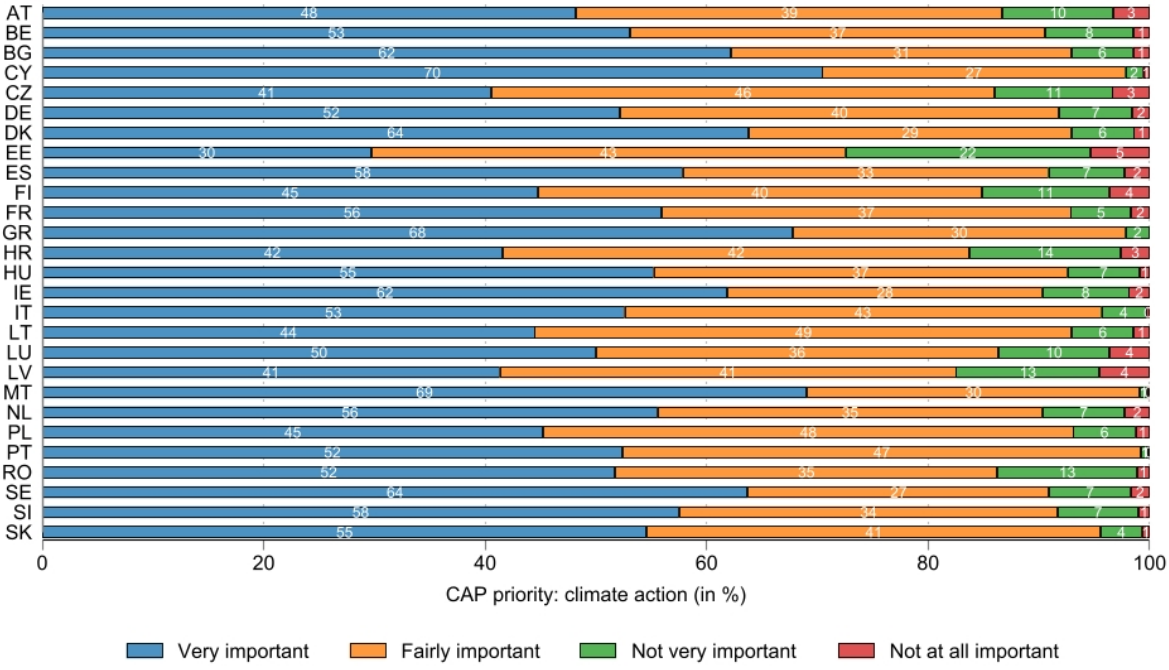

Table 2: Multilevel logistic regression (not very/ not at all important vs. fairly/very important)

| | DV1: Research and digital solutions | DV2: Climate action |
|---|---|---|
| *Community type* (Ref. Rural area or village) | | |
| Small/medium town | 1.05 | 1.84*** |
| | (0.13) | (0.30) |
| Large town | 1.11 | 1.22 |
| | (0.14) | (0.20) |
| *Ideology* | 1.05*** | 0.91*** |
| | (0.02) | (0.02) |
| *Community type* (Ref. Rural area or village) | | |
| Small/medium town | 1.05 | 1.84*** |
| | (0.13) | (0.30) |
| Large town | 1.11 | 1.22 |
| | (0.14) | (0.20) |
| *Community x Ideology* (Ref. Rural x Ideology) | | |
| Small/medium town x Ideology | 0.98 | 0.91*** |
| | (0.02) | (0.02) |
| Large town x Ideology | 0.97 | 0.96 |
| | (0.02) | (0.03) |
| *Agriculture causes climate* (Ref. Disagree) | | |
| Agree | 1.46*** | 2.32*** |
| | (0.06) | (0.11) |
| *Age* | 1.01*** | 1.01*** |
| | (0.00) | (0.00) |
| *Gender* (Ref. Male) | | |
| Female | 1.18*** | 1.60*** |
| | (0.04) | (0.07) |
| *Difficulty paying bills* (Ref. Most of the time) | | |
| From time to time | 1.18** | 1.12 |
| | (0.10) | (0.11) |
| Almost never/never | 1.09 | 1.24** |
| | (0.09) | (0.11) |
| *Social class* (Ref. Working class) | | |
| Lower middle class | 0.78*** | 0.79*** |

| | | |
|---|---|---|
| | (0.05) | (0.06) |
| Middle class | 0.84*** | 0.86** |
| | (0.05) | (0.06) |
| Upper middle class | 0.76*** | 0.80** |
| | (0.06) | (0.08) |
| Higher class | 0.77 | 0.75 |
| | (0.14) | (0.16) |
| *Education* (Ref. Upper secondary) | | |
| No/Pre-primary | 1.07 | 1.87 |
| | (0.32) | (0.76) |
| Primary | 1.37** | 1.80*** |
| | (0.17) | (0.29) |
| Lower secondary | 1.05 | 1.27*** |
| | (0.06) | (0.09) |
| Upper secondary | 1.00 | 1.00 |
| | (.) | (.) |
| Post-secondary non tertiary | 0.93 | 0.88 |
| | (0.07) | (0.07) |
| Short-cycle tertiary | 0.83*** | 0.88 |
| | (0.06) | (0.07) |
| Bachelor / equivalent | 0.99 | 1.03 |
| | (0.06) | (0.08) |
| Master / equivalent | 0.78*** | 0.90 |
| | (0.05) | (0.07) |
| Doctor / equivalent | 0.64*** | 0.68** |
| | (0.09) | (0.12) |
| *Children in household* | 0.93 | 0.93 |
| | (0.05) | (0.06) |
| Observations | 22.528 | 22.902 |

Odds ratios reported. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 3: Predicted probability (DV1: research and digital solutions) with 95% confidence intervals

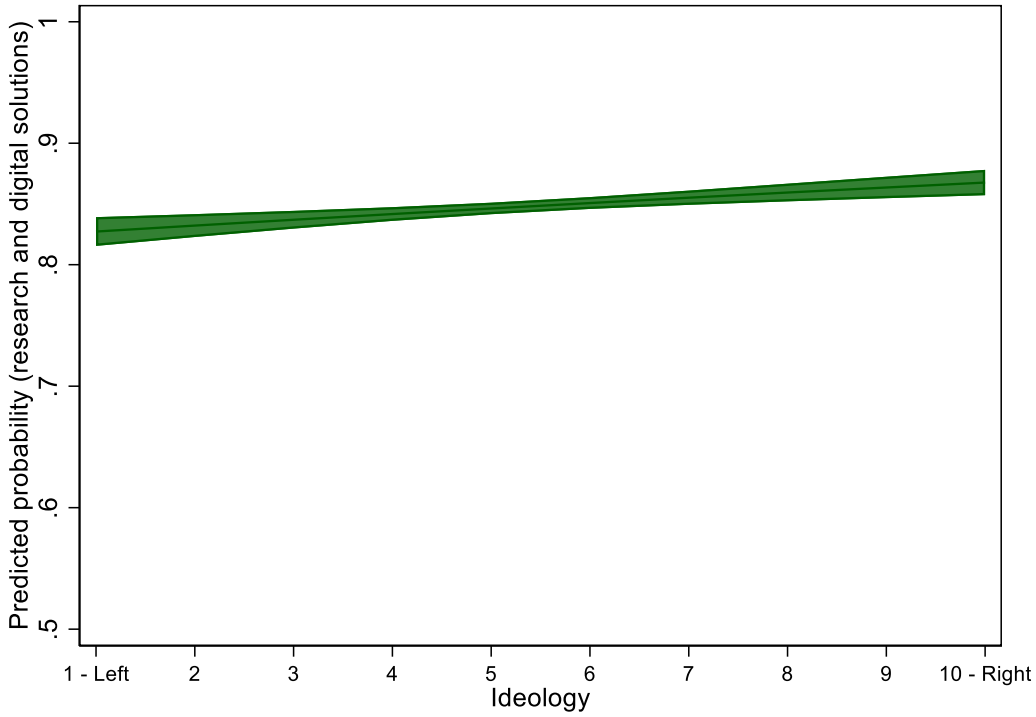

Figure 4: Predicted probability (DV2: climate action) with 95% confidence intervals

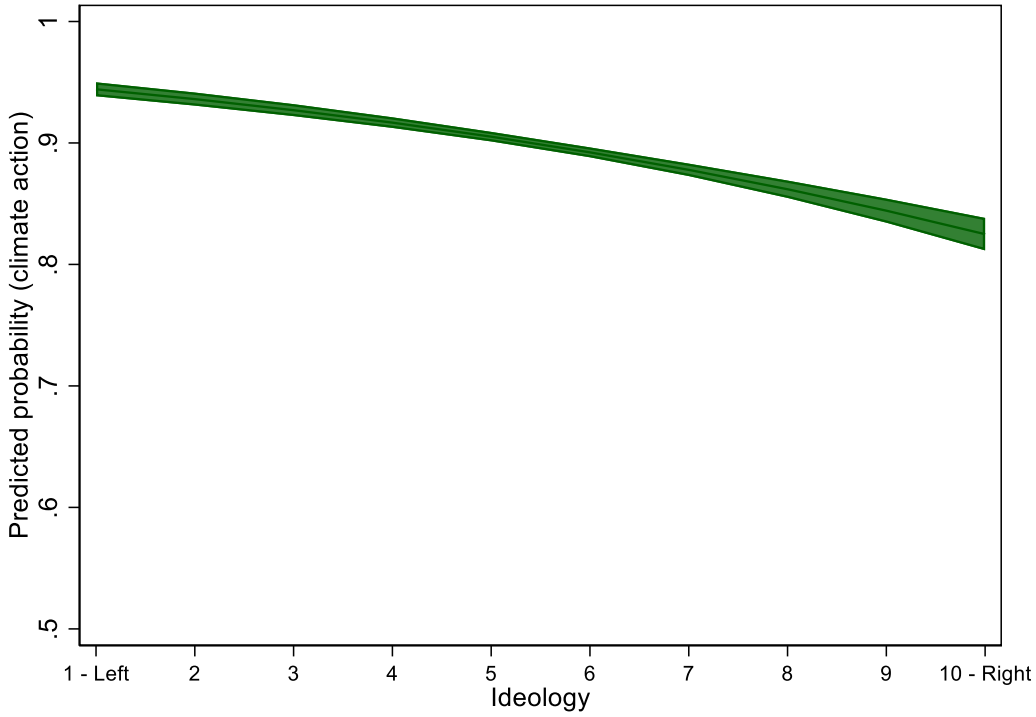

Figure 5: Interaction effects (DV1) ideology x community

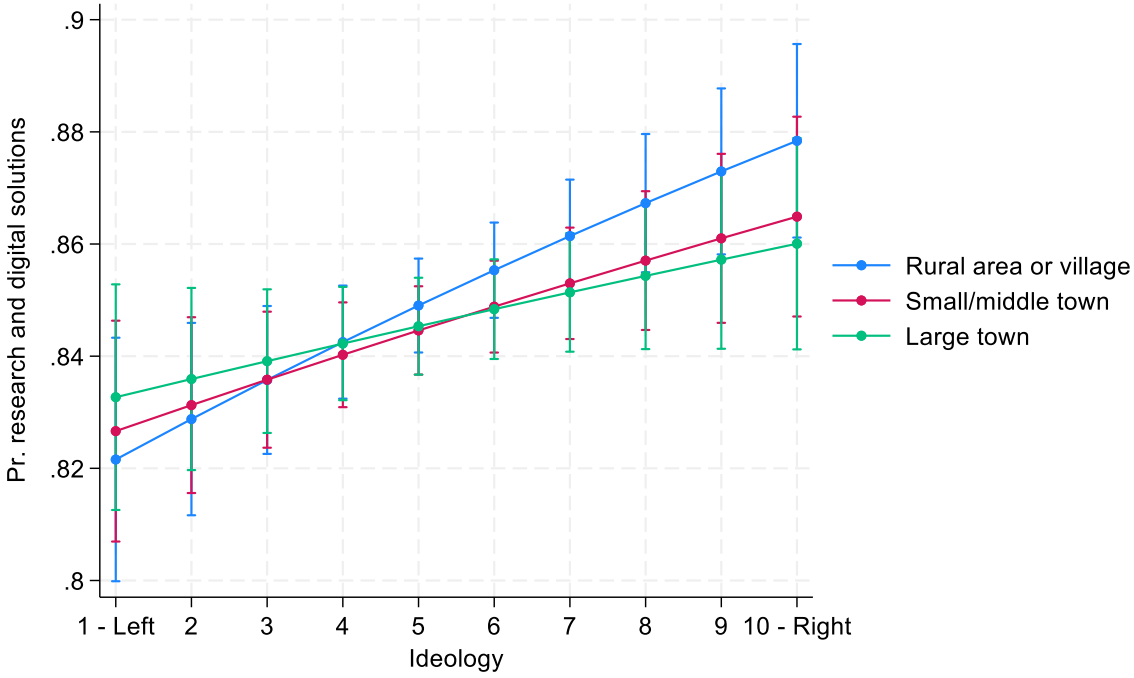
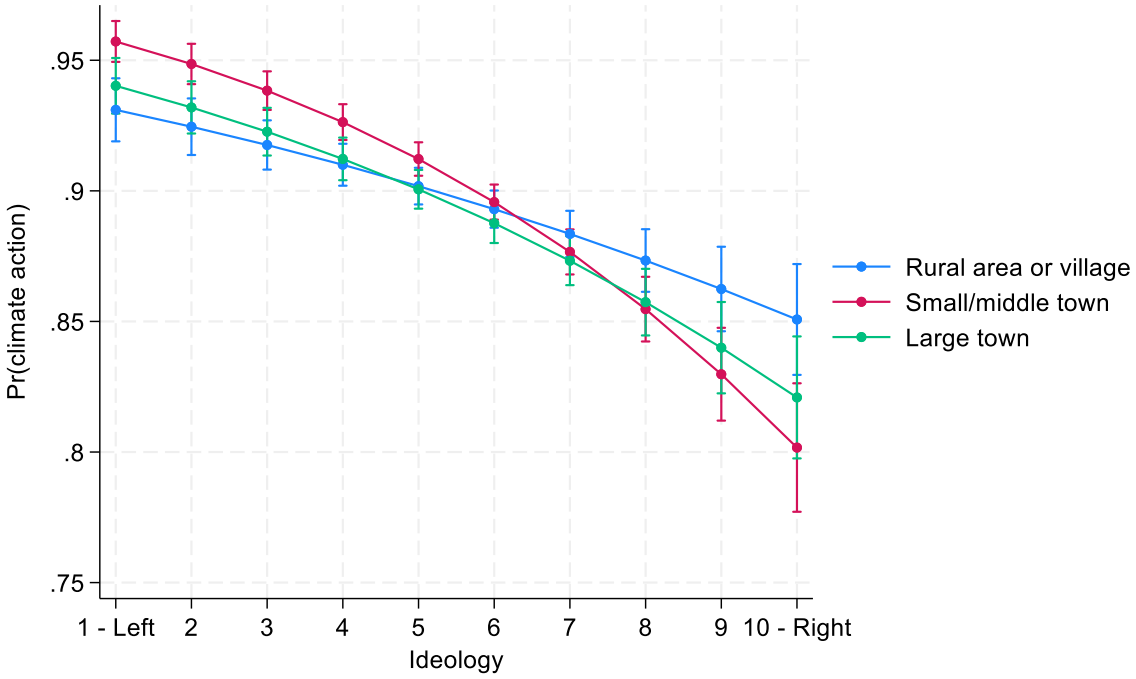
Figure 6: Interaction effects (DV2) ideology x community