Why and How: Public-Sphere Persuasion and Institutional Legitimacy*

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Abstract

This paper studies institutional legitimacy formation through persuasion in the public sphere. I develop a model in which citizens evaluate a norm along two latent content dimensions—merit and feasibility—because endorsement concerns institutionalization, not private approval. Persuasion is bundle-based: it is strongest with matched (m, h) reasons. Reasons arrive through peers and state agents; role-based spillovers from Weberian legal-rational bureaucracy give state agents a comparative advantage in feasibility talk. In Bayesian learning, exposure scales channel precision, and incentives and marginal costs determine whether persuasion bundles merit and feasibility within channels or completes them across channels. I map the model to geocoded panel survey data on endorsement of institutional universalism in Switzerland. I operationalize channel effective precision with content-weighted exposures constructed by interacting predetermined reach with canton–year variation in each channel's universalism tilt. Endorsement increases with both peer and state-agent exposure, and their interaction is negative, indicating substitution on average. A workplace-switch design provides a sharper exposure shock holding canton–year discourse fixed: moving from private to public employment within non-mission industries raises endorsement by 10 percentage points. Cultural variation in administrative style (German/Weberian versus French traditions) shifts the exposure–endorsement mapping stably across designs: the state-agent effect is lower, while cross-channel complementarity is stronger, in the German–speaking region, consistent with role-based spillovers. Predetermined cantonal institutions and engagement in political persuasion shift the exposure coefficients and the peer–state interaction as predicted by the model. Overall, with endogenous exposure, bureaucratic feasibility specialization can generate tipping points in endorsement and regime shifts.

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"Only those norms can claim validity that could meet with the approval of all affected in rational discourse."
Jürgen Habermas (1990)

"In Rational Legal Authority, obedience is owed to the legally established impersonal order. It extends to the persons exercising the authority of office under it only by virtue of the formal legality of their commands and only within the scope of authority of the office."
Max Weber (1968)

1 Introduction

How do institutions emerge and change? We know far more about persistence than about origins. A long tradition in political philosophy and anthropology argues that institutions cannot be reduced to their functions; they also carry symbolic meanings and normative justifications that make them legitimate (e.g., Castoriadis (1987), Taylor (2004), Malinowski (1922), Sahlins (1976), Sahlins (2000)). Historical evidence—from Zapotec state formation to Hawaiian state development and the emergence of popular sovereignty in seventeenth-century England—likewise links shifts in the moral order to major institutional transformations and sustained gains in prosperity (e.g., Marcus and Flannery (1996), Kirch (2010), Acemoglu and Robinson (2025)). Yet economics still lacks tractable models of how norms become institutionalized, as well as causal evidence on the mechanisms underlying that process.

This paper develops a tractable theory of institutional legitimacy formation through persuasion in the public sphere—the arena of public reasoning in which shared judgments about public matters form[1]. Because the object of persuasion is an institutional norm (not mere private approval)—a principle that can legitimate state action by specifying how the state *ought* to treat categories of individuals—, citizens care both about whether the norm is desirable and whether it can be implemented and sustained in practice; this makes feasibility an intrinsic component of endorsement. Thus, the core premise is that endorsement is not driven only by whether a norm is *desirable*, but also by whether it is perceived as *implementable*. Endorsement is therefore bundle-based: persuasion is strongest when citizens receive matched reasons that answer both *why* the norm should hold and *how* it can be carried out. I formalize this idea in a Bayesian persuasion framework with two latent content dimensions. A norm is evaluated along *merit* (m), capturing desirability, and *feasibility* (h), capturing implementability. Arguments arrive through two channels—peers and state agents. The model's central mechanism is *role-based spillovers*: a legal–rational bureaucracy in the sense of Weber (1922) generates comparative advantage in feasibility talk that spills over into public argument. This asymmetry is not imposed as an exogenous "bias"; it follows from the informational content of roles and the costs of producing precise reasons in each dimension. Exposure matters because it scales informational content. Persuasion depends on *effective precision*: exposure (reach) multiplies channel-specific precision, so more contact with a channel makes its reasons sharper in citizens' posteriors. Producers choose how much precision to supply in each dimension, trading off convex effort costs against an internalized payoff from legitimacy—higher endorsement increases expected voluntary compliance and lowers enforcement and administrative friction (Tyler (2006), Tyler and Nobo (2023)). This yields an equilibrium persuasion architecture: within-channel bundling

[1] Habermas (1989) argues that this space emerged in 18th-century bourgeois society, particularly in Europe, through institutions such as coffeehouses and salons, literary journals and newspapers, learned societies and clubs. Within these settings, individuals addressed one another as equals—not according to rank or birthright, but as rational interlocutors capable of argument and persuasion. Detienne (2003) suggests that such practices of public reasoning on common matters have a broader geographical and earlier historical scope than the European bourgeois context.

(each channel supplies both m and h) versus cross-channel specialization (channels focus on different dimensions). When channels specialize, citizens can assemble matched (m, h) bundles across sources—a peer-provided *why* completed by a state-agent *how*—which generates *cross-channel fit*: increases in effective exposure to one channel raise the marginal persuasive return to exposure to the other. By contrast, when channels bundle internally and persuasion exhibits diminishing returns, channels are substitutes. The equilibrium architecture admits transparent comparative statics in primitives that map to the data: reach, internalized legitimacy payoffs, and the marginal costs of precision. Shifting these primitives moves the economy between within-channel bundling and cross-channel specialization, and changes whether peer and state-agent exposures act as complements (fit) or substitutes. To connect persuasion to institutional emergence, I embed this static environment in a simple feedback dynamic: aggregate endorsement today raises subsequent reach in the public sphere. When cross-channel fit is weak, endorsement updates are smooth and incremental. When cross-channel fit is strong, feedback can generate an S-shaped update map, so small shocks to reach or content can trigger tipping-point transitions between low- and high-endorsement regimes. A welfare analysis reveals two policy frictions: an internalization wedge in precision provision and, under specialization, an amplification risk whereby feasibility talk scales endorsement even when merit discourse is weakly disciplined. This yields guardrails that map directly into model primitives. A key implication is that institutions that strengthen institutional agency—such as direct-democratic rights—are not unambiguously welfare-improving.

I map the model to geolocated individual-level panel data from the Swiss Household Panel (SHP). Switzerland's linguistic segmentation and strong decentralization provide sharp within-country variation in culture and institutions, allowing me to trace how the persuasion architecture varies across contexts. Universalism is a central element of modern Western normative orders (Taylor (2004)), rooted both in longer-run transformations that weakened kin-based particularism and expanded impersonal forms of social obligation (Henrich (2020)), and in natural-law and Enlightenment traditions that grounded universalism in reason and the equal moral standing of persons. In this paper, I study endorsement of universalism as a legitimacy principle for state action[2]. The SHP explicitly elicits such endorsement—whether Switzerland should grant foreigners the same opportunities as Swiss citizens versus preferential opportunities for Swiss citizens—making it a direct empirical counterpart to the model's object. It further provides annual measures of this endorsement, enabling fixed-effects designs. To connect public-sphere discourse to the model, I construct canton-year measures of channel-specific exposure to universalism-relevant discourse. The empirical strategy mirrors the model's exposure scaling: I form content-weighted exposure variables that combine predetermined canton-level reach proxies with time-varying canton-year universalism tilt in each channel. The baseline specification then estimates a model-disciplined reduced form in which endorsement responds to the peer content exposure, the state-agent content exposure, and their interaction. I complement this design with a second strategy that delivers sharper, individual-level exposure shocks: within-person switches between private and public employment. In the model, such switches shift an individual's access to state agents through the workplace while holding the canton-year discourse environment fixed via canton–year fixed effects. To address concerns about dynamic self-selection, I focus on private-to-public switches within non-mission industries (excluding health, education, and social care). In these industries, I find no evidence of differential pre-trends in endorsement prior to the switch.

The baseline content-weighted exposure regressions show that both channels matter in levels and that their interaction is negative. Interpreted through the model, this pattern is consistent

[2]This resonates with Enlightenment accounts of political legitimacy, which ground public authority in equal standing under general law (e.g., Rousseau (1923), Kant (1996) *Doctrine of Right*), as articulated in the *Declaration of the Rights of Man and of the Citizen* (National Constituent Assembly of France (1789)).

with substantial within-channel bundling and diminishing returns, which imply substitutability across channels on average. In magnitude, the peer–content exposure is the larger contributor to endorsement variation, while the state-agent–content exposure has a meaningful marginal effect evaluated at the mean peer environment. Specifically, a one-standard-deviation increase in the peer–content exposure increases endorsement by about 8%, while a one-standard-deviation increase in the state-agent one increases endorsement by about 6%. Thus, the state-agent effect is sizeable even conditional on peer discourse and the full set of fixed effects and controls. This is consistent with the idea that state-agent discourse conveys a distinct bundle of universalism-relevant reasons. The switch design yields a large causal effect of increased access to state agents: moving from private to public employment within non-mission industries raises endorsement by roughly 15%. This magnitude is consistent with attenuation in canton-level reach proxies and with the model's prediction that endorsement rises in effective exposure. The switch design also reveals a sharp institutional-tier pattern: the incremental effect of federal public employment is close to zero relative to comparable private employment, suggesting that the persuasive exposure channel documented in the baseline is concentrated in cantonal/communal state agents. In model terms, this pattern is consistent with heterogeneity in the state-agent channel's content architecture. Finally, scope tests bolster the causal interpretation: replicating the baseline regressions and the workplace-switch specification on adjacent political attitudes and policy preferences (redistribution, welfare spending, ideology, institutional trust) yields small and statistically indistinguishable effects. This pattern is inconsistent with generic canton-year political shocks driving the estimated relationships.

The empirical analysis then probes the model's mechanisms through heterogeneity tests. First, I exploit persistent differences in administrative tradition across Swiss language regions as predetermined shifters of role-based spillovers. A more legal–rational, Weberian administrative style (Weber (2001)) is expected to tilt state-agent discourse toward feasibility, whereas a more French administrative tradition—historically associated with a state-building project that articulated substantive ends alongside administrative centralization (Weber (1976))—is expected to embed more merit arguments in state-agent discourse. Consistent with this mechanism, the causal effect of increased exposure to state agents is substantially lower for German-speaking Swiss workers, and content-weighted exposure interactions indicate stronger cross-channel fit in German-speaking cantons—a pattern consistent with higher specialization and less within-channel bundling in the state-agent channel. Thus, a key empirical credibility check is that the model's cultural comparative statics replicate across two identification strategies with orthogonal threats. Predetermined cultural environments that, in the content-weighted exposure regressions, shift the persuasion architecture toward *bundling* versus *completion* also systematically moderate the causal effect of switching into public employment in the same direction. This cross-design coherence is difficult to reconcile with generic sentiment shocks or ad hoc proxy interpretations, and instead supports the model's interpretation of predetermined cultural environments as shifting the underlying primitives that govern equilibrium persuasion. In other words, culture does not merely correlate with levels of universalism; it shifts the production function mapping exposure into endorsement, in a way that is stable across designs.

Second, I test the model's comparative statics by examining how predetermined institutional environments shape the equilibrium persuasion architecture. I do so by interacting the content-weighted exposure measures with canton-level institutional proxies—legal access to direct-democratic instruments, the salience of militia politics, executive collegiality norms, local autonomy, university presence, local media infrastructure, and language fragmentation. These shifters are predetermined and do not move the level of the constructed exposures; instead, they discipline how a given exposure translates into endorsement. In the model, they map into three primitives: internalized legitimacy payoffs, the marginal costs of producing precise merit versus feasibility reasons, and effective reach.

The resulting heterogeneity patterns therefore help identify not only how much endorsement moves, but also how it moves—whether persuasion operates primarily through within-channel bundling or through cross-channel completion. The results indicate that Switzerland's institutional package contains offsetting shifters of institutional agency. Direct-democratic rights, which in the model raise the internalization of legitimacy benefits, strengthen within-peer bundling, whereas militia politics and executive collegiality work in the opposite direction by weakening the marginal leverage of any single argument on policy. As a result, legitimacy payoffs need not be unusually high overall, consistent with historically modest turnout (Hosli et al. (2025)). Militia politics also strengthens cross-channel completion, as does greater local autonomy. In the model, this is the signature of greater specialization, consistent with a higher salience of implementation constraints in the public sphere. By contrast, university presence and lower media concentration—which, in the model, reduce peer-side costs of producing precise and contestable reasons—strengthen within-peer bundling. Finally, greater language fragmentation is associated with a larger state-agent content-weighted exposure effect. In the model, this pattern is naturally read as a relative propagation wedge: language segmentation impedes the circulation of peer-provided reasons more than that of state-agent reasons in the public sphere.

Third, I use predetermined heterogeneity in engagement in political persuasion to shed light on channel content and cross-channel completion. In the model, engagement is interpreted as a predetermined shifter of merit-attention—the weight citizens place on merit-oriented justification when forming endorsement. Consistent with feasibility-tilted state-agent discourse, I find that the marginal effect of state-agent exposure is smaller for more engaged individuals, while the peer–state interaction becomes less negative—shifting toward cross-channel completion—as engagement rises. This pattern is consistent with endorsement among more merit-attentive citizens relying more on assembling matched merit and feasibility reasons across sources, whereas feasibility-oriented state-agent discourse can move endorsement more directly among less engaged individuals.

Overall, combining exogenous exposure shocks with model-disciplined comparative statics yields causal evidence on the persuasion architecture in the model, even though arguments are not directly observed. Although the empirical setting is Switzerland, the core mechanism is not Swiss-specific. It requires only three ingredients: contestability—the capacity to question prevailing moral justifications and their institutional embodiments, social networks through which public reasons circulate, and positive legitimacy payoffs that make reason supply consequential. A first scope condition concerns how contestation is organized. What matters for the mechanism is not contestability alone, but whether contestation is mediated through sufficiently integrated common fora. Switzerland is informative in this respect because its direct-democratic institutions coexist with features that can weaken such integration: average participation in national referendums is modest, and the polity is linguistically segmented and highly decentralized, so deliberation is organized through heterogeneous local public spheres rather than a single thick national forum. In the language of the model, this raises the salience of segmented endorsement dynamics. Cross-country evidence on affective polarization is consistent with this interpretation: Boxell et al. (2024) show that Switzerland is among the democracies with the strongest long-run increases in affective polarization, and in some sensitivity analyses its trend matches or exceeds that of the United States. Read through the lens of the model, this pattern is consistent with contestation increasingly occurring in segmented publics rather than through integrated common fora, thereby increasing the relevance of specialization-driven amplification. A second scope condition concerns the credibility of state agents (Hinterleitner (2025)). When trust in public institutions is low, citizens downweight state-agent reasons, reducing the effective precision of the state-agent channel, attenuating—and potentially reversing—the impact of state-agent exposure and weakening cross-channel completion. Switzerland is again informative because it combines relatively segmented public spheres with relatively high

institutional credibility (OECD (2024)), a combination under which average exposure effects may be attenuated by segmentation while the persuasive force of state-agent discourse, conditional on contact, remains high.

This paper contributes to the literature on the interplay between culture and institutions by formalizing a mechanism through which institutional legitimacy is formed and updated. A central premise of substantivist accounts is that institutions are not merely functional arrangements: they are grounded in shared normative understandings that legitimate collective action (Polanyi (1944), Castoriadis (1987), Taylor (2004)), and legitimacy in turn affects institutional performance by shaping compliance and enforcement frictions (Tyler (2006)). Similarly, norms, and more broadly culture, are not reducible to behavior; they are collective imaginaries that provide the social meaning that institutions embody (Geertz (1973), Acemoglu and Robinson (2025)). Thus, while the economic literature has long contrasted formal and informal institutions, with the latter encompassing culture and norms (North (1990)), this paper argues that informal institutions are not separate from formal institutions but constitutive of them. I formalize and empirically identify a mechanism through which a norm becomes institutionalized. Because the object of endorsement is a rule of treatment that legitimates state action, rather than a matter of private approval, the norm must be both desirable and implementable. Endorsement of an institutional norm is then modeled not as contagion, but as a reason-based judgment formed through exposure to arguments that articulate its merit and implementability (Habermas (1989)). The paper's central claim is that formal institutions shape deliberation in the public sphere through state agents. When state-facing occupational roles are organized around Weberian legal–rational authority (Weber (1922)), what state agents do in practice generates role-based spillovers into the kinds of reasons they supply, giving them a comparative advantage in feasibility talk. Because the state is also a norm-bearing institution, however, cultural and historical contexts shape how legitimacy is embodied in those roles (Weber (1976), Ekeh (1975)), and therefore whether state agents supply feasibility arguments alone or bundle them with merit reasons. State agents thus constitute a central persuasion channel in the public sphere: they are especially persuasive when they bundle implementability with merit, and they amplify merit-based persuasion when they supply feasibility arguments alone. This perspective also clarifies how persuasion can generate rapid cultural change. Whereas Acemoglu and Robinson (2025) emphasize saltational cultural change as a response to political change, I highlight a reverse mechanism: persuasion-driven shifts in endorsement can themselves reshape subsequent exposure and, under strong cross-channel fit, cross thresholds that generate rapid cultural and regime change. More broadly, the framework helps explain why materially similar institutions can differ sharply in effectiveness across environments: institutional functionality need not imply identical legitimacy, and interventions can fail when they misread local justificatory logics (Ferguson (1990), Athias and Wicht (2025), Moscona et al. (2026)). In this sense, while Acemoglu and Robinson (2012) stress the role of inclusive institutions in long-run prosperity, this paper sheds light on one mechanism through which such institutions become politically sustainable: persuasion-driven endorsement of universalism as an institutional norm in the public sphere.

The paper thus speaks to the literature on bureaucracy by identifying a double-edged role for state agents in cultural transformation. Echoing a classic tension in accounts of Enlightenment rationality—Horkheimer and Adorno (1944) warn that instrumental reason, detached from substantive ends, can facilitate domination, whereas Habermas (1989) emphasizes the democratic promise of a public sphere in which reasons are contestable—feasibility-oriented implementation talk can either discipline legitimacy formation or amplify whichever merit narrative prevails. This distinction offers a lens through which to interpret accounts of the rise of Nazism (Arendt (1963), Satyanath et al. (2017)) by clarifying how capable implementation discourse—especially in segmented public spheres—can heighten the responsiveness of endorsement to prevailing narratives. In this sense, the paper

highlights a potential dark side of legal–rational bureaucratic capacity (Heldring (2026)): when paired with skewed merit discourse and weak public-sphere integration, implementation talk can raise endorsement without improving the informational discipline of the normative case itself. Under such conditions, stronger direct democracy may have detrimental effects, because higher legitimacy payoffs can intensify endorsement without necessarily strengthening the underlying merit case. In contrast to social-capital accounts, which emphasize trust and cooperation as the channels through which civic engagement and associational life sustain democratic performance (Putnam et al. (1993), Putnam (2000)), I emphasize civic engagement as a necessary condition for the public sphere because it sustains free and informal deliberation.

Finally, the paper contributes to the economics literature on social norms, which explains compliance through reputational concerns, self-image costs, and endogenous beliefs about others' behavior and expectations (Bénabou and Tirole (2003), Bénabou and Tirole (2011), Acemoglu and Jackson (2015), Bursztyn et al. (2020), Bénabou and Tirole (2026)). I depart from this approach by treating endorsement as a deliberative choice shaped by articulated justifications that become publicly available, salient, and persuasive in a given discourse environment. Methodologically, the paper distinguishes exposure *intensity* from exposure *content*. Rather than treating contact with a channel as a sufficient statistic for influence, I measure a channel's effective precision with content-weighted exposures that combine predetermined reach with time-varying, location-specific variation in that channel's normative tilt. This mapping is portable to other settings in which persuasion operates through multiple channels but argument content is only indirectly observed. Because endorsement concerns institutionalization rather than private approval, institutional endorsement and private moral sentiment need not coincide. Athias and Ventelou (2026) characterize which individuals exhibit such divergence, and in which direction, with respect to the universalism norm. The framework developed here suggests that convergence is more likely when feasibility arguments discipline merit-based reasoning, whereas a persistent wedge is more likely when feasibility primarily scales endorsement without disciplining merit. By modeling endorsement of a rule of treatment as reason-based, the paper links the positive analysis of persuasion in the public sphere to normative questions in welfare economics and social choice concerning how impartial distributive principles are justified (Harsanyi (1955), Rawls (1971), Rawls (1997)).

The remainder of this paper is structured as follows. Section 2 presents the model of persuasion in the public sphere and derives the conditions under which channels are substitutes versus locally complementary. Section 3 maps the model to empirical counterparts and lays out the identification strategies. Section 4 contains details on the data. I report the baseline results and the workplace-switch evidence in Section 5, and provide mechanism test using cultural and institutional heterogeneity in Section 6. Section 7 concludes.

2 A Reason-Based Model of Institutional Norm Endorsement

This section formalizes how public arguments induce citizens' endorsement of an institutional norm. Two content dimensions matter for persuasion: *merit* (is the norm desirable?) and *implementability* (is its institutionalization feasible?). Bringing such arguments is not cheap talk: arguments are citable and contestable, and require information acquisition. Citizens incur information costs because endorsement is institutionally consequential. Higher endorsement raises voluntary compliance and lowers enforcement and administrative frictions, so citizens internalize legitimacy benefits and invest in supplying public reasons. Crucially, state agents face lower marginal costs of producing *implementation* precision, reflecting Weberian legal–rational expertise embedded in bureaucratic roles (Weber (1922)).

2.1 Model Setup

A continuum of citizens i in a public sphere c at date t considers whether to endorse a norm as a rule for society. Let $y_{i,c,t} \in \{0,1\}$ denote the observed public stance, and

$$s_{i,c,t} \;\equiv\; \mathbb{E}[y_{i,c,t} \,|\, \mathcal{F}_{i,c,t}] \in [0,1]$$

be the endorsement propensity given citizen i's information set $\mathcal{F}_{i,c,t}$, generated by the public arguments to which she is exposed. Public arguments are reasons offered to an open audience and thus publicly accessible and contestable (Habermas (1989)). I define the *public sphere* in cell (c,t) as the set of venues and interactions in which reasons about common affairs are produced and exchanged. Concretely, it includes (i) mass and local media; (ii) open civic forums (associations, clubs, assemblies); and (iii) informal interpersonal communication. In the model, citizens observe only the subset of arguments they are exposed to; I formalize this below via the information set $\mathcal{F}_{i,c,t}$. I abstract from censorship: any agent can contribute to and access this discourse, though exposure varies across citizens.

Endorsement concerns institutionalization, so two latent dimensions matter for persuasion: a *merit* dimension m (is the norm optimal or desirable?) and an *implementation/how* dimension h (is its institutionalization feasible/can we make it work?)[3]. Persuasion is therefore complementary in these dimensions: learning about one dimension has the highest marginal effect on endorsement when the other is sufficiently covered. Both dimensions draw on different knowledge bases (value-arguments vs. legal-rational expertise). Priors are Gaussian and independent:

$$m \sim \mathcal{N}(\mu_m, \sigma_m^2), \qquad h \sim \mathcal{N}(\mu_h, \sigma_h^2).$$

Two producer channels supply public reasons: $j = S$ (*state agents*: public employees spilling over from their roles) and $j = P$ (*peers*: the other citizens). Each channel's communication has (i) *reach* $E^j_{i,c,t} \geq 0$, the realized exposure intensity in (i,c,t), and (ii) *content precision* on the two dimensions $k \in \{m,h\}$.

For each channel $j \in \{S,P\}$ (state agents, peers) and dimension $k \in \{m,h\}$ (merit, how), producing precision $\pi^k_j \geq 0$ requires effort $e^k_j \geq 0$ and entails a convex cost $C^k_j(e^k_j)$ with $C^{k\prime}_j(e) > 0$ and $C^{k\prime\prime}_j(e) \geq 0$. Precision is generated by an increasing, concave technology $\pi^k_j = \upsilon^k_j(e^k_j)$ with $\upsilon^{k\prime}_j(e) > 0$ and $\upsilon^{k\prime\prime}_j(e) \leq 0$.

Notation. I fix a public sphere (c,t) and suppress (c,t) subscripts in producer choices; thus π^k_j should be read as $\pi^k_{j,c,t}$ (and similarly for e^k_j).

Assumption 1 (Role-based cost asymmetry on implementation precision) *There exists $\delta > 0$ such that for all $x \geq 0$,*

$$C^{h\prime}_S(x) \;\leq\; (1-\delta)\, C^{h\prime}_P(x).$$

Moreover, the two channels are symmetric on the merit dimension:

$$C^{m\prime}_S(x) = C^{m\prime}_P(x) \quad \forall x \geq 0, \quad \textit{and} \quad \upsilon^m_S = \upsilon^m_P.$$

[3]The model does not presume that citizens explicitly debate the primitives (m,h). Public-sphere exchanges typically proceed through concrete cases, policy controversies, and institutional proposals. Such discourse indirectly conveys information about desirability and implementability, and endorsement updates indirectly as public reasons accumulate. This interpretation is consistent with Habermas (1989)'s view of opinion formation as a process of public reasoning rather than a direct vote over primitives. Formally, (m,h) are sufficient statistics for the informational content of these arguments in the learning problem.

Interpretation. I use Weber's legal–rational bureaucracy as a paradigmatic source of role-based feasibility expertise. More generally, many state-facing occupational roles—across the public sector—are routinely structured around public implementability constraints (legality, procedure, enforceability, administrative capacity), giving state agents a comparative advantage in feasibility talk in the public sphere relative to peers.

Assumption 2 (Legitimacy has social value) *Public endorsement of the institutional norm in public sphere (c,t) is valuable because it improves institutional performance through higher compliance and lower enforcement burdens. Let $S_{c,t}$ denote aggregate endorsement (legitimacy) of the institutional norm. Higher legitimacy raises a common payoff $V(S_{c,t})$, with $V'(S) > 0$ (and, if desired, $V''(S) \leq 0$).* Baseline normalization: $V(S) = B\,S$ *with* $B > 0$.

Imperfect internalization by producers. Each channel $j \in \{S, P\}$ is modeled as a representative (non-atomistic) producer of reasons: its choice of precision affects the information received by a positive mass of citizens through reach, and therefore equilibrium endorsement $S_{c,t}$. Channel j internalizes a fraction $\beta_j \in (0, 1]$ of the common benefit $V(S_{c,t})$; I assume $\beta_j > 0$ to focus on equilibria in which each channel supplies positive precision. Accordingly, the producer's objective scales the legitimacy payoff by β_j, generating an *internalization wedge* when $\beta_j < 1$. I interpret β_j as a reduced-form measure of institutional agency: the extent to which actors in channel j expect public endorsement to translate into institutional outcomes.

For each channel j, individual exposure within (c,t) decomposes as

$$E^j_{i,c,t} = E^j_{c,t} + \eta^j_{i,c,t}, \qquad \mathbb{E}[\eta^j_{i,c,t} \mid c,t] = 0,$$

where $E^j_{c,t}$ is aggregate reach in public sphere (c,t) for channel j and $\eta^j_{i,c,t}$ is idiosyncratic reach. Assume $\eta^j_{i,c,t}$ has support such that $E^j_{i,c,t} \geq 0$ a.s. Agents condition on their realized exposure.

Assumption 3 (Within-period predetermined/atomistic reach) *Within (c,t), channel reach $E^j_{c,t}$ (for $j \in \{S,P\}$) is determined by many micro-broadcasts and information-environment constraints (e.g., communication technology, media-market reach). Any single citizen or micro-sender is negligible, so aggregate reach $E^j_{c,t}$ is taken as predetermined within the period.*

Channel reach $E^j_{c,t}$ is treated as predetermined within the period, but each channel's precision choice is non-atomistic: changing π^k_j shifts the informativeness of the signals received by the (positive) mass of citizens exposed through reach, and thus affects equilibrium endorsement.

Assumption 4 (Exposure–signal aggregation) *For each channel $j \in \{S,P\}$ and dimension $k \in \{m,h\}$, citizen i observes an aggregated signal*

$$\tilde{x}^k_{j,i,c,t} = \begin{cases} m + \tilde{\varepsilon}^m_{j,i,c,t}, & k = m, \\ h + \tilde{\varepsilon}^h_{j,i,c,t}, & k = h, \end{cases}$$

where, if $\pi^k_j E^j_{i,c,t} > 0$,

$$\tilde{\varepsilon}^k_{j,i,c,t} \sim \mathcal{N}\Big(0,\ (\pi^k_j E^j_{i,c,t})^{-1}\Big).$$

If $\pi^k_j E^j_{i,c,t} = 0$, no informative signal on (j,k) is observed (equivalently, the posterior equals the prior on that dimension from that channel). Signals are independent across j and k conditional on (m,h).

Citizen i's information set in (c,t) is

$$\mathcal{F}_{i,c,t} \;=\; \sigma\Big(E^S_{i,c,t},\, E^P_{i,c,t},\, \tilde{x}^m_{S,i,c,t},\, \tilde{x}^h_{S,i,c,t},\, \tilde{x}^m_{P,i,c,t},\, \tilde{x}^h_{P,i,c,t}\Big).$$

Microfoundations. (i) The noise in $\tilde{x}^k_{j,i,c,t}$ is mean-zero. This reflects that arguments circulating in the public sphere are citable and contestable: fact claims can be checked, and counter-arguments are voiced. With many micro-senders and heterogeneous views, aggregation (or averaging over Poisson arrivals) washes out idiosyncratic distortions, yielding no systematic drift in either dimension. (ii) $E^j_{i,c,t}$ independent repetitions of a basic Gaussian signal (for m and for h), averaged, so precision adds to $\pi^k_j E^j_{i,c,t}$; or (iii) a continuous-time information flow with rate π^k_j observed over a window of length $E^j_{i,c,t}$, yielding cumulative precision $\pi^k_j E^j_{i,c,t}$. More $\pi^k_j E^j_{i,c,t}$ moves beliefs toward the truth (variance falls).

Interpretation. Across contexts, citizens may assign different credibility to channels. This can be represented as a wedge between "objective" precision $\pi^k_j E^j_{i,c,t}$ and the effective precision used in updating, e.g., $\tau_j\, \pi^k_j E^j_{i,c,t}$ with $\tau_j \in (0,1]$ capturing channel credibility. In low-trust institutional environments, τ_S may be low even if state-facing roles generate feasibility talk. More generally, citizens may weight the two content dimensions differently when forming endorsement. A parsimonious way to capture this is to allow dimension-specific attention weights $\omega^k_i > 0$, so that belief updating depends on effective precision $\omega^k_i \tau_j\, \pi^k_j E^j_{i,c,t}$. Individuals with higher ω^m_i are more merit-attentive: they condition endorsement more on disciplined *why*-reasons. Under feasibility-tilted state-agent discourse, higher merit-attention implies (i) a smaller direct marginal effect of state-agent exposure and (ii) a less negative peer–state interaction, as state-agent feasibility reasons primarily operate by completing merit reasons supplied through peers. This motivates the empirical heterogeneity analysis using predetermined engagement in political persuasion as a proxy for merit-attention.

2.2 Analysis

2.2.1 Static analysis

Posterior with exposure scaling. Define prior precisions $\tau_m \equiv \sigma_m^{-2}$, $\tau_h \equiv \sigma_h^{-2}$, and the total effective precision on dimension $k \in \{m,h\}$,

$$Q_{k,i,c,t} \;\equiv\; \sum_{j\in\{S,P\}} \pi^k_j\, E^j_{i,c,t}.$$

Thus, reach scales informativeness linearly: each additional unit of exposure to channel j adds π^k_j units of precision on dimension k.

Lemma 1 *Under Assumption 4, posteriors decouple by dimension and are Gaussian with precision $\tau_k + Q_{k,i,c,t}$:*

$$m \mid \{\tilde{x}^m_{j,i,c,t}\}_j \sim \mathcal{N}\left(\frac{\tau_m\mu_m + \sum_j(\pi^m_j E^j_{i,c,t})\,\tilde{x}^m_{j,i,c,t}}{\tau_m + \sum_j \pi^m_j E^j_{i,c,t}},\; \big(\tau_m + \sum_j \pi^m_j E^j_{i,c,t}\big)^{-1}\right),$$

$$h \mid \{\tilde{x}^h_{j,i,c,t}\}_j \sim \mathcal{N}\left(\frac{\tau_h\mu_h + \sum_j(\pi^h_j E^j_{i,c,t})\,\tilde{x}^h_{j,i,c,t}}{\tau_h + \sum_j \pi^h_j E^j_{i,c,t}},\; \big(\tau_h + \sum_j \pi^h_j E^j_{i,c,t}\big)^{-1}\right).$$

Proof 1 (Sketch) *Conditional on each dimension k, signals are independent Gaussians with precisions $\pi^k_j E^j_{i,c,t}$. Conjugacy implies precisions add and the posterior mean is a precision-weighted average.*

Benchmark: within-channel bundling (no cross-channel fit). Fixing (i, c, t) and suppressing subscripts, for each channel $j \in \{S, P\}$ and dimension $k \in \{m, h\}$, the effective precision is

$$Q_j^k \;\equiv\; \pi_j^k \, E^j \;\geq 0.$$

In the benchmark, endorsement requires a *matched pair* of reasons (m, h) that is assembled *within the same channel*. A convenient Poisson microfoundation is that, in channel j, opportunities to encounter a persuasive merit argument arrive with precision Q_j^m and opportunities to encounter a persuasive implementation argument arrive with precision Q_j^h, independently. The probability that channel j delivers a complete (matched) bundle is then

$$\Lambda_j(Q_j^m, Q_j^h) \;\equiv\; \left(1 - e^{-Q_j^m}\right)\left(1 - e^{-Q_j^h}\right).$$

Let $\Lambda \equiv \Lambda_S + \Lambda_P$ denote the total arrival precision of complete bundles from either channel, and let endorsement be

$$s(E^S, E^P) \;=\; u(\Lambda),$$

where $u : \mathbb{R}_+ \to [0, 1)$ is $\mathcal{C}^2$, increasing and concave ($u' > 0$, $u'' \leq 0$). A canonical case is $u(\Lambda) = 1 - e^{-\Lambda}$.

Proposition 1 (Within-channel bundling implies substitutability across channels) *Under the benchmark above, endorsement is weakly increasing in each exposure and submodular:*

$$\frac{\partial s}{\partial E^S} \geq 0, \qquad \frac{\partial s}{\partial E^P} \geq 0, \qquad \frac{\partial^2 s}{\partial E^S \, \partial E^P} \leq 0.$$

Proof 2 (Sketch) *Since $\Lambda = \Lambda_S(E^S) + \Lambda_P(E^P)$, we have $\partial s / \partial E^j = u'(\Lambda)\, \Lambda_j'(E^j) \geq 0$. Moreover,*

$$\frac{\partial^2 s}{\partial E^S \, \partial E^P} = u''(\Lambda)\, \Lambda_S'(E^S)\, \Lambda_P'(E^P) \;\leq\; 0,$$

because $u'' \leq 0$ and $\Lambda_j' > 0$ whenever $\pi_j^m + \pi_j^h > 0$ and $E^j > 0$.

Interpretation. Monotonicity ($u' > 0$) captures that additional reach increases the precision of complete argument bundles and hence endorsement. Concavity ($u'' \leq 0$) reflects diminishing returns from saturation, limited attention, and audience overlap. In the benchmark, $\Lambda = \Lambda_S(E^S) + \Lambda_P(E^P)$ is additively separable across channels, so the cross–partial is negative only through the curvature of u: $s_{SP} = u''(\Lambda)\Lambda_S'(E^S)\Lambda_P'(E^P) \leq 0$. This is therefore a prediction about how *bundles* combine at the endorsement stage, not about exposure mechanics per se. I normalize $u'(0) = 1$.

Producer choice (benchmark only). In the benchmark, complete argument bundles are assembled within channels. I therefore model precision choices $\{\pi_j^m, \pi_j^h\}_{j \in \{S,P\}}$ as determined by within-channel optimization, and treat them as predetermined when studying cross-channel fit. This timing isolates the mechanism of interest: holding content mixes fixed, cross-channel fit changes whether peer and state-agent exposures are complements or substitutes in endorsement. The benchmark pins down how $\{E_j, \beta_j, MC_j^k\}$ map into equilibrium precisions $\{\pi_j^m, \pi_j^h\}$ and thus within-channel completeness, while the specialization extension takes these mixes as given to characterize the cross-partial $\partial^2 s / \partial E^S \partial E^P$, that is, complementarity versus substitution across channels.

Channel $j \in \{S, P\}$ has aggregate reach $E_{c,t}^j \geq 0$ and chooses efforts $e_j^m, e_j^h \geq 0$, which generate precisions $\pi_j^k = \upsilon_j^k(e_j^k)$ for $k \in \{m, h\}$. Under within-channel bundling, the intensity of complete bundles from channel j is

$$\Lambda_j \;=\; \left(1 - e^{-\pi_j^m E_{c,t}^j}\right)\left(1 - e^{-\pi_j^h E_{c,t}^j}\right).$$

With $\Lambda \equiv \Lambda_S + \Lambda_P$ and endorsement $s = u(\Lambda)$, $u' > 0$, $u'' \leq 0$, channel j chooses (e_j^m, e_j^h) to maximize an internalized benefit net of production costs:

$$\max_{e_j^m, e_j^h \geq 0} \; \beta_j \, B \, u(\Lambda) \; - \sum_{k \in \{m,h\}} C_j^k(e_j^k), \qquad j \in \{S, P\}.$$

Proposition 2 (Benchmark producer optimality conditions) *Fix (c,t) and suppress indices. Let $\Lambda = \Lambda_S + \Lambda_P$, with*

$$\Lambda_j(\pi_j^m, \pi_j^h; E^j) \; = \; (1 - e^{-\pi_j^m E^j})(1 - e^{-\pi_j^h E^j}), \qquad j \in \{S, P\}.$$

Channel j chooses $e_j^m, e_j^h \geq 0$, which generate $\pi_j^k = \upsilon_j^k(e_j^k)$, to maximize

$$\beta_j B \, u(\Lambda) \; - \sum_{k \in \{m,h\}} C_j^k(e_j^k).$$

At any interior optimum $(e_j^m, e_j^h) \gg 0$, the first-order conditions are, for $k \in \{m,h\}$ and $\ell \neq k$,

$$\beta_j B \, u'(\Lambda) \, E^j \, e^{-\pi_j^k E^j} \, (1 - e^{-\pi_j^\ell E^j}) \, \upsilon_j^{k\prime}(e_j^k) \; = \; C_j^{k\prime}(e_j^k). \tag{1}$$

Equivalently, defining the marginal cost of precision as $MC_j^k(e) \equiv C_j^{k\prime}(e)/\upsilon_j^{k\prime}(e)$, (1) can be written as

$$MC_j^k(e_j^k) \; = \; \beta_j B \, u'(\Lambda) \, E^j \, e^{-\pi_j^k E^j} \, (1 - e^{-\pi_j^\ell E^j}).$$

Interpretation. Condition (1) equates the marginal cost of improving precision in dimension k to its marginal benefit through bundle formation. Because the benefit term contains $(1 - e^{-\pi_j^\ell E^j})$, raising precision in one dimension increases the marginal value of raising precision in the other: within-channel bundling induces complementarity between m and h on the producer side. The internalization weight β_j scales incentives to invest in precision. Reach E^j scales the payoff to precision because more citizens are affected, but it also governs saturation: marginal returns to further increases in π_j^k decline more quickly when E^j is large (since effective precision is $Q_j^k = \pi_j^k E^j$).

For small E^j, $(1 - e^{-\pi_j^\ell E^j}) = \pi_j^\ell E^j + o(E^j)$, so the marginal benefit in (1) scales locally as $(E^j)^2 \pi_j^\ell$, which is the force behind Proposition 3.

Proposition 3 (Comparative advantage yields (local) specialization pressure) *Consider the benchmark producer problem with within-channel bundling and normalize $u'(0) = 1$. Let each channel $j \in \{S, P\}$ internalize a fraction $\beta_j \in (0, 1]$ of the common benefit. Under Assumption 1, symmetry on the m-dimension, $\beta_S = \beta_P$, and interior solutions, there exists $\bar{E} > 0$ such that for reach levels $E^S = E^P \in (0, \bar{E}]$, the state-agent channel chooses weakly higher implementation precision than peers:*

$$\pi_S^h \; \geq \; \pi_P^h,$$

and hence a (weakly) more implementation-tilted mix:

$$\frac{\pi_S^h}{\pi_S^m} \; \geq \; \frac{\pi_P^h}{\pi_P^m}.$$

Proof 3 (Sketch) *For small x, $1-e^{-x} = x+o(x)$. Thus, for small reach, within-channel bundling satisfies $\Lambda_j = (1-e^{-\pi_j^m E^j})(1-e^{-\pi_j^h E^j}) = (\pi_j^m E^j)(\pi_j^h E^j) + o((E^j)^2)$. With $u'(0)=1$, the local marginal benefit of increasing π_j^h is proportional to $(E^j)^2\pi_j^m$, and analogously the marginal benefit of raising π_j^m is proportional to $(E^j)^2\pi_j^h$. Under symmetry on the m-dimension, channels face the same marginal cost and technology for raising π^m, while state agents have strictly lower marginal cost of raising π^h by Assumption 1. The resulting interior first-order conditions therefore imply $\pi_S^h \geq \pi_P^h$ for small enough reach, and thus the stated tilt.*

Interpretation. Because endorsement requires a complete (m,h) bundle, precision on either dimension has little value if the other is missing. At low reach, complete bundles are scarce and $\Lambda_j \approx (E^j)^2\pi_j^m\pi_j^h$, so the marginal return to increasing π_j^h is scaled by $(E^j)^2\pi_j^m$. In this scarcity region, a comparative advantage in implementation precision translates directly into higher chosen π^h for the state-agent channel (and hence a more implementation-tilted mix). The result is stated locally because the Poisson technology saturates: when $Q_j^h = \pi_j^h E^j$ is large, $e^{-Q_j^h}$ becomes small and the marginal gain from further increasing π_j^h collapses, weakening specialization pressure.

In what follows, I take the precision vector $\{\pi_j^m, \pi_j^h\}$ as given (determined by the benchmark within-channel production problem) and study how specialization shapes the mapping from exposures (E^S, E^P) to endorsement through cross-channel fit.

Extension: cross-channel fit under specialization. When channels specialize, citizens may assemble a matched pair across channels: a merit reason from one channel and an implementation reason from the other. A natural extension adds a cross-channel bundle intensity

$$\Lambda_\times \;\equiv\; \left(1-e^{-Q_S^m}\right)\left(1-e^{-Q_P^h}\right) \;+\; \left(1-e^{-Q_S^h}\right)\left(1-e^{-Q_P^m}\right),$$

and sets $s(E^S,E^P) = u(\Lambda_S+\Lambda_P+\Lambda_\times)$. Under strong specialization (e.g., $Q_S^m \simeq 0$ and $Q_P^h \simeq 0$), $\Lambda_\times$ dominates within-channel bundling, and the cross-partial can turn positive, capturing complementarity in exposures driven by cross-channel fit.

Lemma 2 (Cross-channel fit generates local complementarity) *Fix (i,c,t) and suppress subscripts. Let $f(x) \equiv 1-e^{-x}$ and $Q_j^k \equiv \pi_j^k E^j$ for $j \in \{S,P\}$ and $k \in \{m,h\}$. Let Λ_S and Λ_P be the within-channel bundle intensities defined above, and define the cross-channel fit intensity*

$$\Lambda_\times \;\equiv\; f(Q_S^m)f(Q_P^h) + f(Q_S^h)f(Q_P^m).$$

Let total bundle intensity be $\Lambda \equiv \Lambda_S+\Lambda_P+\Lambda_\times$ and endorsement be $s(E^S,E^P) = u(\Lambda)$, where $u:\mathbb{R}_+ \to [0,1)$ is $\mathcal{C}^2$ with $u'(0)>0$. Then

$$\left.\frac{\partial^2 s}{\partial E^S\,\partial E^P}\right|_{E^S=E^P=0} \;=\; u'(0)\,\kappa, \qquad \kappa \;\equiv\; \pi_S^m\pi_P^h + \pi_S^h\pi_P^m.$$

In particular, if $\kappa>0$ then there exists $\varepsilon>0$ such that $\partial^2 s/\partial E^S\partial E^P > 0$ for all $(E^S,E^P)\in[0,\varepsilon]^2$.

Proof 4 (Sketch) *At $E^S=E^P=0$, we have $Q_j^k=0$ and $f(0)=0$, $f'(0)=1$. Thus Λ_S depends only on E^S and Λ_P only on E^P, so they contribute no cross-partial at the origin. The cross term satisfies*

$$\left.\frac{\partial^2 \Lambda_\times}{\partial E^S\,\partial E^P}\right|_0 = \pi_S^m\pi_P^h + \pi_S^h\pi_P^m = \kappa.$$

Moreover, $\partial\Lambda/\partial E^S\big|_0 = \partial\Lambda/\partial E^P\big|_0 = 0$, so by the chain rule, $s_{SP}|_0 = u'(0)\,\Lambda_{SP}|_0 = u'(0)\kappa$. Continuity of s_{SP} yields positivity on a neighborhood when $\kappa>0$.

Interpretation. The benchmark assumes that citizens obtain a complete case for endorsement—a persuasive *why* (m) and a persuasive *how* (h)—from within the same channel. Specialization breaks this: if one channel is relatively better at supplying feasibility and the other at supplying normative justification, then complete bundles may be assembled *across* channels. The term $\Lambda_\times$ captures precisely this possibility: $f(Q_S^h)f(Q_P^m)$ is the probability of encountering an implementation argument via the state-agent channel *and* a merit argument via the peer channel (and symmetrically $f(Q_S^m)f(Q_P^h)$ for the opposite pairing). Under strong specialization ($Q_S^m \simeq 0$, $Q_P^h \simeq 0$), most complete bundles arrive through cross-channel matching rather than within-channel bundling.

The parameter

$$\kappa \;\equiv\; \pi_S^m \pi_P^h + \pi_S^h \pi_P^m$$

summarizes the scope for cross-channel fit: it is large when the channels' content mixes are *non-aligned* (one loads on h while the other loads on m), and it collapses when mixes are proportional. Lemma 2 shows that, at low exposure, cross-channel fit induces local complementarity in reach: increasing E^S raises the marginal return to E^P because it makes it more likely that a citizen who hears a merit argument from peers also encounters an implementation argument from state agents, and conversely.

The emphasis on the origin reflects that, when exposures are small, $f(x) = 1 - e^{-x} \approx x$ and bundle-arrival probabilities are approximately linear in effective precisions; this yields a transparent closed-form cross-partial $u'(0)\kappa$.

Comparative statics guiding the empirical tests. Proposition 2 characterizes how equilibrium precision provision—and hence the *within-channel completeness* of persuasion—moves with three primitives: (i) *reach* E^j, (ii) *internalization* β_j, and (iii) the *marginal cost of precision* $MC_j^k(\cdot)$ in each dimension $k \in \{m, h\}$. Appendix Figure A1 provides a schematic representation of the benchmark producer first-order condition in *effective precision* $Q_j^k \equiv \pi_j^k E^j$. Holding $u'(\Lambda)$ and the other dimension's effective precision Q_j^ℓ fixed, the marginal benefit of increasing Q_j^k is proportional to $\beta_j E^j e^{-Q_j^k}(1 - e^{-Q_j^\ell})$. In Q-space, higher reach E^j and internalization β_j therefore scale up the marginal benefit curve without changing its shape, while lower marginal costs of precision shift the MC curve down. In the specialization extension, cross-channel fit is summarized by $\kappa = \pi_S^m \pi_P^h + \pi_S^h \pi_P^m$ (Lemma 2): environments that raise κ strengthen cross-channel completion and make exposures less substitutable, whereas environments that increase within-channel completeness tend to reduce reliance on cross-source assembly. These comparative statics discipline the heterogeneity patterns studied in the empirical mechanism analysis.

Corollary 1 (Strong specialization) *Under strong specialization with* $\pi_S^h > 0$, $\pi_P^m > 0$, *and* $\pi_S^m = \pi_P^h = 0$,

$$\left.\frac{\partial^2 s}{\partial E^S \, \partial E^P}\right|_{E^S = E^P = 0} \;=\; u'(0)\, \pi_S^h \pi_P^m \;>\; 0.$$

If, moreover, $u'(0) = 1$ *(normalization), this equals* $\pi_S^h \pi_P^m$.

Interpretation (Instrumental specialization as a neutral amplifier). Consider a role-specialized Weberian bureaucracy spilling over into the public sphere, with $\pi_S^h \gg \pi_S^m \simeq 0$. The state-agent channel then contributes feasibility (h) with little moral content (m). The cross-fit term $\kappa = \pi_S^m \pi_P^h + \pi_P^m \pi_S^h$ is dominated by the off-diagonal product $\pi_P^m \pi_S^h$, so feasibility talk from state agents mechanically amplifies whatever moral reasons peers supply. Normatively, such *instrumental specialization is a content-agnostic amplifier*: it increases the effectiveness of prevailing m, whether

benign or malign[4]. Avoiding over-specialization is therefore a robustness concern, not merely an efficiency loss, especially at low exposures. Section 2.2.3 studies when this amplification is socially costly and which guardrails preserve informational gains while limiting amplification risk.

2.2.2 Dynamics: Feedback and regime shifts

The previous results characterize within-period effects. I now allow endorsement to feed back into future reach through public-sphere propagation, generating norm dynamics.

Let aggregate endorsement at date t be $S_t \in [0,1]$. Public-sphere propagation implies that reach in the next period is increasing in current endorsement:

$$E^j_{t+1} \;=\; E^j(S_t), \qquad j \in \{S,P\}.$$

Given reach (E^S_{t+1}, E^P_{t+1}), total bundle precision is $\Lambda_{t+1} \equiv \Lambda(E^S_{t+1}, E^P_{t+1})$, and endorsement updates through u:

$$S_{t+1} \;=\; u(\Lambda_{t+1}) \;\equiv\; \Phi(S_t), \qquad \Phi(S) \;=\; u\Big(\Lambda\big(E^S(S), E^P(S)\big)\Big).$$

Contrast with preference-falsification accounts. A canonical mechanism for rapid norm change is preference falsification: individuals switch their *public* stance when the perceived social acceptability of a position shifts, generating threshold cascades (Kuran (1991), Kuran (1995), Bursztyn et al. (2020)). A reduced-form representation is

$$y_{i,t} = \mathbf{1}\{\, p_i + \mu_t - c_i(S_{t-1}) + \varepsilon_{i,t} \geq 0 \,\}, \qquad S_t = \mathbb{E}[y_{i,t} \mid \mathcal{F}_t],$$

where p_i is the private stance, $c_i(\cdot)$ decreases in perceived support, and μ_t is an exogenous acceptability shock (e.g., an election outcome). In this class of models, sender identity and argument structure play no role: norm change operates through μ_t shifting expression thresholds. By contrast, my mechanism operates through persuasion: reach and institutional context determine exposure ($E^j(\cdot)$) and producer internalization (β_j); content precision and bundling (π^k_j, within-channel bundles, and cross-channel fit) govern how endorsement responds to discourse.

Assumption 5 (Exposure maps) *For $j \in \{S,P\}$, $E^j : [0,1] \to [0,\infty)$ is twice differentiable, increasing ($E^{j\prime} \geq 0$) with bounded derivatives; $E^{j\prime}$ may eventually decline (saturation).*

Lemma 3 (Curvature decomposition) *For $\Phi(S) = u(\Lambda(S))$,*

$$\Phi'(S) = u'(\Lambda)\,\Lambda'(S), \qquad \Phi''(S) = u''(\Lambda)\,[\Lambda'(S)]^2 \;+\; u'(\Lambda)\,\Lambda''(S).$$

Moreover, in the specialization extension, $\Lambda''(S)$ contains the strictly positive cross-fit term

$$2\,E^{S\prime}(S)\,E^{P\prime}(S)\Big[\pi^m_S\pi^h_P\,e^{-\{Q^m_S(S)+Q^h_P(S)\}} \;+\; \pi^h_S\pi^m_P\,e^{-\{Q^h_S(S)+Q^m_P(S)\}}\Big],$$

which is absent in the benchmark (where $\Lambda_\times \equiv 0$).

Proof 5 (Sketch) *The first display is the chain rule. For the second, note $f'(x) = e^{-x} > 0$ and write $\Lambda_\times(S) = f(Q^m_S(S))f(Q^h_P(S)) + f(Q^h_S(S))f(Q^m_P(S))$. Differentiating twice yields a term $2\,f'(Q^\ell_S)\,f'(Q^{\ell'}_P)\,Q^{\ell}_S{}'(S)\,Q^{\ell'}_P{}'(S)$ for each off-diagonal pair $(\ell,\ell') \in \{(m,h),(h,m)\}$, with $Q^k_j{}'(S) = \pi^k_j E^{j\prime}(S)$, giving the stated expression.*

[4]This formalizes Horkheimer and Adorno (1944)'s concern that instrumental reason, when detached from reflection on ends, can be mobilized toward oppressive projects.

Proposition 4 (When the endorsement update map is S-shaped) *Under Assumption 5 and $u' > 0$, $u'' \leq 0$, a sufficient condition for local convexity at some interior $S^\star \in (0,1)$ is*

$$u'(\Lambda^\star)\,\Lambda''(S^\star) \;>\; -\,u''(\Lambda^\star)\,[\Lambda'(S^\star)]^2, \qquad \Lambda^\star \equiv \Lambda(S^\star).$$

If, in addition, $E^{j\,\prime}(S)$ eventually decreases and $u'(\Lambda(S)) \to 0$ as $S \to 1$, then $\Phi''(S) < 0$ for S sufficiently close to 1. Hence, for sufficiently strong cross-channel fit (e.g., large off-diagonal products $\pi_S^m \pi_P^h + \pi_S^h \pi_P^m$), the map Φ is S-shaped.

Proof 6 (Sketch) *By Lemma 3, $\Phi'' = u''(\Lambda)(\Lambda')^2 + u'(\Lambda)\Lambda''$. Cross-channel fit raises Λ'' through the strictly positive term in Lemma 3, making the inequality hold at intermediate S when the off-diagonal products are large enough. Near $S = 1$, saturation ($E^{j\,\prime} \downarrow$) and $u'(\Lambda) \downarrow$ imply $\Phi'' < 0$.*

Example (linear reach, exponential link). Let $E^j(S) = a_j + b_j S$ with $a_j, b_j > 0$ and $u(\Lambda) = 1 - e^{-\Lambda}$. Under strong specialization $(\pi_S^m, \pi_P^h) = (0,0)$,

$$\Lambda(S) = \big(1 - e^{-\pi_S^h E^S(S)}\big)\big(1 - e^{-\pi_P^m E^P(S)}\big).$$

Differentiating shows $\Lambda''(S)$ contains the strictly positive term $2\,\pi_S^h \pi_P^m\, E^{S\,\prime}(S) E^{P\,\prime}(S)\, e^{-(\pi_S^h E^S + \pi_P^m E^P)}$, which can dominate at intermediate S, while saturation implies concavity for large S. Hence $\Phi(S) = 1 - e^{-\Lambda(S)}$ can be S-shaped.

Corollary 2 (Multiplicity and regime switches) *Let $S_{t+1} = \Phi(S_t)$ with Φ increasing and S-shaped on $[0,1]$. If $\max_{S\in[0,1]} \Phi'(S) > 1$, then there exist three fixed points $0 < S_L < S_M < S_H \leq 1$ with S_L, S_H locally stable and S_M unstable. Small shocks to reach $E^j(\cdot)$ or to cross-channel fit (through the off-diagonal products $\pi_S^m \pi_P^h + \pi_S^h \pi_P^m$) near S_M can trigger discontinuous transitions between low- and high-endorsement regimes.*

Interpretation (double-edged specialization). Stronger specialization increases off-diagonal products such as $\pi_S^h \pi_P^m$, raising the cross-fit contribution to $\Lambda''(S)$ (Lemma 3) and steepening the update map around intermediate endorsement levels (efficiency at low exposure). But it also raises $\max_S \Phi'(S)$, making the system more sensitive to small shocks and more prone to sharp regime switches (Corollary 2).

Illustrations. The illustrations below provide stylized mappings from the model to historical episodes.

Illustration 1: Interwar Germany as a low-reach, specialization–driven regime switch. Interwar Germany can be interpreted as an environment in which baseline receptiveness to particularist narratives was nontrivial – placing the system closer to an intermediate threshold than to a low-endorsement corner – consistent with the long-run intellectual currents emphasized by Kohn (1950) and Mosse (1964)[5]. In the model, a bureaucracy with a strong legal-rational tradition (Arendt (1963), Heldring (2023)) spills over into the public sphere and is captured by comparatively high implementation precision in the state-agent channel (high π_S^h). This increases the scope for cross-channel fit when paired with moral content supplied in the peer channel. Programmatic

[5]Suggestive evidence of persistence in beliefs about cultural superiority comes from PewResearchCenter (2011), which reports that 47% of German respondents (and 49% of Americans) agree that "our culture is superior to others," compared with 44% in Spain, 32% in Britain, and 27% in France.

materials and administrative planning can be viewed as raising the availability of implementation talk alongside moral narratives, further strengthening cross-fit. Baseline reach can be thought of as relatively low in the sense of weak public-sphere integration. Despite dense associational life, civic engagement often occurred within segmented subpublics rather than cross-cutting fora, and party politics remained fragmented, limiting common arenas in which competing groups encountered shared reasons (Berman (1997)). In the model, this places the system in a low-exposure region in which complete bundles are rare and the marginal effects of increases in reach are large when cross-channel fit is active (Lemma 2). Mass persuasion technologies in the interwar period (e.g., radio propaganda; Adena et al. (2015)) plausibly raised effective reach in both channels, increasing $E^S(S)$ and $E^P(S)$. With cross-channel fit active, these forces can steepen the endorsement update map around intermediate endorsement levels (Proposition 4), so that a sufficiently large shock to reach tips the system from the vicinity of the unstable threshold S_M into the high-endorsement regime S_H. Thus, the surge reflects the interaction of preexisting particularism, strong implementation specialization of state agents, a weakly integrated public sphere, and a late increase in reach.

Illustration 2: The French Revolution as broad reach with within-channel bundling and an internalization shock. A natural reading of late–1780s France is that, prior to the political rupture itself, peer discourse already bundled the *why* and the *how* – normative claims accompanied by concrete institutional designs – consistent with an Enlightenment culture of "useful knowledge" (Mokyr (2010), Mokyr (2016)). In the model, this corresponds to substantial within-channel bundling in the peer channel (high π_P^m and π_P^h), so that peer-delivered complete bundles

$$\Lambda_P \;=\; \left(1 - e^{-\pi_P^m E^P(S)}\right)\left(1 - e^{-\pi_P^h E^P(S)}\right)$$

can be generated without relying primarily on cross-channel pairing. Prominent contributions such as Condorcet (1785) and Sieyès (1789) illustrate this coupling of general-interest criteria with institutional proposals. Against this backdrop, the late-1780s pamphlet and newspaper boom, together with dense associational life (coffee houses, salons, and literary societies), plausibly raised peer reach (E^P) by expanding the scale and frequency of public argument exchange (Habermas (1989), Darnton (1982), Popkin (1990)). As the Estates–General convened and parliamentary procedure emerged through the National (then Constituent) Assembly, the public sphere became institutionally consequential. In the model, I capture this as an *internalization shock*: the perceived returns to producing, processing, and relaying public reasons increase when public endorsement becomes tied to formal political choice, so that $\theta_S \uparrow$ and $\theta_P \uparrow$, particularly for implementation talk[6]. Thus, the regime change is driven less by sharp cross-channel fit tied to strong specialization, and more by the combination of broad increases in reach and already-strong within-peer bundling, reinforced by higher incentives to supply precise public reasons once endorsement becomes consequential. This interpretation coheres with de Tocqueville (1998)'s emphasis on pre–Revolution administrative centralization meeting a public sphere empowered by the Estates–General, and with Habermas (1989)'s account of deliberation migrating from print and salons into parliamentary procedure.

2.2.3 Welfare and policy: amplification risk and guardrails

The positive analysis highlights a trade-off. Because endorsement is bundle-based—it requires a matched *why* (m) and *how* (h)—precision investments can improve the informational basis of legitimacy. But under strong role specialization, the state-agent channel supplies mainly implementation

[6]The *cahiers de doléances* ("books of grievances") were lists of complaints and reform proposals compiled across France in early 1789 by local assemblies of the three estates to instruct their deputies to the Estates–General.

talk (h) while contributing little merit discourse (m). This reduces contestation on the m-dimension and can turn h into a content-agnostic amplifier: it scales up whichever merit discourse prevails rather than disciplining it. This section separates (i) a planner wedge that governs overall precision provision from (ii) guardrails that target the specific configuration generating amplification risk.

Planner benchmark (internalization wedge). Fix (c,t) and suppress indices. Channel $j \in \{S,P\}$ chooses effort (e_j^m, e_j^h), generating precisions $\pi_j^k = \upsilon_j^k(e_j^k)$, and endorsement depends on bundle precision Λ through $s = u(\Lambda)$, with $u' > 0$ and $u'' \leq 0$. In the decentralized problem, each channel internalizes only a fraction $\beta_j \in (0,1]$ of the legitimacy benefit, so its objective is

$$\max_{e_j^m, e_j^h \geq 0} \; \beta_j \, B \, u(\Lambda) \; - \sum_{k \in \{m,h\}} C_j^k(e_j^k).$$

A utilitarian planner instead internalizes the full benefit and chooses $\{e_j^m, e_j^h\}_{j \in \{S,P\}}$:

$$\max_{\{e_j^m, e_j^h\}_j} \; B \, u(\Lambda) \; - \sum_{j \in \{S,P\}} \sum_{k \in \{m,h\}} C_j^k(e_j^k).$$

When $\beta_j < 1$, decentralized channels under-provide precision relative to the planner, motivating policies that raise β_j or subsidize precision investments.

Amplification risk (composition wedge under specialization). The model isolates a composition risk. Under comparative advantage (Assumption 1), the state-agent channel is pushed toward higher implementation precision h relative to peers (Proposition 3). When this tilt becomes extreme ($\pi_S^h \gg \pi_S^m \simeq 0$), cross-channel fit creates *local* complementarity in reach: under strong specialization the interaction in exposures is positive at low reach (Corollary 1). Because h is content-agnostic—it raises endorsement for whichever merit discourse prevails—this configuration is socially costly precisely when the merit case is weakly disciplined. In that case, additional implementation talk scales up endorsement without disciplining the underlying m-content.

Policy levers as guardrails. The amplification risk in the model arises when three conditions coincide: (i) strong specialization on implementation in the state-agent channel ($\pi_S^h \gg \pi_S^m \simeq 0$); (ii) low or fragmented reach (small effective E^j and weak common fora); and (iii) weakly disciplined merit discourse (low-quality or weakly contested m). The following levers map directly into these primitives. For clarity, I separate *planner-wedge* policies (raising internalization / relaxing costs) from *composition and public-sphere* guardrails that target (i)–(iii).

1. **Composition guardrail: mix some m into the state-agent channel (mitigate (i)).** Policies that raise π_S^m and/or reduce an excessive tilt toward π_S^h move the state-agent channel away from the instrumental-amplifier configuration $\pi_S^h \gg \pi_S^m \simeq 0$. In the model, this increases the availability of within-channel bundles in S and reduces reliance on cross-channel pairing (Corollary 1), thereby lowering the scope for content-agnostic amplification when peer merit discourse is weakly disciplined. Institutionally, this corresponds to embedding substantive professional norms (e.g. universalistic service standards, rights-compatibility, fairness constraints) alongside legal-rational expertise (mission-oriented bureaucracy).
2. **Merit-discipline guardrail: raise media quality (mitigate (iii), and partly (ii)).** Higher media quality—for instance through greater media plurality (lower concentration) and stronger verification capacity—can be represented as higher precision for a given reach (higher

π_P^m, and potentially π_P^h) and/or a higher marginal cost of low-quality claims (steeper C_P^m and C_P^h for unverified content). These changes increase contestability and reduce the probability that m is one-sided, making implementation talk h more likely to complete a disciplined merit case.

3. **Merit-discipline guardrail: invest in civic deliberative capacity (mitigate (iii)).** Civic-deliberation investments (education, (lifelong) civic training, debate and discussion infrastructures) can be modeled as lowering the cost of producing and processing public reasons in the peer channel (downward shifts in C_P^m and C_P^h) and/or improving precision technologies $\upsilon_P^m(\cdot)$ and $\upsilon_P^h(\cdot)$. This increases the availability of contestable reasons and, in turn, the likelihood that persuasive bundles are merit-disciplined rather than one-sided.

4. **Public-sphere integration guardrail: strengthen common fora (mitigate (ii)).** Policies that increase cross-cutting exposure and shared reference points—e.g. institutions or design choices that foster audience integration, common informational baselines, and deliberative fora—can be represented as raising baseline reach and reducing fragmentation in the exposure maps $E^j(\cdot)$. In the model, this shifts the environment away from the low-reach region in which complete bundles are rare and marginal effects of reach are large under cross-channel fit (Lemma 2).

5. **Epistemic-infrastructure guardrail: stable funding for verification and accountability (mitigate (iii)).** Stable financing of verification and accountability capacity—independent journalism, fact-checking institutions, public archives—can be modeled as relaxing resource constraints behind peer-side costs (lower C_P^m and C_P^h) and/or improving peer-side precision technologies (higher υ_P^m and υ_P^h). Such funding therefore limits capture-driven skew.

6. **Planner-wedge lever: increase internalization (raise β_j).** A utilitarian planner internalizes the full legitimacy benefit B, whereas decentralized channels internalize only $\beta_j B$. Institutions that make endorsement politically consequential (e.g. direct-democratic procedures) raise β_j, increasing equilibrium precision provision. This lever corrects underprovision of precision *in aggregate*; it does not by itself eliminate amplification risk, because comparative advantage can still channel additional provision toward h on the state-agent side. Hence it is most effective when combined with levers (1)–(5), which discipline merit discourse and limit extreme h-only specialization.

7. **Planner-wedge lever: civic dividend / time endowment (cost relief, and possibly reach).** An unconditional per-capita transfer T relaxes time and attention constraints and lowers the opportunity cost of producing and processing public reasons. In the model, this is naturally captured as cost relief on both content dimensions and in both channels:

$$C_j^k(e;T) \quad \text{with} \quad \frac{\partial}{\partial T} C_j^{k\prime}(e;T) < 0, \qquad j \in \{S,P\}, \quad k \in \{m,h\}.$$

   This increases equilibrium precisions π_j^m and π_j^h. Optionally, it may also raise participation and exposure (e.g. $E^j(S;T)$ with $\partial E^j/\partial T > 0$), but its clean planner interpretation is that it relaxes the precision-underprovision wedge. By itself, however, it does not remove amplification risk: if m remains weakly contested and the state channel is highly h-specialized, additional feasibility talk can still scale up a one-sided merit case.

Takeaway. Amplification risk is highest when (i) the state-agent channel specializes heavily in h, (ii) reach is low or fragmented, and (iii) merit discourse is weakly disciplined, so that cross-channel fit (Corollary 1) makes h a content-agnostic amplifier. Guardrails that discipline merit and

strengthen deliberative capacity and common fora (levers 2–5), together with limits on extreme h-only specialization (lever 1), reduce this risk. Planner-type levers that raise internalization or relax costs (levers 6–7) then increase the supply of precision and legitimacy *without* mechanically increasing the likelihood of harmful regime switches.

For reference, Table A1 in Appendix 7 collects the main notation used throughout the model.

3 From Model to Empirics: Measurement and Identification

This section maps the model to empirical counterparts and lays out the identification strategy. The empirical analysis targets the model's static persuasion predictions.

3.1 Empirical counterparts

Consider a canton-year public sphere (c, t). In the model, persuasion operates through (i) *reach* (exposure) to a given channel $j \in \{S, P\}$, denoted $E^j_{c,t}$, and (ii) the *content mix* carried by that channel. Empirically, I construct *content-weighted exposure measures*

$$X^j_{c,t} \;\equiv\; E^j_c \cdot p^j_{c,t}, \qquad j \in \{S, P\}, \tag{2}$$

where E^j_c is a predetermined reach proxy for channel j in canton c and $p^j_{c,t} \in [0, 1]$ is its universalist tilt in (c, t), measured as the share of workers in channel j who endorse institutional universalism. Empirically, I proxy the state-agent channel with public-sector employees (communal, cantonal, or federal) and the peer channel with private-sector employees. I compute $p^j_{c,t}$ outside the outcome sample (a leave-one-out group mean): the outcome sample consists of non-workers, so $p^j_{c,t}$ captures *who they are exposed to* in (c, t) rather than mechanically reflecting their own responses. In the model, channels can differ in the kinds of reasons they tend to supply (merit *versus* implementation). The data do not separately measure these two components, so $p^j_{c,t}$ summarizes the universalist-relevant arguments (m, h) carried by channel j in (c, t).

To proxy reach, I use predetermined canton-level "stock" variables and infrastructure:

$$E^S_c \;\approx\; \text{Public-employment share}^{(\text{baseline})}_c, \qquad E^P_c \;\approx\; \text{Association density}^{(\text{baseline})}_c. \tag{3}$$

These proxies capture stable differences in contact opportunities with state agents (via the local share of public employment) and peers (via the density of civic associations; see Appendix Table A2 for their exact construction). In the model, exposure is individual-specific: $E^j_{i,c,t}$ scales the precision with which citizen i receives reasons from channel j in public sphere (c, t). Empirically, I observe only predetermined canton-level proxies E^j_c. A natural mapping is

$$E^j_{i,c,t} = E^j_c + \eta^j_{i,c,t}, \qquad \mathbb{E}[\eta^j_{i,c,t} \mid c, t] = 0,$$

where $\eta^j_{i,c,t}$ captures within-canton heterogeneity in contacts and attention. Estimating the exposure specification with E^j_c replaces the individual content-weighted exposure $E^j_{i,c,t}p^j_{c,t}$ by the proxy $E^j_c p^j_{c,t}$. Under a classical proxy condition—$\eta^j_{i,c,t}$ is mean-zero and orthogonal to the structural error conditional on fixed effects and controls—this substitution introduces measurement error that tends to attenuate the estimated exposure effects. More generally, if $\eta^j_{i,c,t}$ reflects endogenous contact choice, the proxy substitution can induce selection bias. This motivates the complementary workplace-switch design, which delivers sharp within-person shifts in access to state-agent contacts while holding canton-year discourse conditions fixed, and which is arguably closer to an exogenous

exposure shock given the rich fixed effects structure and the pre-switch selection tests reported below.

The dependent variable is a binary indicator of endorsement of institutional universalism: $Y_{i,c,t} = 1$ if individual i endorses universalism as an institutional norm (equal treatment, including foreigners) and $Y_{i,c,t} = 0$ if the individual favors preferential opportunities for Swiss citizens.

3.2 Baseline specification

I estimate

$$Y_{i,c,t} = \theta_S X^S_{c,t} + \theta_P X^P_{c,t} + \theta_{SP}\, X^S_{c,t} X^P_{c,t} + \mathbf{Z}'_{i,c,t}\Gamma + \alpha_i + \lambda_t + \gamma_c + \delta_c \cdot t + \varepsilon_{i,c,t}, \tag{4}$$

where α_i are individual fixed effects, γ_c and λ_t are canton and year fixed effects, and $\delta_c \cdot t$ are canton-specific linear trends. The vector $\mathbf{Z}_{i,c,t}$ includes standard individual controls (when not absorbed by α_i) and time-varying canton controls that plausibly shift institutional universalism endorsement in both worker and non-worker samples (e.g., electoral calendar, unemployment, immigration flows, political ideology, and other canton-year covariates). I demean $X^S_{c,t}$ and $X^P_{c,t}$ in the estimation sample so that θ_P (θ_S) captures the marginal effect of peer (state-agent) content-weighted exposure evaluated at the mean of the other channel's exposure.

Interpretation and link to the model. Equation (4) is a model-disciplined reduced form: the regressors are constructed to match the model's exposure scaling—reach scaled by the channel's universalism-relevant discourse environment—and their interaction. The coefficients θ_S and θ_P capture how endorsement responds to marginal increases in channel-specific content-weighted exposure, while θ_{SP} captures whether the two channels are complements in generating persuasive (m, h) bundles. In the benchmark with within-channel bundling, diminishing returns imply substitutability across channels (the cross-partial is weakly negative absent cross-channel pairing). In the specialization extension, by contrast, citizens can assemble matched (m, h) reasons *across* channels, so cross-channel fit generates *local* complementarity at low reach (Lemma 2).

In the model, persuasion depends on *effective* precision $Q^k_j = \pi^k_j E^j$ (Lemma 1). Empirically, I proxy cross-canton differences in reach with predetermined stocks E^j_c and let the identifying time variation come from the canton-year discourse environment $p^j_{c,t}$, so that $X^j_{c,t} = E^j_c p^j_{c,t}$ shifts effective exposure to universalism-relevant reasons even when E^j_c is held fixed. The interaction coefficient θ_{SP} therefore asks whether increases in effective exposure to *both* channels are complementary in producing endorsement, as predicted when the equilibrium precision mix is off-diagonal—that is, one channel tends to supply relatively more m while the other supplies relatively more h—so endorsement relies more on cross-source assembly of matched reasons.

Identification. To isolate persuasion within a fixed local public sphere and avoid endogenous relocation across cantons, the baseline sample restricts attention to canton non-movers (because $X^j_{c,t}$ is defined at the canton–year level, canton×year fixed effects would absorb it). I also estimate the same specifications on the full sample including movers as a robustness check.

The exposure specification exploits within-individual variation in $X^j_{c,t} = E^j_c \cdot p^j_{c,t}$ induced by canton–year changes in channel-specific tilt $p^j_{c,t}$, controlling for individual fixed effects, canton and year fixed effects, canton trends, and canton-year covariates. However, residual canton–year shocks may jointly affect the workers' tilt and non-workers' endorsement outcomes. To probe whether residual canton-year shocks drive the exposure estimates, I implement scope tests, using adjacent policy preferences and generalized political attitudes. I therefore re-estimate the baseline specification

on a battery of outcomes (redistribution, welfare spending, European Union attitudes, left-right ideology, trust in institutions, etc.). The fact that the exposure coefficients do not systematically load on these adjacent outcomes is inconsistent with generic canton-year political shocks driving the estimated relationships.

3.3 Workplace exposure shocks

To obtain a sharper causal estimate of exposure to state agents, I exploit switches between private and public employment. In the model, the state-agent channel is characterized by a content/precision mix (π_S^m, π_S^h) (empirically proxied by the canton–year tilt $p_{c,t}^S$, measured outside the outcome sample). A worker's switch does not mechanically change $p_{c,t}^S$; what it changes is the worker's *access* to state-agent contacts through the workplace: entering the public sector raises the intensity of day-to-day interactions with public employees and hence the individual exposure component $E_{i,c,t}^S$ (and symmetrically, leaving reduces it).

Baseline switcher specification. I estimate the following fixed-effects regression, where identification comes from individuals who switch sector:

$$Y_{i,c,t} = \eta\, State_{it} + \psi\, Fed_{it} + \alpha_i + \delta_{c,t} + \varepsilon_{i,c,t}. \tag{5}$$

The unit of observation is an individual i in canton c and year t. $State_{it} = 1$ if individual i works in the public sector (communal/cantonal or federal) and 0 if in the private sector (for-profit or nonprofit). $Fed_{it} = 1$ if the individual works in the federal administration and 0 otherwise. Thus, η captures the effect of moving into *non-federal* public employment relative to private employment, while ψ captures the incremental effect of federal (vs. other public) employment. Individual fixed effects α_i absorb time-invariant heterogeneity, and canton-by-year fixed effects $\delta_{c,t}$ absorb any canton-year shock that could move both public employment and attitudes (local unemployment, campaigns, immigration spikes, cantonal politics, etc.). As before, the dependent variable is $Y_{i,c,t} = 1$ if individual i endorses universalism as an institutional norm and 0 otherwise. Standard errors are clustered at the individual level.

By construction, a switch changes the composition of daily professional interactions, generating a large discrete change in contact intensity with public employees relative to residential exposure alone. This workplace-based shock is therefore less subject to attenuation from canton-level reach proxies than the baseline specification.

Dynamic self-selection and service-type sorting. While Equation (5) addresses time-invariant selection into sector, a remaining concern is dynamic self-selection: a latent increase in endorsement of institutional universalism could precede the switch into the public sector. Prior work shows that civic-minded agents may sort into *caring services* (health, education, social care) delivered by both public and private sectors (Francois (2003), Gregg et al. (2011)), implying that any selection on endorsement is likely to operate primarily at the *service-type* level rather than the institutional level.

I probe this by comparing pre-switch endorsement of future switchers to that of stayers within service-type. Among private-sector workers, I estimate:

$$Y_{i,c,t}^{Priv} = \phi Switch_i^{pub} + \delta_{c,t} + \mathbf{Z}_{i,t}'\gamma + u_{i,t}, \tag{6}$$

where $Y_{i,c,t}^{Priv}$ is endorsement measured while individual i is employed in the private sector. $Switch_i^{pub}$ equals one if i switches from private to the public employment at any point in the future. $\delta_{c,t}$ are canton-by-year fixed effects, so ϕ compares eventual switchers to stayers within the same

canton-year. Z_{it} includes individual covariates (gender, number of children, age, religion, culture, college education, marital status, health status, urban). I also run the same exercise excluding the federal employment to allow selection patterns to differ across institutional tiers. To sharpen the "service-type" implication, I partition jobs into *HES* (health, education, social care) and *non-HES* and re-estimate Equation (6) in each private subsample, using destination-specific indicators: $Switch_i^{pub,HES}$ if i ever switches from private to public HES and $Switch_i^{pub,non-HES}$ if i ever switches from private to public non-HES.

Appendix Figure A4 shows that pre-switch differences are confined to service-type: future switchers into public *HES* exhibit higher baseline endorsement, whereas future switchers into public *non-HES* do not. Accordingly, I identify the causal effect by focusing on private-to-public switches within *non-HES* industries.

Finally, I compare baseline characteristics of private non-HES workers who subsequently move to public non-HES with those who start in public non-HES and remain there (Appendix Table A4). Switchers are slightly younger and less likely to hold a college degree. In Switzerland, comparable public jobs pay a premium—on average about 12%, and up to 29% at the lower end of the pay scale (Portmann et al. (2024))—so pecuniary considerations plausibly contribute to switching within non-HES occupations.

4 Data

Switzerland. I test the model in Switzerland, a setting that is simultaneously institutionally stable and richly heterogeneous across local public spheres. First, the Swiss political system features frequent referendums and strong direct-democratic instruments, yet participation in national referendums is modest on average[7], suggesting that public deliberation can be limited even in a high-institutional-capacity democracy. Second, Switzerland is linguistically and culturally segmented and highly decentralized, so that the integration of the public sphere and the relative specialization of discourse producers can vary meaningfully across cantons. These features align closely with the model's comparative statics: predetermined institutional environments and cultural-administrative traditions map into three primitives—effective reach, internalized legitimacy payoffs, and the marginal costs of producing precise merit versus feasibility reasons—which in turn shift the equilibrium *content architecture* of persuasion (within-channel bundling versus cross-channel completion of matched (m, h) reasons).

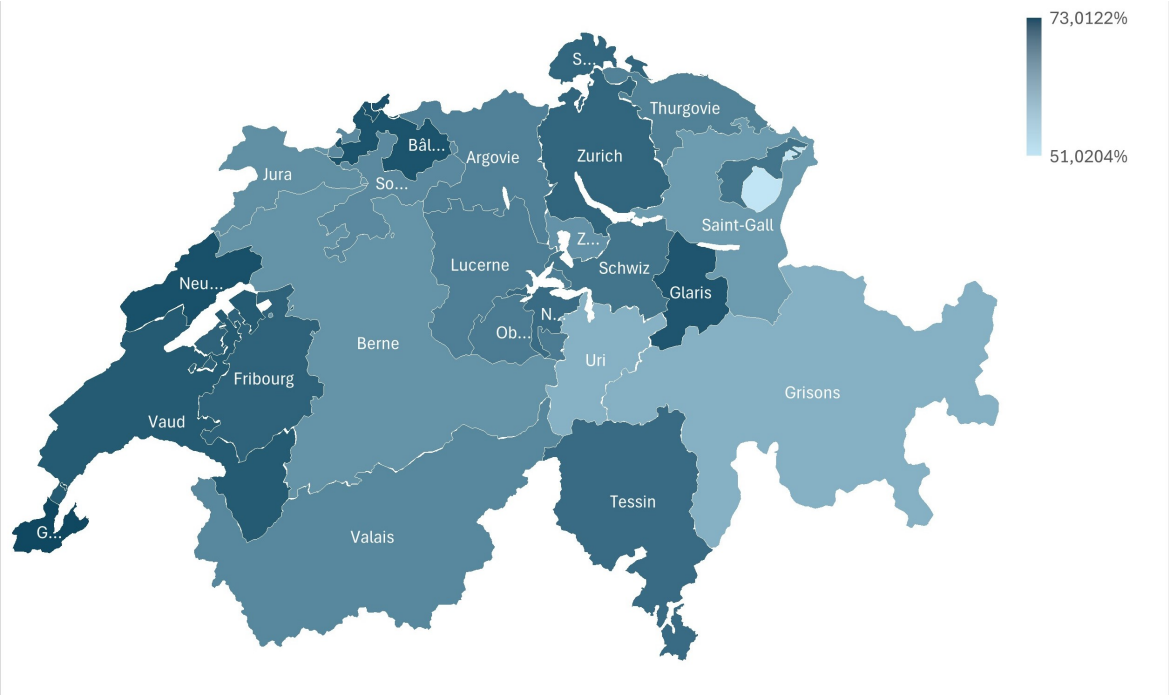
Swiss Household Panel (SHP). The main individual-level data come from the Swiss Household Panel (SHP), a longitudinal survey conducted annually since 1999 that follows a random sample of approximately 5,000 households, covering over 12,000 individuals residing in Switzerland. I use waves I–V (1999–2003), the only waves that jointly contain the outcome, occupation/employment information, and the full set of covariates used in the baseline specification and the switch design. I restrict the baseline sample to Swiss nationals aged 18+ (the institutional universalism endorsement item explicitly frames a trade-off involving Swiss citizens versus foreigners). The panel is geocoded at the municipality of residence, which I aggregate to the canton-year level to construct the empirical counterparts to (c, t)-specific public-sphere environments. My baseline sample, restricted to non-working Swiss respondents aged 18+, contains $N = 7,413$ individuals and 20,542 person-year observations (see Appendix summary statistics Table A3).

[7] See, e.g., Hosli et al. (2025) for evidence that turnout in Swiss national referendums has been remarkably stable over the long run and is around 45% in the decades leading up to the 1990s.

Universalism as a legitimacy principle for state action. Universalism is often regarded as a foundational social norm in modern Western societies (Taylor (2004), Henrich (2020))). The SHP measures endorsement of institutional universalism using the question: *"Are you in favour of Switzerland offering foreigners the same opportunities as those offered to Swiss citizens, or in favour of Switzerland offering Swiss citizens better opportunities?"*. For Swiss respondents, the item poses a trade-off between equal institutional treatment of socially distant others and preferential treatment of the in-group. Responses are: (i) "in favour of equality of opportunities," (ii) "neither," and (iii) "in favour of better opportunities for Swiss citizens." I define $Y_{ict} = 1$ for respondents choosing equality and $Y_{ict} = 0$ for respondents choosing better opportunities for Swiss citizens. Respondents who answer "neither" are excluded from the baseline measure. The "neither" category accounts for less than 10% of responses and plausibly pools heterogeneous positions (ambivalence, non-attitudes, or social-desirability responding).

The item is observed annually from 1999–2009 and again in selected later waves (2011, 2014, 2017). Across the full set of waves in which it is fielded, the share endorsing institutional universalism is relatively stable (Appendix Figure A2). In the main estimation window (1999–2003), mean endorsement in the full Swiss-adult sample is 0.657 (i.e., 34.3% prefer preferential opportunities for Swiss citizens). In the baseline estimation sample, mean endorsement is 0.624, reflecting the additional sample restrictions described above. Figure 1 documents sizeable cross-canton heterogeneity in endorsement (roughly 51–73% across cantons). This dispersion indicates that the outcome is not near mechanical bounds.

Figure 1: Endorsement of institutional universalism averaged at the state (cantonal) level



Note: The map displays the average share of Swiss individuals aged 18+ in each canton who endorse the universalism institutional norm. This corresponds to the cantonal average of the variable Y_{ict} over the period 1999–2017.

Individual-level correlates. Appendix Figure A3 reports OLS associations between the endorsement indicator Y_{ict} and individual covariates (education, ideology, language, urbanicity, family structure, religiosity, and income). Endorsement is higher among college-educated, left-leaning, urban, higher-income, and French-speaking respondents, and lower among more religious respondents and those with more children. These correlations are descriptive and are reported to characterize the sample. The main specifications rely on within-individual variation. Importantly for identification with individual fixed effects, endorsement exhibits substantial within-person variation: about one quarter of respondents (roughly 25%) switch their stance at least once over 1999–2003 (Appendix Table A3).

Institutional sectors. The SHP records respondents' institutional sector through the question: *"Are you employed by a private company or a state organization?"* I define $State_{it} = 1$ if respondent i reports being employed by a state organization (commune, canton, or confederation) and $State_{it} = 0$ if employed by a private organization (for-profit or non-profit). Among state organizations, the SHP further distinguishes international organizations and domestic public employers. I exclude respondents employed by international organizations, which are not part of the domestic state apparatus. I separately code $federal$ employment using $Fed_{it} = 1$ for confederation-level employment and $Fed_{it} = 0$ otherwise.

The SHP also reports industry affiliation. I partition jobs into *HES* (health, education, and social care) and *non-HES* industries using the economic-activity classification. This split distinguishes mission-oriented public-service industries from other activities, and is used both for descriptive comparisons and to sharpen interpretation in the workplace-switch design. Table 1 shows a pronounced gap in the endorsement of institutional universalism between institutional sectors: 74% of state employees endorse it, compared to 66% in the private sector. This gap is present both within HES and within non-HES industries, suggesting it is not confined to traditionally mission-oriented fields.

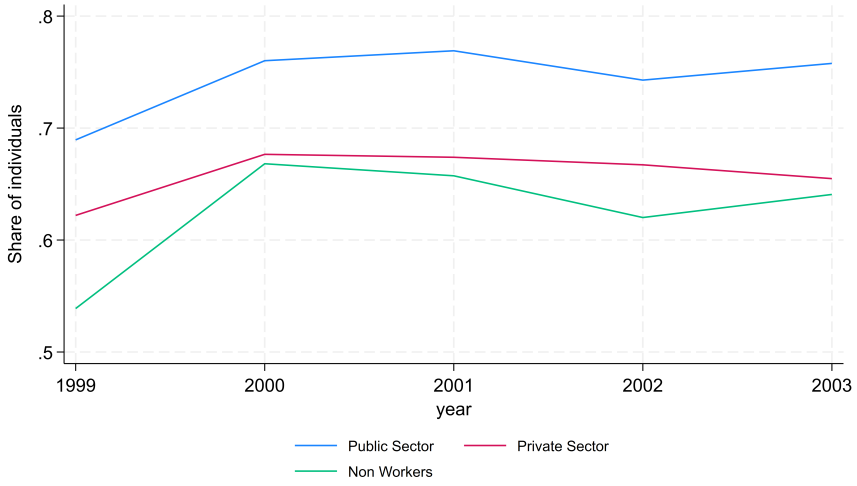
Table 1: Institutional universalism endorsement by institutional sector (1999–2003)

	Public sector		Private sector		
	(1)		(2)		(3)
	Mean	N	Mean	N	Difference
All workers	0.742	4,250	0.657	7,473	0.085***
	(0.438)		(0.475)		(0.009)
Within HES industries	0.800	2,112	0.769	924	0.030*
	(0.400)		(0.421)		(0.016)
Within non-HES industries	0.666	1,569	0.641	5,265	0.026*
	(0.472)		(0.480)		(0.014)

Note: The table reports means of Y_{ict}, an indicator for endorsement of institutional universalism. The sample includes Swiss respondents aged 18+ working in the public or private sector. Industry (HES/non-HES) is observed only for a subset of employed respondents; breakdown columns therefore exclude observations with missing industry and need not sum to the overall sample. HES denotes health, education, and social care industries; non-HES denotes all other industries. Column (3) reports mean differences with robust standard errors in parentheses. Standard deviations are in parentheses below means in Columns (1) and (2). $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

In addition, Figure 2 plots endorsement trends separately for public- and private-sector employees. While both series increase around 2000, endorsement among public-sector employees continues to rise before stabilizing, whereas the private-sector series flattens and slightly declines. This descriptive divergence motivates treating the two channels separately in the construction of the canton-year content environments, p^S_{ct} and p^P_{ct}: the two series trace distinct trajectories and are only weakly correlated at the canton-year level ($\rho = 0.32$), supporting joint inclusion for separate identification.

Figure 2: Yearly share of individuals who endorse the universalism social norm, by group



Note: The figure shows the share of Swiss individuals aged 18 and over who endorse the universalism social norm over time, presented as the yearly average of the variable $UNIV$, separately for non workers, state employees, and private sector workers.

Switch-design sample. For the workplace-exposure design, I restrict the sample to employees aged 20–54 (to focus on voluntary job-to-job mobility) and exclude the self-employed. Over 1999–2003, this worker panel contains 3,777 individuals and 9,849 person-year observations. I further partition jobs into HES and non-HES industries and emphasize switches within non-HES. Among non-HES workers, 8.6% switch institutional sector during the window[8]; switches occur in both directions in roughly equal numbers, and no individual switches more than once.

Appendix Table A2 reports variable definitions, construction details, and data sources.

5 Empirical Results

5.1 Baseline estimates

Table 2 reports estimates of the baseline content-weighted exposure specification in Equation (4), estimated on the non-worker outcome sample restricted to canton non-movers[9]. Because $X^P_{c,t}$ and $X^S_{c,t}$ are centered, the main-effect coefficients θ_P and θ_S can be read as marginal effects evaluated at the mean exposure of the other channel. Differentiating Equation (4) yields

$$\frac{\partial Y_{i,c,t}}{\partial X^P_{c,t}} = \theta_P + \theta_{SP} X^S_{c,t}, \qquad \frac{\partial Y_{i,c,t}}{\partial X^S_{c,t}} = \theta_S + \theta_{SP} X^P_{c,t}. \tag{7}$$

[8]Switzerland's public employment is relatively permeable: recruitment is typically open (no competitive exam; Audier and Bacache-Beauvallet (2007)), and formal civil-service status was abolished in all but two cantons in the 1990s. Consistent with this, Emery et al. (2014) document frequent private-sector experience among public employees, including at senior levels.

[9]As described in Section 3.1, the channel exposures are constructed as $X^j_{c,t} = E^j_c \, p^j_{c,t}$ using predetermined canton-level reach proxies E^j_c and canton–year variation in the channel discourse environment $p^j_{c,t}$, computed outside the outcome sample. Results are robust to including canton movers (Appendix Table A5).

Thus, θ_{SP} captures how the marginal persuasive effect of one channel varies with exposure to the other channel: $\theta_{SP} > 0$ indicates complementarity (the marginal effect rises with the other channel's exposure), while $\theta_{SP} < 0$ indicates substitutability (the marginal effect falls). All specifications include individual fixed effects, canton and year fixed effects; columns vary in whether they additionally include canton-specific linear trends and time-varying cantonal and individual covariates.

Column (1) presents a parsimonious specification without time-varying canton controls or canton trends. Column (2) adds contemporaneous canton-year controls, addressing the concern that canton–year conditions might jointly affect the discourse environment among workers and endorsement among non-workers. Column (3) is the preferred specification: it further adds canton-specific linear trends, flexibly absorbing gradual canton-level changes in political culture, demographic composition, or other unobservables that could correlate with trends in $p^j_{c,t}$. Column (4) additionally controls for time-varying individual characteristics (life-cycle shocks), which are not absorbed by individual fixed effects. Column (5) replaces contemporaneous canton controls with their one-period lags (keeping the electoral calendar contemporaneous) to address the potential concern that contemporaneous canton-year covariates (e.g. labor-market conditions, foreign population shares, or political ideology) may respond to the same shocks that also shift the public-sphere discourse environment ("bad controls" concern).

Across specifications, the peer content-weighted exposure has a positive and robust association with endorsement. Because Y_{ict} is binary and Equation (4) is estimated as a linear probability model, coefficients can be read in percentage points (pp). In the preferred specification (Column (3)), a one-standard-deviation increase in the peer content-weighted exposure ($\text{sd}(X^P_{ct}) = 0.165$; see Appendix Table A3) increases endorsement by about 5.5 pp, evaluated at $X^S_{ct} = 0$ (the mean state-agent content-weighted exposure). A one-standard-deviation increase in the state-agent content-weighted exposure ($\text{sd}(X^S_{ct}) = 1.351$) increases endorsement by about 4.4 pp, evaluated at $X^P_{ct} = 0$. These magnitudes are economically meaningful relative to the baseline endorsement rate of about 0.62 in the estimation sample: the implied impacts correspond to roughly 8.9% and 7.1% changes in endorsement, respectively. Importantly, the state-agent effect is sizeable even conditional on peer discourse and the full set of fixed effects and controls. This is consistent with the idea that state-agent discourse supplies a distinct bundle of universalism-relevant reasons (and with attenuation in canton-level reach proxies), and it motivates the complementary workplace-switch design, which delivers a sharper individual exposure shock.

The interaction term implies that the marginal effect of one channel declines with exposure to the other. In particular, moving the state-agent exposure up by one standard deviation lowers the marginal effect of peer exposure by about 9.5 pp per unit of X^P_{ct}. Equivalently, at $X^S_{ct} = +1\,\text{sd}$, the marginal effect of a one-standard-deviation increase in peer exposure is about 3.9 pp (rather than 5.5 pp at the mean of X^S_{ct}). Thus, within the empirical support of the data, the two channels behave as local substitutes: each is most persuasive when the other is relatively weak, which is consistent with diminishing returns in the benchmark bundling model and with limited scope for cross-channel complementarity in the baseline window.

Finally, the estimates are stable when adding time-varying individual controls (Column (4)). This stability supports the interpretation that the identifying variation primarily comes from within-individual changes in exposure to the canton–year discourse environment, rather than from time-varying individual confounds. The estimated content-weighted exposure coefficients remain also qualitatively similar when replacing contemporaneous canton controls with their one-period lags (Column (5)), and the negative interaction becomes larger in magnitude. This suggests that both the baseline level effects and the interaction are not an artefact of the particular timing of the canton controls, and that conditioning on contemporaneous covariates does not eliminate the

interaction pattern.

Table 2: Exposure to deliberation channels and endorsement of institutional universalism

	(1)	(2)	(3)	(4)	(5)
Y_{ict}	Endorsement of institutional universalism				
Peer c.w. exposure (X^P_{ct})	0.239***	0.231**	0.333***	0.331***	0.300**
	(0.0735)	(0.0850)	(0.0915)	(0.094)	(0.123)
State-agent c.w. exposure (X^S_{ct})	0.025*	0.027**	0.0326**	0.0325**	0.041**
	(0.012)	(0.011)	(0.0125)	(0.0123)	(0.0149)
Peer × state-agent interaction ($X^P_{ct} \times X^S_{ct}$)	-0.0395*	-0.0352*	-0.0702**	-0.0685**	-0.108***
	(0.0224)	(0.0191)	(0.0265)	(0.0268)	(0.0345)
Observations	8,426	8,349	8,349	8,341	8,349
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Canton fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Contemporaneous canton controls	No	Yes	Yes	Yes	No
Canton-specific linear trends	No	No	Yes	Yes	Yes
Time-varying individual controls	No	No	No	Yes	No
Lagged canton controls					Yes

Notes: The dependent variable Y_{ict} is a binary indicator equal to one if respondent i endorses institutional universalism in canton c and year t. Sample: Swiss respondents aged 18+; non-workers; canton non-movers. All specifications estimate equation (4) by OLS with individual, canton, and year fixed effects; standard errors are clustered at the canton level. The peer and state-agent content-weighted (c.w.) exposures, X^P_{ct} and X^S_{ct}, are mean-centered in the estimation sample so that the main-effect coefficients are evaluated at the mean of the other channel's exposure. *Contemporaneous canton controls* include: (i) the weighted-average left–right ideology of the cantonal executive (constructed by mapping parties' cabinet shares onto a 1–4 scale using party positions from Vatter et al. (2024)); (ii) foreign population share; (iii) number of referenda; (iv) unemployment rate; and (v) taxable income per capita (cantonal average). *Lagged canton controls* replace (ii)–(v) by their one-year lag (while keeping the electoral calendar contemporaneous). *Time-varying individual controls* include marital-status indicators, number of children, and an indicator for health limitations in daily activities. Column (3) is the preferred specification; Columns (4)–(5) provide robustness to adding individual controls and to using lagged canton covariates. Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Norm endorsement versus policy positions (scope tests). To further rule out that the baseline estimates reflect a generic shift in ideology or broad pro-state attitudes, I assess whether estimated content-weighted exposure effects reflect a generic ideological movement or are concentrated on the universalism-norm margin that the model is designed to capture.

Table 3 re-estimates equation (4) replacing the dependent variable with a set of other societal preferences: welfare spending, redistribution (taxation of high incomes), views on defense and the environment (support for a strong Swiss army and for environmental protection over economic growth), support for EU membership, self-reported left–right ideology (0–10), and confidence in political institutions (satisfaction with democracy and trust in the federal government, both on 0–10 scales) (see Appendix Table A2 for their exact definition).

Across these alternative outcomes, the coefficients on peer exposure, state-agent exposure, and their interaction are generally small and statistically indistinguishable from zero. Two isolated estimates reach conventional significance (peer exposure for welfare spending; the interaction for satisfaction with democracy), but neither replicates across adjacent outcomes, and neither is accompanied by a coherent pattern across related attitudes. In particular, the content-weighted exposure measures do not systematically predict left–right ideology, support for EU membership, or institutional confidence, which makes it less likely that the baseline results are driven by a broad ideological realignment, generic political salience, or an overall increase in trust in the state. Overall,

these scope tests support interpreting the baseline effects as specific to universalism as a legitimacy principle for state action, rather than as capturing a general responsiveness to politics or a broad shift in policy preferences[10].

Table 3: Exposure to deliberation channels and other societal preferences

	(1) Welfare	(2) Redistri.	(3) Army	(4) Env. vs growth	(5) Join EU	(6) Ideology	(7) Sat. Dem.	(8) Trust fed. gov.
Peer c.w. exposure	-0.275**	0.184	0.162	0.0711	0.00605	0.147	0.330	0.294
	(0.105)	(0.161)	(0.128)	(0.145)	(0.0971)	(0.297)	(0.403)	(0.382)
State-agent c.w. exposure	-0.00504	0.00720	-0.00787	0.00838	0.00523	-0.00975	-0.00277	-0.0261
	(0.0161)	(0.0192)	(0.0190)	(0.0142)	(0.0137)	(0.0456)	(0.0442)	(0.0362)
Peer × state-agent interaction	0.0690	-0.0156	-0.0376	0.00938	-0.00852	0.0843	0.196*	0.0184
	(0.0436)	(0.0369)	(0.0462)	(0.0502)	(0.0257)	(0.113)	(0.0983)	(0.0946)
Observations	9,494	9,604	9,732	9,707	8,497	8,528	9,781	9,819

Notes: Scope tests are estimated on the same outcome sample as the baseline specification: Swiss respondents aged 18+; non-workers; canton non-movers. The peer and state-agent content-weighted (c.w.) exposures X_{ct}^{P} and X_{ct}^{S} are mean-centered in the estimation sample so that main effects are evaluated at the mean of the other channel's exposure. OLS models with individual, canton, and year fixed effects, canton-specific linear trends, time-varying canton controls, and clustering at the canton level, as in column (3) of Table 2. Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

5.2 Workplace exposure shocks: Switcher estimates

Table 4 estimates Equation (5) in a linear probability model with individual fixed effects and canton×year fixed effects, so identification comes entirely from within-person switches across institutional sectors net of any canton-year shocks[11].

Column (1) uses all observed switches between private and public employment. The coefficient on $State_{it}$, $\hat{\eta}$, is positive and statistically significant, implying that an increased exposure to state agents increases the probability of endorsing institutional universalism. Columns (2)–(4) progressively tighten the comparison set. Column (2) restricts attention to switches that occur within the same service type (HES vs. non-HES), addressing selection into caring-service occupations that may operate in both sectors. Column (3) focuses on private-to-public switches, and Column (4) further restricts to private-to-public switches within non-HES jobs, which serves as the baseline estimate. Across Columns (1)–(4), the point estimate rises as the sample is restricted, consistent with attenuation from compositional differences in broader switch samples.

Focusing on the baseline private-to-public switches within non-HES industries (Table 4, Column (4)), increased exposure to state agents raises the probability of endorsing institutional universalism by about 9.9 pp. Relative to a mean endorsement rate of 0.65 among private non-HES workers, this corresponds to an increase of about 15%. Appendix Figure A5 shows that the estimate is not driven by any single canton.

To benchmark magnitudes against the baseline regressions, recall that in Column (3) of Table 2 a one-standard-deviation increase in the peer exposure raises endorsement by about 5.5 pp, and a one-standard-deviation increase in the state-agent exposure raises endorsement by about 4.4 pp (both evaluated at the mean of the other channel's exposure). The switch estimate of 9.9 pp is therefore roughly 2.25 times the 1σ state-agent exposure effect. This gap is consistent with the

[10]More broadly, these results highlight that identical institutional materiality need not imply identical legitimacy. Castoriadis (1988) makes this point explicitly: an institution can appear materially similar across societies, yet its embedding in a different "magma" of significations alters its social-historical effectiveness (Castoriadis (1988), p. 84). Taylor (2004) likewise emphasizes that the same "modern" institutions can be grounded in different social imaginaries.

[11]The results are robust to using a random-effects logit model (available upon request).

switch design delivering a sharper, discrete change in individual access $E^S_{i,c,t}$ (holding the canton-year discourse environment fixed through $\delta_{c,t}$), whereas the baseline specification relies on canton-level reach proxies that are plausibly attenuated and capture more diffuse variation in effective exposure.

The coefficient on *State: Federal* is negative, implying that the within-person effect of switching into federal public employment is smaller than the effect of switching into cantonal/communal public employment. Quantitatively, the implied net effect of federal versus private employment is close to zero. With individual and canton×year fixed effects, this tier pattern suggests that the persuasive exposure channel documented in the baseline operates primarily through cantonal/communal state agents: conditional on a fixed local discourse environment, entering federal employment generates little additional effective exposure relevant for endorsement. One interpretation is that more locally embedded state agents supply a more distinctive mix of merit and feasibility reasons in workplace discourse. This tier heterogeneity highlights a federalism trade-off: subnational legitimacy formation can foster pluralism and local fit, as illustrated by sizeable cross-canton heterogeneity in endorsement (Figure 1), but it may also reflect weaker common fora, raising the salience of segmented endorsement dynamics and the amplification risks emphasized by the model.

Column (5) considers the reverse transition (public-to-private) within non-HES. The estimated change upon moving to the private sector is small and imprecise. Given the much smaller switcher sample in this column, I treat the lack of a detectable reversal as suggestive rather than definitive; it is, however, consistent with persistence under learning once workplace exposure has shifted beliefs (the posterior need not revert immediately when exposure falls, absent offsetting new information).

To rule out that the estimated effect of exposure to state agents is driven by observable features of public jobs, Column (6) augments the baseline private-to-public/non-HES specification with job bundle controls (log income, perceived atmosphere, and job security). The public-employment estimate remains of similar magnitude, while the added job attributes are close to zero, suggesting that the switch effect is not simply picking up contemporaneous changes in pay or reported job quality.

Scope tests. Table 5 re-estimates the baseline switch specification (Column (4) of Table 4) on the same alternative societal preference outcomes as in Table 3. Across welfare spending, redistribution, defense, environment, ideology, and trust in the federal government, the coefficients on state-agent exposure are small and statistically indistinguishable from zero. By contrast, greater exposure is associated with lower satisfaction with democracy. This pattern supports a content-specific interpretation: the estimated effect is not a generic ideological shift, but is concentrated on the institutional universalism margin, and (if anything) coexists with a more critical assessment of democratic performance.

Taken together with the baseline content-weighted exposure regressions, the switch design provides a complementary mapping to the theory. The baseline specification is informative about time variation in the canton-year content environment $p^S_{c,t}$ conditional on predetermined reach, whereas the workplace switch induces a sharp change in individual access $E^S_{i,c,t}$ holding the canton-year discourse environment fixed through $\delta_{c,t}$. The larger magnitudes in the switch design are consistent with attenuation in canton-level reach proxies and with the model's prediction that endorsement increases in effective exposure to the channels.

Table 4: Shift in exposure to state agents and endorsement of institutional universalism

Y_{ict}	(1) All switches	(2) All switches within non-HES & HES	(3) Private to public within non-HES & HES	(4) Private to public within non-HES	(5) Public to private within non-HES	(6) Private to public within non-HES	(7) Private to public within non-HES
$State_{it}$	0.0458**	0.0526**	0.0838**	0.0987**		0.103*	0.067
	(0.0202)	(0.0266)	(0.0340)	(0.0488)		(0.056)	(0.055)
$State_{it}$: Federal	-0.0512*	-0.0477	-0.114**	-0.122*		-0.133*	-0.144**
	(0.0271)	(0.0348)	(0.0549)	(0.0687)		(0.078)	(0.069)
Private sector					-0.0274		
					(0.0427)		
Ln yearly income						0.002	
						(0.025)	
Job atmosphere						-0.003	
						(0.006)	
Job security						0.004	
						(0.011)	
$State_{it} \times French_i$							0.127**
							(0.063)
Observations	8,672	4,709	6,343	4,531	1,084	3,906	4,531
Number of individuals	3,590	2,222	2,794	1,960	441	1,805	1,960

Notes: The dependent variable is an indicator equal to one if respondent i endorses institutional universalism in year t. $State_{it}$ equals one when i is employed in the public sector (communal/cantonal or federal) and zero when employed in the private sector (for-profit or non-profit). Fed_{it} equals one when i is employed by the federal administration. The coefficient on $State_{it}$ therefore compares non-federal public employment to private employment; $State{:}Federal_{it}$ is the incremental effect of federal (relative to non-federal) public employment. All specifications include individual fixed effects and canton×year fixed effects. Standard errors are clustered at the individual level. Column (5) restricts to public-to-private switchers within non-HES and uses a private-employment indicator; the reported coefficient therefore captures the within-person change upon moving from public to private. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Table 5: Shift in exposure to state agents does not affect other societal preferences

	(1) Welfare	(2) Redistri.	(3) Environment	(4) Army	(5) Pol. ideology	(6) Trust fed. gov.	(7) Sat. with democracy
State	-0.105	0.0289	-0.0357	-0.0486	-0.0905	-0.300	-0.380*
	(0.107)	(0.122)	(0.0803)	(0.115)	(0.209)	(0.263)	(0.226)
State: Federal	0.167	-0.0518	0.183	0.127	0.117	0.234	0.191
	(0.171)	(0.153)	(0.116)	(0.139)	(0.337)	(0.326)	(0.311)
Observations	4,980	5,036	2,988	5,031	4,451	5,091	5,046
Number of individuals	2,030	2,040	1,559	2,036	1,898	2,052	2,039

Notes: Sample restricted to switches across institutional sectors within non-HES industries. All specifications include individual fixed effects and canton×year fixed effects. Standard errors are clustered at the individual level. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

6 Mechanisms: Spillovers, Institutional Shifters, and Individual Engagement

The model delivers sharp comparative statics: within-channel completeness increases with reach and with internalization of legitimacy payoffs, and decreases with the marginal cost of precision (Proposition 2). Under specialization, cross-channel fit strengthens and can generate local complementarity in peer and state-agent exposures at low reach (Lemma 2). The first subsection tests this specialization/completion channel using administrative-style variation. The second examines how cantonal institutions shift the three primitives—legitimacy payoffs, precision costs, and reach—and thereby reshape the equilibrium persuasion architecture. The last provides evidence on the comparative-advantage mechanism by leveraging predetermined heterogeneity in engagement in political persuasion as a shifter of sensitivity to merit-oriented justification.

6.1 Role-based spillovers into the public sphere: Heterogeneity by administrative style

A central mechanism in the model is *role-based spillovers*: what state agents do in bureaucratic practice shapes the kinds of reasons they can supply in the public sphere. Formally, this is captured by the state-agent channel's relative precision mix π_S^h/π_S^m. A more legal–rational administrative style in the Weberian sense can generate comparative advantage in implementation and feasibility talk (h)—rules, procedures, administrative capacity, and enforceability—that can spill over into public argumentation. By contrast, administrative traditions rooted in a more explicitly mission-oriented conception of the state can embed substantive ends directly into bureaucratic discourse, increasing the relative weight of merit-oriented reasons (m).

I exploit persistent differences in administrative tradition across Swiss language regions as predetermined shifters of this spillover channel. In particular, a more Protestant/Weberian legal–rational style (Weber (2001)) is expected to tilt state-agent discourse toward feasibility (higher π_S^h relative to π_S^m), whereas a more French administrative tradition—historically associated with a state-building project that articulated substantive ends (including republican universalism) alongside administrative centralization (Weber (1976))—is expected to embed more merit content in state-agent discourse (weaker specialization)[12]. In the model, these differences shift *what state agents talk*

[12] Athias and Wicht (2025) provide evidence that administrative-style differences persist across Swiss language regions despite common formal institutions.

about in the public sphere—i.e., they tilt π_S^h/π_S^m through spillovers—and thereby shift cross-channel fit.

I combine the switch design and the baseline regressions to provide evidence consistent with this mechanism. A key credibility check is cross-design coherence. In the model, environments in which the state-agent channel is more internally bundled generate a larger direct effect of state-agent exposure (and thus a larger workplace-switch effect), but weaker cross-channel completion; conversely, environments with greater feasibility specialization generate smaller direct state-agent effects but stronger completion. Accordingly, predetermined cultural environments that amplify (attenuate) the causal effect of switching into public employment should be associated with a more negative (less negative) peer–state-agent interaction term in the baseline specification.

Switch design heterogeneity by language region. The switch design identifies a causal effect of increased workplace access to state agents. I then use language heterogeneity in this effect as suggestive evidence on the *content architecture* of state-agent discourse (bundling versus specialization): the workplace exposure shock is present in both regions, whereas administrative tradition plausibly shifts the composition of reasons supplied by state agents. Because the specification includes canton×year fixed effects, δ_{ct}, the heterogeneity is not driven by cross-region differences in contemporaneous canton-year discourse conditions, but by differential persuasive impact of the same access shock. I estimate:

$$Y_{ict} = \eta\, State_{it} + \kappa\,(State_{it} \times French_i) + \psi\, Fed_{it} + \delta_{ct} + \gamma_i + \varepsilon_{ict}, \tag{8}$$

where $French_i$ is a time-invariant indicator for French-speaking identity, γ_i are individual fixed effects, δ_{ct} are canton×year fixed effects, and standard errors are clustered at the individual level. The coefficient η is the effect of increased exposure to state agents for German-speaking workers; $\eta + \kappa$ is the effect for French-speaking workers.

Empirically, I find $\hat{\kappa} > 0$ (Table 4, Column (7)): the interaction $State_{it} \times French_i$ is positive and statistically significant, implying a substantially larger effect of entering the public sector for French-speaking workers than for German-speaking workers (on the order of 20 pp versus about 7 pp). This language heterogeneity is consistent with the role-based spillover mechanism: persistent differences in administrative style can shift the composition of state-agent reasons supplied in the public sphere, so that the same workplace-induced increase in access to state-agent contacts has a larger persuasive impact when state-agent discourse bundles more merit content. Conversely, the smaller and less precisely estimated effect in the German-speaking region is consistent with a setting in which state-agent exposure is relatively more implementation-heavy, so that it has limited direct bite on endorsement unless completed by merit-oriented arguments from peers.

Baseline heterogeneity by language region. I then test whether the *cross-channel fit* term is weaker in French-speaking areas by interacting the content-weighted exposure specification with a French-speaking canton indicator F_c:

$$Y_{ict} = (\theta_S + \beta_{S,F}F_c)X_{ct}^S + (\theta_P + \beta_{P,F}F_c)X_{ct}^P + (\theta_{SP} + \beta_{SP,F}F_c)X_{ct}^S X_{ct}^P + \mathbf{Z}_{ict}'\Gamma + \alpha_i + \lambda_t + \gamma_c + \delta_c \cdot t + \varepsilon_{ict}.$$

I find $\beta_{SP,F} < 0$ (Table 6, Panel A, Column (1)): cross-channel complementarity is weaker in French-speaking cantons (vs. German-speaking cantons). In the model, this is consistent with reduced specialization in the state-agent channel: when the state side supplies relatively more merit content (and hence more complete (m, h) bundles internally), endorsement relies less on assembling matched *why* and *how* reasons across sources, lowering the marginal role of cross-channel

fit. Conversely, the stronger complementarity in German-speaking cantons is consistent with a more feasibility-tilted state-agent discourse and greater reliance on cross-channel completion.

Moreover, $\beta_{P,F} > 0$ indicates a larger marginal effect of peer exposure in French-speaking cantons. In model terms, this points to higher effective precision of the peer channel—through greater reach and/or lower costs of producing and processing contestable reasons—which, together with weaker cross-channel fit, is consistent with greater reliance on within-channel bundling rather than cross-channel completion.

Summary. Taken together, these patterns are consistent with a single spillover-based mechanism: French-speaking areas exhibit (i) a larger causal effect of workplace access to state agents, (ii) weaker cross-channel fit, and (iii) a stronger peer-exposure effect. In the model, this configuration arises when the state-agent channel embeds more merit content in addition to feasibility—raising the completeness of within-channel (m, h) bundles—so state-agent exposure has a larger direct effect and endorsement relies less on cross-channel pairing. Conversely, the German-speaking region—where the workplace effect is smaller but cross-channel fit is stronger—is consistent with a more feasibility-specialized state-agent channel and greater reliance on cross-channel completion. This cross-design coherence is difficult to reconcile with generic sentiment shocks or ad hoc proxy interpretations, and instead supports the model's interpretation of predetermined cultural environments as shifting the underlying primitives that govern equilibrium persuasion.

6.2 Institutional drivers of persuasion architecture

In the data, I cannot separately observe realized *merit* and *feasibility* arguments (m, h), but the model delivers sharp comparative statics (see Appendix Figure A1). In particular, shifts in internalization, precision costs, and reach change equilibrium content provision and, in the specialization extension, the induced precision mix. The mechanism tests therefore focus on how own-channel and interaction coefficients shift across predetermined environments (not only on their average sign), providing a model-disciplined interpretation of bundling versus completion even though (m, h) arguments are not directly observed.

Disciplining heterogeneous effects with model primitives. Predetermined canton characteristics W_c are grouped into three families targeting the primitives in Proposition 2: reach shifters (E^j), internalization shifters (β_j), and cost shifters (MC_j^k). The key discipline is that these shifters have predicted effects not only on the own-channel coefficients (θ_P, θ_S) but also on *specialization versus balance* and therefore on the interaction θ_{SP}:

1. **Internalization shifters** (higher β_j) scale up incentives to provide precision in *both* dimensions. Under standard regularity, they increase (π_j^m, π_j^h) and thereby raise within-channel completeness Λ_j; this tends to push the equilibrium toward the bundling region, making θ_{SP} more negative.

2. **Cost shifters** are disciplined by which dimension's marginal cost they relax. Lowering MC_j^k in the *bottleneck* dimension pushes toward balance/bundling $\Rightarrow \theta_{SP}$ more negative. Lowering MC_j^k in the channel's *comparative-advantage* dimension pushes toward specialization/completion $\Rightarrow$ θ_{SP} less negative or more positive (Lemma 2).

3. **Reach shifters** (higher E^j) raise effective exposure mechanically and, in the benchmark, increase the marginal payoff to precision in *both* dimensions, strengthening within-channel completeness. Empirically, this predicts a steeper exposure–endorsement mapping (higher θ_j) in higher-reach

environments, holding the observed content-weighted exposure measure fixed (i.e., comparing how a given $X^j_{c,t}$ maps into endorsement across W_c).

I test whether the predetermined canton characteristics W_c move the estimated coefficients $(\theta_P, \theta_S, \theta_{SP})$ in the predicted directions by allowing the content-weighted exposure effects and their interaction to vary with W_c:

$$Y_{ict} = (\theta_{S,0} + \theta_{S,1} W_c)\, X^S_{ct} + (\theta_{P,0} + \theta_{P,1} W_c)\, X^P_{ct} + (\theta_{SP,0} + \theta_{SP,1} W_c)\, X^S_{ct} X^P_{ct} + \mathbf{Z}'_{ict}\gamma + \text{FE} + \varepsilon_{ict}. \quad (9)$$

I verify that W_c-specific trend has no first-order effect on the content-weighted exposures $X^S_{c,t}$ and $X^P_{c,t}$ once canton and year fixed effects are absorbed. Specifically, I estimate $X^j_{ct} = a_j + \varphi_j W_c \times t + \delta_c + \lambda_t + \nu^j_{ct}$ for $j \in \{S, P\}$. Across these regressions, φ_j are small and statistically indistinguishable from zero, except for some W_c that I discuss below (Appendix Table A6). Appendix Table A2 reports the definition, construction, and data source for each W_c proxy.

Interpreting heterogeneity in the level effects (within-channel bundling). The coefficients $\theta_{S,1}$ and $\theta_{P,1}$ capture environment-specific shifts in the *standalone* effectiveness of each channel. In the model, even holding cross-channel fit fixed, endorsement depends on the arrival of complete within-channel bundles, which is shaped by each channel's precisions (π^m_j, π^h_j) and the extent of within-channel bundling (the diagonal terms). Hence heterogeneity in the level effects is naturally read as environment-driven changes in each channel's ability to generate complete persuasive cases internally.

Interpreting heterogeneity in the interaction term (cross-channel fit). The coefficient $\theta_{SP,1}$ isolates whether cross-channel *complementarity* varies systematically across environments. In the model, cross-channel fit is governed by the off-diagonal products $\pi^m_S \pi^h_P + \pi^h_S \pi^m_P$ (Lemma 2): it is high when one channel tends to supply the "why" while the other supplies the "how," so that citizens can more easily assemble matched bundles across sources. Heterogeneity in $\theta_{SP,1}$ is therefore naturally interpreted as environment-driven shifts in equilibrium content production—i.e., in the precision mix $\{\pi^m_j, \pi^h_j\}$. Put differently, a nonzero $\theta_{SP,1}$ indicates that cross-channel complementarity is not a generic statistical interaction, but instead tracks environments in which specialization incentives differ in ways that change the strength of cross-channel pairing.

6.2.1 Internalization wedge shifters

Institutional strength of direct-democratic rights: Stronger within-peer bundling. A distinctive feature of Swiss democracy is the availability of direct-democratic instruments (initiatives and referenda) that allow citizens to place proposals on the agenda and to approve or reject legislation. When such instruments are institutionally strong, public opinion formation is more tightly connected to binding political choice. In the model, this raises the private return to producing and relaying persuasive public reasons on the peer side—a higher peer internalization weight β_P—which increases equilibrium peer precision provision and strengthens the peer channel's ability to generate complete persuasive cases within-channel (Proposition 2). To proxy the predetermined institutional strength of direct-democratic rights, I use a composite canton-level index on a 1–6 scale developed by Vatter et al. (2024) averaged over 1995-1999. The index aggregates four unweighted sub-indices capturing formal accessibility: signature requirements (absolute or proportional), collection deadlines, the existence of optional versus mandatory referendum provisions, and (for the financial referendum) the monetary thresholds triggering a vote (and, in some cantons, whether thresholds differ for one-off versus recurrent expenditures). Higher values indicate that direct-democratic instruments are legally

stronger and easier for citizens to activate. Because the index is constructed from constitutional and statutory provisions (signature thresholds, deadlines, and referendum rules), it measures *legal accessibility* rather than the realized frequency of popular votes. Empirically, the index is only weakly correlated with canton-year counts of initiatives/referenda ($\rho = -0.01$), suggesting it is not simply a proxy for contemporaneous contestation intensity. Interacting the content-weighted exposures with this direct democracy proxy yields a positive interaction with the peer exposure ($\widehat{\theta}_{P,1} > 0$), an interaction close to zero with the state-agent exposure ($\widehat{\theta}_{S,1} \approx 0$), and a negative point estimate for the triple interaction with the cross term ($\widehat{\theta}_{SP,1} < 0$) that is imprecisely estimated (Table 6, Panel B, Column (2)). In the model, this pattern is consistent with stronger direct-democratic rights increasing peer-side internalization (higher β_P), thereby strengthening within-peer bundling: a given increase in exposure to the peer channel translates into a larger endorsement response because peers more often supply self-contained (m, h) persuasive cases. The absence of a robust triple interaction suggests that, in this dimension of institutional variation, the main effect operates through peer-side within-channel effectiveness rather than through systematic shifts in cross-channel fit.

Militia politics: Weaker within-peer bundling and stronger cross-channel pairing. Another distinctive feature of Swiss politics is the *militia* logic: elected office-holding is often part-time and combined with outside occupations. Such an environment plausibly weakens the internalization of producing and relaying public reasons on the peer side, as political discourse becomes more tightly intertwined with outside professional roles and organized interests. In the model, this maps naturally into a lower peer-side internalization weight, β_P, which reduces equilibrium peer precision provision and weakens the peer channel's ability to generate complete (m, h) bundles within-channel (Proposition 2). I proxy the salience of this institutional style with a predetermined disclosure-based measure $W_c \equiv \overline{\text{OutsideJobs}}_c$, the 1999 average number of non-political occupations declared by federal MPs representing canton c under transparency rules (higher values indicate a more "part-time politician" environment and tighter links between elected officials and outside professional roles). Estimating Equation (9) yields a strong negative interaction with the peer content-weighted exposure, a negligible interaction with the state-agent content-weighted exposure, and a positive interaction with the cross term (Table 6, Panel B, Column (3)). In the model, $\widehat{\theta}_{P,1} < 0$ is consistent with a reduction in the peer channel's *within-channel* effectiveness, as lower β_P depresses equilibrium provision of universalism-relevant reasons and makes it harder for peers to supply complete persuasive cases on their own. The positive interaction on $X^S_{c,t} X^P_{c,t}$ indicates a greater role for *cross-channel* pairing in militia environments: endorsement becomes more sensitive to joint exposure to both channels, consistent with stronger cross-channel fit (Lemma 2). In the model, this is the signature of greater specialization: : matched reasons are more likely to be split across peers and state agents, so the interaction term rises even though the peer channel is weaker on its own.

Executive collegiality (concordance): Weaker within-state-agent bundling. An important institutional dimension of Swiss cantonal governance is the extent to which executive decision-making is normatively tied to *collegiality* (concordance), i.e., power-sharing and compromise within the executive. When collegiality is strongly anchored, individual executive actors and the state apparatus operate under tighter power-sharing constraints: policy outcomes are the result of negotiated compromise rather than unilateral discretion. In the model, this directly lowers the extent to which state agents internalize the legitimacy payoff from investing in persuasive public reasons. Formally, this maps into a lower state-agent-side internalization weight,

$$\beta_S = \beta_S(W_c) \quad \text{with} \quad \beta_S'(W_c) < 0,$$

while β_P need not shift mechanically. Conceptually, this is a role-based spillover from workplace power-sharing into the public sphere: it changes the perceived returns to supplying public reasons. I proxy collegiality with a predetermined index W_c coding the normative level at which collegiality is explicitly anchored (constitution, statute/ordinance, or internal rules/indirect anchoring), based on Herzog and Wyss (2022). Estimating Equation (9) yields a negative interaction with the state-agent content-weighted exposure, while the peer-exposure interaction is close to zero and the interaction term is not statistically distinguishable from zero (Table 6, Panel B, Column (4)). By Proposition 2, a lower β_S reduces equilibrium state-side effort provision and hence the effective precision of state-agent-delivered reasons, lowering the marginal effectiveness of $X^S_{c,t}$ in levels. The fact that the interaction effect does not vary robustly with collegiality ($\widehat{\theta}_{SP,1}$ is small and imprecise) is consistent with collegiality primarily shifting state-agent-side incentives to supply reasons (a β_S channel) without inducing a systematic change in the relative precision mix π^h_S/π^m_S that would alter cross-channel fit.

6.2.2 Production cost shifters

Local autonomy: Weaker within-peer bundling and stronger cross-channel completion. An important institutional variation across Swiss cantons is the degree of discretion delegated to municipalities. Greater local autonomy plausibly raises the salience and complexity of implementation constraints in day-to-day governance and public debate. In the model, this is a setting in which (i) bureaucratic practice spills over into more implementation-oriented state-agent discourse (a higher effective π^h_S/π^m_S), and (ii) it becomes harder for peer discourse to supply *complete* persuasive cases on its own because feasibility/implementation reasoning is more costly to produce and process outside the state-agent channel. I proxy local autonomy with a predetermined canton measure from a 1994 survey of municipal general secretaries on perceived municipal autonomy vis-à-vis the canton (Ladner and Geser (2000)). Interacting the content-weighted exposures with this proxy yields a significantly negative interaction with the peer exposure, a small and statistically negligible interaction with the state-agent exposure, and a significantly positive interaction with the cross term (Table 6, Panel C, Column (5)). Equivalently, autonomy environments appear to reduce within-peer completeness and shift completion of (m, h) bundles toward across-channel assembly. In the model, this is the signature of greater specialization: matched reasons are more likely to be split across peers and state agents, so the interaction term rises even though the peer channel is weaker on its own.

University presence: Stronger within-peer bundling. A canton hosting a university plausibly features a denser local "knowledge infrastructure" in the public sphere: greater access to codified expertise, policy analysis, and educated intermediaries. In the model, such an environment can strengthen the peer channel's ability to supply *complete* persuasive cases—matched (m, h) bundles—by lowering the marginal cost of producing and processing both merit and feasibility reasoning. Formally, this maps into downward shifts in peer-side effort costs, C^m_P and C^h_P, and/or upward shifts in the peer precision technology $\upsilon^m_P, \upsilon^h_P$, which raise equilibrium π^m_P and π^h_P (Proposition 2) and thereby make within-peer bundling more complete. Let $W_c = \mathbf{1}\{\text{University}_c\}$ be an indicator for whether canton c hosts a university. Empirically, W_c is one case where the auxiliary regressions detect a systematic association with the peer content-weighted exposure: in $X^j_{c,t} = a_j + \varphi_j(W_c \times t) + \gamma_c + \lambda_t + \nu^j_{c,t}$, $W_c \times t$ predicts a negative trend in $X^P_{c,t}$, with no comparable association for $X^S_{c,t}$ (Appendix Table A6). In the endorsement regressions, however, interacting the content-weighted exposures with W_c yields a large positive interaction with the peer exposure, a small and insignificant interaction with the state-agent exposure, and no detectable effect on the cross term (Table 6, Panel C, Column

(6)). Interpreted through the model, the combination of a declining content-weighted exposure and a steeper endorsement response suggests a 'quantity–quality' pattern: peer content-weighted exposure evolves less favorably, yet each unit of peer exposure is more persuasive in university cantons. This is consistent with university environments strengthening within-peer bundling (lower effective costs / higher precision of peer reasoning), rather than increasing reliance on cross-channel completion.

Local media plurality: Stronger within-peer bundling. Media infrastructures shape political information and accountability (Besley and Burgess (2002), Snyder and Strömberg (2010)). In my framework, they can also improve precision provision by reducing peers' costs of producing and conveying reasons, thereby affecting endorsement of institutional norms through the quality of argument available in the discourse environment at a given reach. Local media plurality, reflected in lower concentration, provides a further proxy for peer-side costs of producing and processing public reasons. I measure this using canton-level counts of local TV and radio channels holding OFCOM concessions, as well as the number of local press titles. Although these measures are observed in 2012, broadcast concessions are highly persistent, with 10-year durations, so I treat them as predetermined proxies. Empirically, the auxiliary regressions detect that local broadcast infrastructure is one case where predetermined media structure is correlated with the constructed peer exposure measure: in $X^j_{c,t} = a_j + \varphi_j(W_c \times t) + \gamma_c + \lambda_t + \nu^j_{c,t}$, $W_c \times t$ predicts a modest negative trend in $X^P_{c,t}$ for both local TV and local radio, with no comparable association for $X^S_{c,t}$ (Appendix Table A6). In the endorsement regressions, however, interacting the content-weighted exposures with these broadcast proxies yields a larger peer content-weighted exposure effect in cantons with more local TV channels and, more weakly, more local radio channels, while the number of local press titles does not shift the exposure mapping, consistent with television providing the most salient common forum for public reason-giving. The interaction terms involving the state-agent exposure and the cross term are small and imprecise (Table 6, Panel C, Columns (7-9)). Interpreted through the model, the combination of a less favorable evolution of the peer exposure measure and a steeper endorsement response suggests a quantity–quality pattern: even if the constructed peer dose does not increase, each unit of peer exposure is more persuasive in cantons with richer local broadcast infrastructure. This is consistent with lower peer-side marginal costs of precision—a richer local broadcast environment reduces the cost of producing precise, contestable reasons—thereby strengthening within-peer completeness rather than increasing reliance on cross-channel completion.

6.2.3 Reach shifters

Language fragmentation: Stronger within-state-agent bundling. In the model, reach is another key incentive shifter: higher reach E^j raises the marginal return to precision provision (Proposition 2). To proxy the extent to which a cantonal public sphere is segmented, I construct a predetermined language-fragmentation index from the 1990 distribution of national languages. Let HHI_c denote the Herfindahl–Hirschman concentration index over language shares in canton c, and define Lang. frag.$_c \equiv 1 - \text{HHI}_c$, so higher values indicate greater fragmentation. Estimating Equation (9) with $W_c =$ Lang. frag.$_c$ yields a large positive interaction with the state-agent content-weighted exposure, while the interaction with the peer content-weighted exposure is imprecise and the cross-term interaction is close to zero (Table 6, Panel D, Column (10)). In the model, this pattern is most naturally read as a *relative effective-reach* wedge: language fragmentation reduces the circulation of peer-provided reasons more than it reduces the circulation of state-agent reasons in the public sphere. One plausible mechanism is media relay: journalistic routines disproportionately source and disseminate official statements (Bennett (1990), Cook (1998)), so when peer networks fragment across linguistic sub-publics, the media's baseline sourcing advantage can generate a larger

wedge in the effective propagation of state-agent reasons relative to peer reasons. In that case, official statements are more likely to become a focal input into public reasoning across linguistic sub-publics. Because reach E^S scales the marginal benefit term in the producer FOCs (more citizens are reached by a given precision increase), this wedge can strengthen the state-agent channel's incentives to supply complete (m, h) bundles even when peer reach fragments. Formally, let effective state reach be $\widetilde{E}_c^S = E_c^S\,\omega_S(\text{Lang. frag.}_c)$ with $\omega_S'(\cdot) > 0$, so that the relevant effective exposure is $\widetilde{X}_{c,t}^S = \widetilde{E}_c^S\,p_{c,t}^S = \omega_S(\text{Lang. frag.}_c)\,X_{c,t}^S$. This interpretation is a slope effect (constructed versus effective exposure), not a mechanical artifact of exposure construction: in auxiliary regressions, Lang. frag.$_c \times t$ has no first-order effect on $X_{c,t}^S$ or $X_{c,t}^P$ once canton and year fixed effects are absorbed (Appendix Table A6).

6.3 Engagement as a merit-attention shifter

To sharpen the content interpretation of the two channels, I exploit predetermined heterogeneity in engagement in political persuasion: the baseline frequency with which respondent i reports trying to convince others to adopt her political views. In the model, this variable is naturally read as a *merit-attention* shifter—how strongly a citizen conditions endorsement on merit-oriented justification (the *why*), holding fixed the local exposure environment.

Under feasibility-tilted state-agent discourse, higher merit-attention has two comparative-statics implications. First, feasibility reasons supplied by state agents are less persuasive in isolation unless they *complete* a disciplined merit case supplied elsewhere, so the direct marginal effect of $X_{c,t}^S$ should be smaller for more engaged individuals. Second, because endorsement is bundle-based, greater merit-attention increases the value of assembling matched (m, h) reasons across sources, making peer and state-agent exposures less substitutable.

Estimating Equation (9) with $W_{i0} = \text{Engage}_{i0}$ corroborates both predictions (Table 6, Panel E, Column (11)). The interaction between engagement and the state-agent content-weighted exposure is negative, indicating that the marginal effect of $X_{c,t}^S$ is smaller for more engaged individuals. At the same time, the triple interaction with $X_{c,t}^P \times X_{c,t}^S$ is positive, implying that the peer–state interaction becomes less negative as engagement rises—a shift toward cross-channel completion among more merit-attentive citizens.

7 Conclusion

This paper contributes to a growing economics literature on the interplay between culture and institutions. Much of this work treats culture and institutions as distinct objects that co-evolve, but it leaves open a central question: how do institutions originate in the sense of acquiring legitimacy? I address this question by formalizing institutional legitimacy formation—endorsement of a norm for institutionalization—as an outcome of public-sphere persuasion and reason-giving.

In the model, citizens endorse an institutional norm by bundling assessments of merit and feasibility conveyed by peers and state agents. Individuals exert costly persuasion effort because endorsement legitimates institutional action and, in turn, affects implementation and compliance. The role of state agents is central: state-facing occupational roles generate role-based spillovers that give them a comparative advantage in feasibility talk. This role is double-edged. Depending on incentives and the costs of supplying precise reasons, equilibrium persuasion takes the form of within-channel bundling (each channel supplies both dimensions) or cross-channel completion (channels specialize and citizens assemble bundles across sources), with sharply different implications for how endorsement responds to exposure. The key question is therefore whether feasibility completes a disciplined and contested merit case or instead scales up a one-sided merit case.

Table 6: Mechanism evidence: Spillovers, institutional shifters, and individual engagement

$W =$	(1) French sp. State	(2) Direct democracy	(3) Militia	(4) Collegiality	(5) Local autonomy	(6) University	(7) Nb. of TV channels	(8) Nb. of radio	(9) Nb. of press titles	(10) Language frag.	(11) Engagement in persuasion
Panel A. Role-based spillovers											
$X^P_{c,t} \times W$	0.399*										
	(0.221)										
$X^S_{c,t} \times W$	0.018										
	(0.019)										
$X^P_{c,t}X^S_{c,t} \times W$	-0.120*										
	(0.059)										
Panel B. Internalization wedge shifters											
$X^P_{c,t} \times W$		0.118*	-0.154***	0.031							
		(0.059)	(0.028)	(0.165)							
$X^S_{c,t} \times W$		-0.001	-0.001	-0.089***							
		(0.013)	(0.006)	(0.029)							
$X^P_{c,t}X^S_{c,t} \times W$		-0.010	0.047***	-0.067							
		(0.025)	(0.013)	(0.107)							
Panel C. Production cost shifters											
$X^P_{c,t} \times W$					-0.253**	0.405***	0.222**	0.097*	0.009		
					(0.109)	(0.137)	(0.104)	(0.051)	(0.008)		
$X^S_{c,t} \times W$					-0.017	0.029	-0.025	-0.011	-0.001		
					(0.016)	(0.029)	(0.021)	(0.008)	(0.001)		
$X^P_{c,t}X^S_{c,t} \times W$					0.079*	-0.043	0.017	-0.024	-0.000		
					(0.039)	(0.060)	(0.041)	(0.021)	(0.002)		
Panel D. Reach shifter / Public sphere integration											
$X^P_{c,t} \times W$										-0.347	
										(0.702)	
$X^S_{c,t} \times W$										0.260***	
										(0.072)	
$X^P_{c,t}X^S_{c,t} \times W$										0.148	
										(0.268)	
Panel E. Merit-attention shifter (individual)											
$X^P_{c,t} \times W$											-0.051
											(0.044)
$X^S_{c,t} \times W$											-0.009**
											(0.004)
$X^P_{c,t}X^S_{c,t} \times W$											0.030***
											(0.010)
Observations	6,586	8,349	8,301	8,349	8,349	8,349	8,349	8,349	8,349	8,349	7,969

Notes: The dependent variable is a binary indicator equal to one if respondent i endorses institutional universalism in canton c and year t. Sample: Swiss respondents aged 18+; non-workers; canton non-movers. Each column estimates Equation (9) with a different predetermined shifter W (column headers); canton fixed effects absorb the main effect of canton-level W_c. All specifications include the baseline content-weighted exposures $X^S_{c,t}$, $X^P_{c,t}$, and their interaction $X^S_{c,t}X^P_{c,t}$; the table reports only the interactions with W. $X^P_{c,t}$ and $X^S_{c,t}$ are mean-centered in the estimation sample so that main effects are evaluated at the mean of the other channel's exposure. Regressions include individual, canton, and year fixed effects, canton-specific linear trends, and time-varying canton controls; standard errors are clustered at the canton level. Direct democracy index (averaged over 1995–1999; 1–6; statutory ease); Militia = average outside mandates of federal MPs (1999); Collegiality = legal anchoring index (1999); Local autonomy = municipal secretary survey measure (1994); University dummy (1999); Language fragmentation = 1 − HHI (1990); French-speaking state dummy = 1 if French-speaking canton, 0 if German-speaking canton. Nb. of TV (Radio) = number of local TV (radio) channels holding an OFCOM concession (2012; treated as predetermined infrastructure); Nb. of press titles = number of regional press titles in the canton (SwissGIS/OFCOM inventory; 2012). Engagement in persuasion is a predetermined individual measure (1999) capturing frequency of trying to convince others of one's political views (1-8; higher values indicate greater engagement). Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

I map the model to geocoded panel data on endorsement of institutional universalism in Switzerland, operationalizing channels' effective precision with content-weighted exposures that interact predetermined reach with canton–year variation in each channel's universalism tilt, and complement this design with within-person switches into public employment that shift access to state agents under fixed canton–year discourse conditions. Across designs, endorsement rises with exposure to both peers and state agents, while the average negative interaction points to substantial within-channel completeness and diminishing returns. The central empirical takeaway concerns persuasion architecture. Heterogeneity patterns disciplined by the model's comparative statics reveal when feasibility talk functions primarily as a within-channel component of a complete justificatory bundle and when it operates through cross-channel completion. Long-run differences in administrative style across language regions generate a replicating configuration: French-speaking cantons exhibit a larger direct state-agent effect but weaker cross-channel fit, whereas German-speaking cantons exhibit stronger cross-channel completion—consistent with a more feasibility-specialized state-agent channel under a Weberian legal–rational style and a more internally bundled state-agent discourse under a French state-building tradition. Predetermined institutional environments likewise shift the mapping from exposure to endorsement in interpretable ways, moving the economy between bundling and completion by altering legitimacy payoffs, precision costs, and effective reach. Taken together, the evidence supports a view of legitimacy formation as a reason-based, institutionally structured process: institutions shape how public reasons are produced and assembled into persuasive cases for institutional norms.

A key policy implication is that reforms that expand implementation expertise alone can be double-edged. They can strengthen legitimacy formation when merit claims are disciplined and contestable, but they can also heighten amplification risk when they are not. Guardrails that limit feasibility-only specialization by state agents and strengthen the contestability of public reasoning—through media plurality and independence, civic education and media literacy, and broader deliberative capacity—are therefore central to constructive institutional change. Reforms that relax time and attention constraints on producing and processing public reasons, and that expand institutional agency, can further support legitimacy-building when paired with such guardrails.

Beyond the setting studied here, the framework offers a lens on rapid shifts toward political extremes. As information environments fragment and deliberation becomes more specialized, merit claims can become less contestable even as they circulate widely within like-minded audiences. In such low-reach environments, persuasion can tilt from disciplined justification toward narrative amplification, helping explain why polarization and extremist politics may emerge quickly. More generally, the results underscore that institutional stability depends not only on functionality but also on the persuasion architecture through which legitimacy is produced. They support a view of the public sphere as an engine of endogenous legitimacy and a channel through which institutions adapt to a changing environment.

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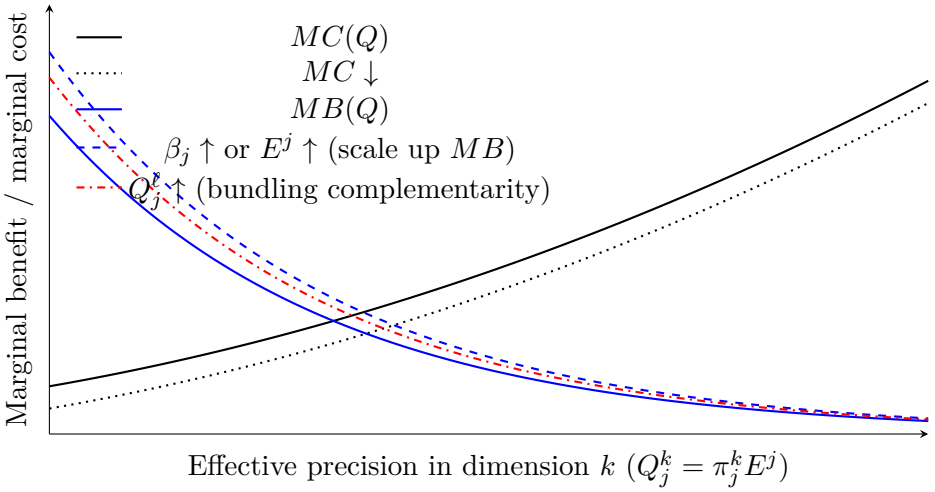
Appendix: Figures and Tables

Table A1: Model notation

Object	Definition / interpretation
Indices and sets	
i	Citizen (agent).
(c,t)	Public-sphere context c at date t.
$j \in \{S,P\}$	Communication channel: S = state-agent channel; P = peer channel.
$k \in \{m,h\}$	Content dimension: m = merit/"why"; h = implementation/"how".
Latent states, priors, and signals	
m,h	Latent "merit" and "implementation" states relevant for persuasion.
μ_k, σ_k^2	Prior mean and variance for dimension $k \in \{m,h\}$.
$\tau_k \equiv \sigma_k^{-2}$	Prior precision for dimension k.
$\tilde{x}^k_{j,i,c,t}$	Signal received by i from channel j about dimension k in (c,t).
$\mathcal{F}_{i,c,t}$	Citizen i's information set in (c,t): $\mathcal{F}_{i,c,t} = \sigma\big(E^S_{i,c,t}, E^P_{i,c,t}, \tilde{x}^m_{S,i,c,t}, \tilde{x}^h_{S,i,c,t}, \tilde{x}^m_{P,i,c,t}, \tilde{x}^h_{P,i,c,t}\big)$.
$\sigma(\cdot)$	Sigma-algebra generated by the listed random variables (information available to the agent).
Exposure / reach	
$E^j_{i,c,t}$	Realized exposure of citizen i to channel j in (c,t) (nonnegative).
$E^j_{c,t}$	Aggregate reach (average exposure intensity) of channel j in public sphere (c,t).
$\eta^j_{i,c,t}$	Idiosyncratic reach component: $E^j_{i,c,t} = E^j_{c,t} + \eta^j_{i,c,t}$, $\mathbb{E}[\eta^j_{i,c,t} \mid c,t] = 0$.
Precision and effective precision	
e^k_j	Producer effort by channel j to generate precision on dimension k.
$\upsilon^k_j(\cdot)$	Precision technology: $\pi^k_j = \upsilon^k_j(e^k_j)$ (increasing, concave).
π^k_j	Precision supplied by channel j on dimension k.
Q^k_j	Effective precision / intensity from channel j on dimension k: $Q^k_j \equiv \pi^k_j E^j$ (suppressing indices when convenient).
$Q_{k,i,c,t}$	Total effective precision for citizen i on dimension k in (c,t): $Q_{k,i,c,t} \equiv \sum_{j\in\{S,P\}} \pi^k_j E^j_{i,c,t}$.
Bundling and endorsement	
$f(x)$	Poisson "arrival" map: $f(x) \equiv 1 - e^{-x}$.
Λ_j	Within-channel bundle intensity: $\Lambda_j \equiv f(Q^m_j)\, f(Q^h_j)$.
$\Lambda_\times$	Cross-channel fit (extension): $\Lambda_\times \equiv f(Q^m_S)f(Q^h_P) + f(Q^h_S)f(Q^m_P)$.
Λ	Total bundle intensity: $\Lambda \equiv \Lambda_S + \Lambda_P$ (benchmark) or $\Lambda \equiv \Lambda_S + \Lambda_P + \Lambda_\times$ (extension).
s	Endorsement probability / share: $s = u(\Lambda)$.
$u(\cdot)$	Endorsement link, increasing and concave ($u' > 0$, $u'' \le 0$); canonical case $u(\Lambda) = 1 - e^{-\Lambda}$.
κ	Off-diagonal "fit" index (local complementarity at the origin): $\kappa \equiv \pi^m_S \pi^h_P + \pi^h_S \pi^m_P$.
Producer payoffs and costs	
$C^k_j(\cdot)$	Cost of effort e^k_j for channel j on dimension k (convex).
B	Social benefit scale from endorsement/legitimacy ($B > 0$).
β_j	Internalization weight: channel j internalizes fraction $\beta_j \in (0,1]$ of B.
δ	Implementation comparative-advantage wedge (Assumption 1).
Dynamics (when used)	
S_t	Aggregate endorsement at date t (e.g., population average of s).
$E^j(S)$	Exposure map: reach as a function of current endorsement S (public-sphere propagation).
$\Phi(S)$	Update map: $\Phi(S) \equiv u(\Lambda(S))$ so $S_{t+1} = \Phi(S_t)$.

Figure A1: Producer FOC in effective precision (schematic)



Note: The benchmark first-order condition equates the marginal cost of increasing precision in dimension k to the marginal endorsement payoff. Writing effective precision as $Q_j^k = \pi_j^k E^j$ and holding $u'(\Lambda)$ fixed, the marginal benefit is proportional to $\beta_j E^j e^{-Q_j^k}(1 - e^{-Q_j^\ell})$. In Q-space, higher reach E^j and internalization β_j scale up marginal benefits; lower marginal costs shift MC down; and higher completeness in the other dimension (Q_j^ℓ) shifts marginal benefits up. The intersection determines the optimal effective precision Q_j^{k*}.

Table A2: Variable Descriptions and Sources

Table	Variable	Definition	Coding	Source	Time period
2,4,6	Institutional universalism	Are you in favour of Switzerland offering foreigners the same opportunities as those offered to Swiss citizens, or in favour of Switzerland offering Swiss citizens better opportunities?	0 = better opportunities for Swiss citizens and 1 = equal opportunities	Swiss Household Panel	1999–2003
3,5	Welfare	Are you in favour of a diminution or in favour of an increase of the Confederation social spendings?	1 = diminution of social spending, 2 = no change and 3 = more social spending	Swiss Household Panel	1999–2003
3,5	Redistri.	Are you in favour of an increase or in favour of a decrease of the tax on high incomes?	1 = decrease, 2 = no change and 3 = increase	Swiss Household Panel	1999–2003
3,5	Army	Are you in favour of Switzerland having a strong army or for Switzerland not having an army?	1 = no army, 2 = neither and 3 = strong army	Swiss Household Panel	1999–2003
3,5	Env. vs growth	Are you in favour of Switzerland being more concerned with protection of the environment than with economic growth, or in favour of Switzerland being more concerned with economic growth than with protection of the environment?	1 = more concerned with economic growth, 2 = neither and 3 = more concerned with environment protection	Swiss Household Panel	1999–2003
3,5	Join EU	Are you in favour of Switzerland joining the European Union or are you in favour of Switzerland staying outside of the European Union?	0 = staying outside of EU and 1 = joining the EU	Swiss Household Panel	1999–2003
3,5	Ideology	When they talk about politics, people mention left and right. Personally, where do you position yourself?	0 = 'left' and 10 = 'right'	Swiss Household Panel	1999–2003
3,5	Sat. Dem.	Overall, how satisfied are you with the way in which democracy works in our country?	0 = 'not at all satisfied' and 10 ='completely satisfied	Swiss Household Panel	1999–2003
3,5	Trust fed. gov.	How much confidence do you have in the Federal Government?	0 = 'no confidence' and 10 = 'full confidence	Swiss Household Panel	1999–2003
6	Engagement in persuasion	How frequently do you try to convince other people to adopt your political opinions? 1 = never and 8 = several times a week	Swiss Household Panel	1999	
2,3,6	Average ideological position of the cantonal executive	Computed as the mean of seat-level party positions within the executive council. Each seat is coded on a four-point left–right scale ranging from 1 (far left) to 4 (far right); the index is obtained by summing these seat codes and dividing by the number of executive seats, so that higher values indicate a more right-leaning government.	1 = far left to 4 = far right	Vatter et al. (2024)	1999–2003

Table	Variable	Definition	Coding	Source	Time period
2,3,6	Foreign pop share	Share of the cantonal resident population holding foreign citizenship, measured as the number of non-citizens divided by the total resident population.	Percentage	State Secretariat for Migration	1999–2003
2,3,6	Referendum	Number of referenda held in canton.	Count	Vatter et al. (2024)	1999–2003
2,3,6	Unemployment rate	Cantonal unemployment rate in percent, measured as the share of unemployed individuals in the active population.	Percentage	State Secretariat for Economic Affairs	1999–2003
2,3,6	Taxable income per capita	Per-capita taxable income base, measured as the total mass of income subject to the personal income tax divided by the cantonal resident population.	Swiss francs per capita	Federal Finance Administration	1999–2003
6	Direct democracy	Cantonal composite index measuring the legal accessibility of direct-democracy instruments, averaged over 1995–1999. Higher values indicate less restrictive activation rules (e.g., lower signature requirements and/or longer collection deadlines), broader referendum availability (optional and mandatory), and—where applicable—lower financial-referendum trigger thresholds (including coverage of one-off versus recurring spending).	Grade from 1 = high accessibility restriction to 6 low accessibility restriction	Vatter et al. (2024)	Averaged over 1995–1999
6	Militia	Cantonal mean number of non-political outside positions held in 1999 by federal legislators representing the canton, based on self-reported declarations of interests (outside functions).	Count	Swiss Federal Assembly	1999
6	Collegiality	Cantonal index capturing the formal legal anchoring of the executive collegiality principle, coded from the earliest available statutory version (ideally in force in 1999, and no later than 2003).	1 = only in the government's internal rules of procedure or indirect legal references, 2 = in a law or ordinance and 3 = explicitly stipulated in the cantonal constitution .	LexFind	1999
6	Local autonomy	Cantonal mean perception of municipal autonomy vis-à-vis the canton, based on a 1994 survey of municipal general secretaries. Exact question: "Overall, what is the degree of autonomy of your municipality relative to the canton?	From 1 (no autonomy) to 10 (high autonomy)	Ladner & Geser (2000)	1994
6	University	Whether the canton hosts a university.	0 = no university and 1= the canton hosts a university	swissuniversities	1999

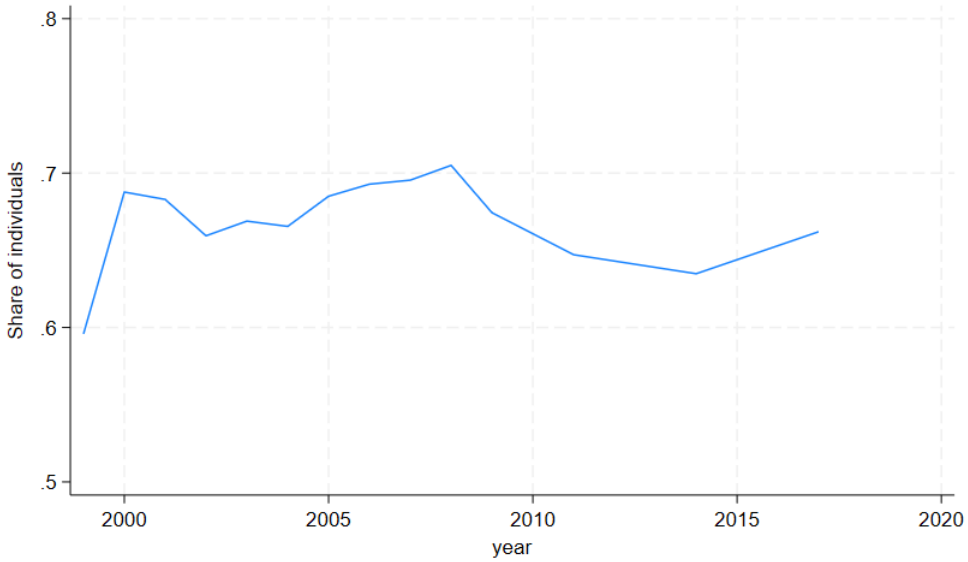
Table	Variable	Definition	Coding	Source	Time period
6	Nb. of TV channels	Number of regional TV channels in a canton that hold a 10-year concession awarded by the Federal Department of the Environment, Transport, Energy and Communications (DETEC), which qualifies them for a share of the broadcasting levy under the Swiss Federal Act on Radio and Television.	Count	Federal Office of Communications	2012
6	Nb. of radio stations	Number of regional radio stations in a canton that hold a 10-year concession awarded by the Federal Department of the Environment, Transport, Energy and Communications (DETEC), which qualifies them for a share of the broadcasting levy under the Swiss Federal Act on Radio and Television.	Count	Federal Office of Communications	2012
6	Nb. of press titles	Number of print news titles in a canton, based on the regional media inventory compiled for the Swiss Federal Office of Communications by the Swiss Centre for Studies on the Global Information Society (SwissGIS), University of Zurich. The measure includes daily, weekly, Sunday, and official gazette-style print titles.	Count	Federal Office of Communications	2012
6	Language frag.	Cantonal linguistic fragmentation, computed as $1 - \sum_{\ell} s_{\ell c}^2$, where $s_{\ell c}$ is the population share of language group ℓ in canton c.	Higher values indicate greater linguistic diversity	Census 1990 - FSO	1990
2,3,6	Public-employment share as a proxy for E_c^S used in X_{ct}^S	Percentage of a canton's employed labor force working in the public sector measured as the number of full-time equivalent.	Percentage	Federal Statistical Office	2001
2,3,6	Association density as a proxy for E_c^P used in X_{ct}^P	Cantonal number of registered associations per 1,000 inhabitants.	Number per 1000 inhabitants	Federal Statistical Office	1995
2,3,6	$p_{c,t}^P$ used in X_{ct}^P	Cantonal share of workers in the private sector who endorse institutional universalism	0 to 1	Swiss Household Panel	1999–2003
2,3,6	$p_{c,t}^S$ used in X_{ct}^S	Cantonal share of workers in the public sector who endorse institutional universalism	0 to 1	Swiss Household Panel	1999–2003

Table A3: Summary Statistics

	Mean	Std. dev.	Min	Max	Between SD	Within SD
Panel A. Individual-level time-varying variables						
Institutional universalism	0.624	0.484	0.000	1.000	0.423	0.248
Peer content-weighted exposure (X_{ct}^{P})	0.000	0.165	-0.608	0.642	0.156	0.053
State-agent content-weighted exposure (X_{ct}^{S})	0.000	1.351	-4.633	5.850	1.317	0.339
Welfare	2.247	0.714	1.000	3.000	0.601	0.403
Redistribution	2.591	0.641	1.000	3.000	0.546	0.362
Army	2.189	0.794	1.000	3.000	0.709	0.369
Env. vs growth	2.295	0.712	1.000	3.000	0.590	0.417
Join EU	0.529	0.499	0.000	1.000	0.463	0.191
Ideology	4.959	2.115	0.000	10.000	1.903	0.925
Sat. w. Democracy	5.939	2.006	0.000	10.000	1.749	1.060
Trust in fed. gov.	5.804	2.244	0.000	10.000	1.987	1.092
Panel B. Cantonal-level time-varying variables						
Average ideology	2.706	0.347	1.800	3.571	–	–
Foreign pop share	19.430	5.404	7.439	33.355	–	–
Nb. of Referenda	3.759	3.429	0.000	24.000	–	–
Unemployment rate	2.364	1.077	0.300	6.500	–	–
Taxable inc. pc	32544.206	6563.264	22634.021	75379.492	–	–
Panel C. Individual- and cantonal-level pre-determined variables						
Engagement in persuasion	6.716	2.133	1.000	8.000	–	–
Direct democracy	4.402	0.960	1.750	5.750	–	–
Militia	4.123	1.203	0.333	9.333	–	–
Collegiality	2.704	0.565	1.000	3.000	–	–
Local autonomy	4.854	0.657	3.278	6.125	–	–
University	0.669	0.471	0.000	1.000	–	–
Nb. of radio channels	3.900	2.548	0.000	8.000	–	–
Nb. of TV channels	1.553	0.992	0.000	3.000	–	–
Nb. of press titles	24.983	17.699	1.000	58.000	–	–
Language frag.	0.190	0.110	0.040	0.477	–	–
Public-employment share	6.161	1.532	3.500	11.100	–	–
Association density	0.899	0.190	0.444	1.316	–	–
Observations (person-years)						20,542
Individuals (idpers)						7,413
Years						1999–2003

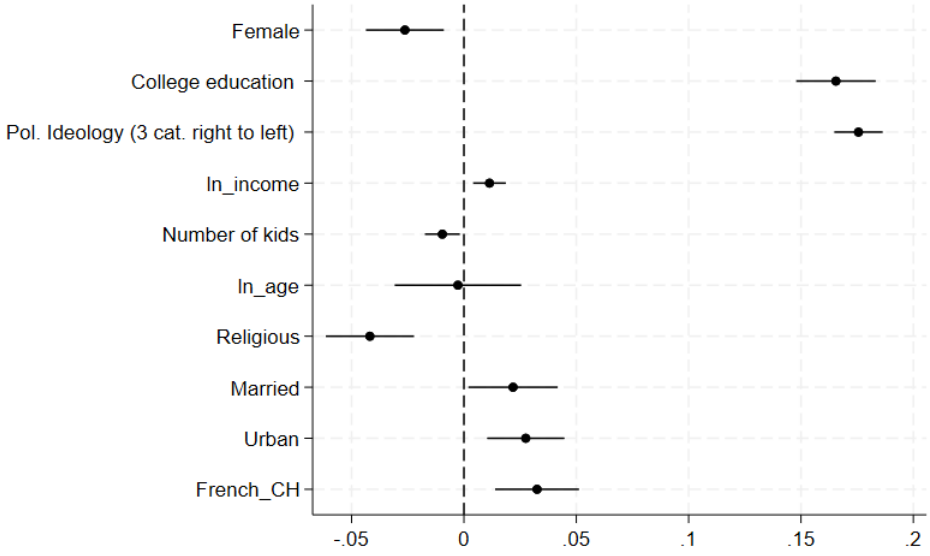
Notes. The sample is restricted to non-working Swiss respondents aged 18+. Unit of observation is the individual-year. Between SD is the standard deviation of individual means. Within SD is the standard deviation of deviations from individual means.

Figure A2: Endorsement of the universalism institutional norm over time



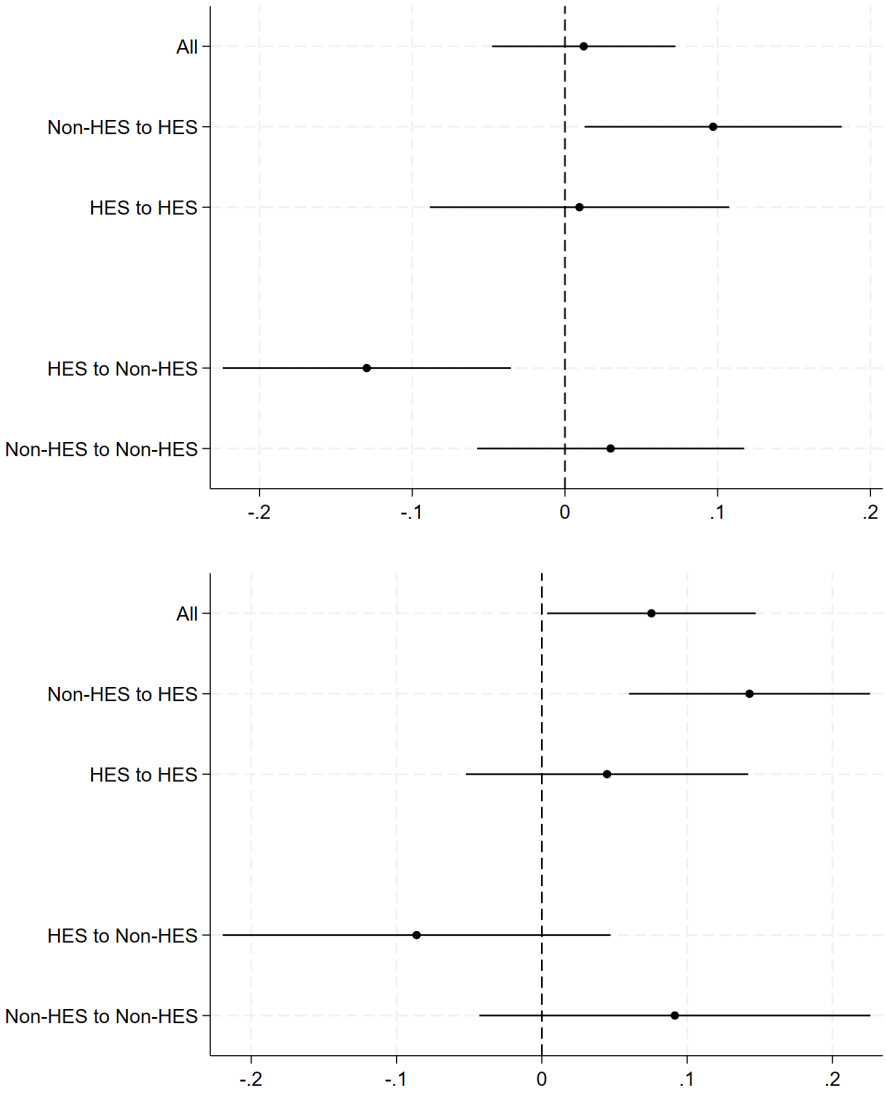
Note: The figure depicts the share of Swiss individuals aged 18 and over who endorse the universalism institutional norm over the maximal period of time with data availability, corresponding to the yearly average of the variable Y_{ict}.

Figure A3: Correlates of endorsement of the universalism institutional norm



Note: This figure presents OLS Estimates from regressions of the Y_{ict} variable on all sociodemographic correlates, with SE clustered at the individual level, along with 95% confidence intervals.

Figure A4: Self-selection based on endorsement of institutional universalism across industries



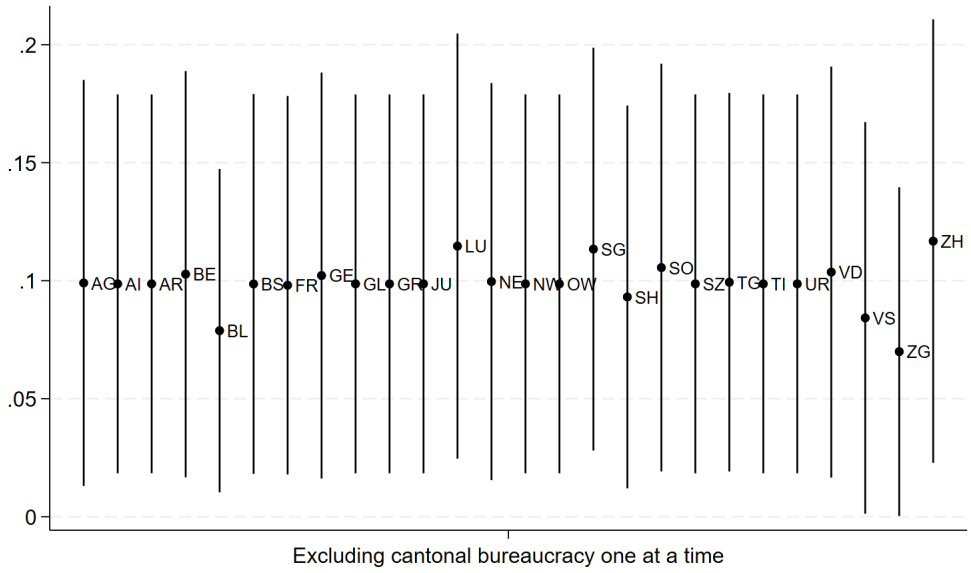
Notes: The figure summarizes regression coefficients of the switching indicators, capturing systematic differences in the universalism institutional norm between those who stay and those who switch at some future point. The above figure considers all switches while the figure below excludes switches at the federal level. See the text for further details. The 90% confidence intervals are based on standard errors clustered at the individual level.

Table A4: Switchers to *vs.* stayers in the public non-HES sector

Variable	(1) Switchers	(2) Stayers	(3) Difference
Share of female	0.429	0.351	0.077
	(0.497)	(0.478)	(0.054)
Share of married	0.623	0.676	-0.053
	(0.487)	(0.469)	(0.053)
Number of children	1.388	1.584	-0.197
	(1.289)	(1.310)	(0.141)
Age	38.714	40.512	-1.798*
	(9.467)	(8.666)	(1.021)
Share of Educ.: college level	0.143	0.242	-0.099**
	(0.352)	(0.428)	(0.040)
Share of living in urban area	0.612	0.574	0.038
	(0.490)	(0.495)	(0.053)
Ln yearly income	10.924	11.051	-0.127*
	(0.612)	(0.602)	(0.070)
State Universalism	0.679	0.729	-0.050
	(0.470)	(0.445)	(0.056)
Ideology	4.273	4.540	-0.268
	(2.263)	(2.107)	(0.258)

Notes: The table displays socio-demographic characteristics of switchers from the private into the public sector and stayers in the public sector within non-HES industries. The last column presents the difference in the mean value of each variable between the two sectors. Columns (1) and (2) standard deviation in parentheses. Columns (3) robust standard errors in parentheses. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Figure A5: Endorsement of institutional universalism – robustness of public employment in the non-HES sector, dropping one cantonal bureaucracy at a time



Notes: Figure reports point estimates of the state effect (specification from Column (4) in Table 4), considering switches within non-HES occupations, dropping one state at a time. Reporting 90% confidence intervals. Standard errors clustered at the individual level.

Table A5: Exposure to deliberation channels and endorsement of institutional universalism: Full sample (including movers)

	(1)	(2)	(3)	(4)	(5)
Y_{ict}	Endorsement of institutional universalism				
Peer content-weighted exposure (X^P_{ct})	0.224**	0.225**	0.311***	0.307**	0.285*
	(0.090)	(0.099)	(0.106)	(0.109)	(0.156)
State-agent content-weighted exposure (X^S_{ct})	0.021	0.023*	0.029**	0.029**	0.035**
	(0.015)	(0.012)	(0.013)	(0.013)	(0.017)
Peer × state-agent interaction ($X^P_{ct} \times X^S_{ct}$)	-0.025	-0.021	-0.052*	-0.050*	-0.087**
	(0.025)	(0.020)	(0.028)	(0.028)	(0.037)
Observations	9,041	8,957	8,957	8,949	8,957
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Canton fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Contemporaneous canton controls	No	Yes	Yes	Yes	No
Canton-specific linear trends	No	No	Yes	Yes	Yes
Time-varying individual controls	No	No	No	Yes	No
Lagged canton controls	No	No	No	No	Yes

Notes: The dependent variable Y_{ict} is a binary indicator equal to one if respondent i endorses institutional universalism in canton c and year t. The sample is restricted to non-working Swiss respondents aged 18+. All specifications estimate equation (4) by OLS with individual, canton, and year fixed effects; standard errors are clustered at the canton level. The peer and state-agent content-weighted exposures, X^P_{ct} and X^S_{ct}, are mean-centered in the estimation sample so that the main-effect coefficients are evaluated at the mean of the other channel's content-weighted exposure. *Contemporaneous canton controls* include: (i) the weighted-average left–right ideology of the cantonal executive (constructed by mapping parties' cabinet shares onto a 1–4 scale using party positions from Vatter et al. (2024)); (ii) foreign population share; (iii) number of referenda; (iv) unemployment rate; and (v) taxable income per capita (cantonal average). *Lagged canton controls* replace (ii)–(v) by their one-year lag (while keeping the electoral calendar contemporaneous). *Time-varying individual controls* include marital-status indicators, number of children, and an indicator for health limitations in daily activities. Column (3) is the preferred specification; Columns (4)–(5) provide robustness to adding individual controls and to using lagged canton covariates. Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table A6: Auxiliary regressions: $W_c \times t$ and content-weighted exposures $X^S_{c,t}$ and $X^P_{c,t}$

	Direct democracy		Militia		Exec. collegiality		Local autonomy		University		Language fragmentation		French-speaking canton		Nb. of local TV channels		Nb. of local press titles		Nb. of local radio channels	
	$X^S_{c,t}$	$X^P_{c,t}$	$X^S_{c,t}$	$X^P_{c,t}$	$X^S_{c,t}$	$X^P_{c,t}$	$X^S_{c,t}$	$X^P_{c,t}$	$X^S_{c,t}$	$X^P_{c,t}$	$X^S_{c,t}$	$X^P_{c,t}$	$X^S_{c,t}$	$X^P_{c,t}$	$X^S_{c,t}$	$X^P_{c,t}$	$X^S_{c,t}$	$X^P_{c,t}$	$X^S_{c,t}$	$X^P_{c,t}$
$W_c \times t$	0.004	0.003	0.004	-0.001	-0.033	0.002	-0.050	0.005	-0.010	-0.040**	0.302	-0.088	0.079	0.007	-0.031	-0.014*	0.001	-0.001	-0.005	-0.006*
	(0.0315)	(0.009)	(0.021)	(0.008)	(0.045)	(0.013)	(0.036)	(0.013)	(0.071)	(0.015)	(0.195)	(0.053)	(0.057)	(0.040)	(0.037)	(0.007)	(0.002)	(0.001)	(0.012)	(0.003)
Observations	115/129		115/129		115/129		115/129		115/129		115/129		100/109		115/129		115/129		115/129	

Notes: Unit of observation is canton–year. Each column reports $\hat{\varphi}_j$ from $X^j_{c,t} = a_j + \varphi_j(W_c \times t) + \gamma_c + \lambda_t + \nu^j_{c,t}$, estimated separately for $j \in \{S, P\}$, where t is calendar year. Canton and year fixed effects are included. Standard errors clustered at the canton level. Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.