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Regulating Ceremonial Spending: Top-down or Bottom-up?

Alisher Aldashev
Kazakh British Technical University

Alexander M. Danzer
KU Eichstätt-Ingolstadt, CESifo,
IOS Regensburg, IZA@LISER, CReAM UCL
London and RFBerlin

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Abstract

Ceremonies are central to social life, yet the pressure to conform to community spending norms traps households in a collectively suboptimal equilibrium, imposing severe financial burdens. Using nationally and regionally representative longitudinal data from Tajikistan and Kyrgyzstan, we document that ceremonial expenditures are sizeable, display striking income inelasticities, and are strongly shaped by local spending norms, making celebrations disproportionately burdensome for poorer households. We evaluate two distinct regulatory approaches through separate natural experiments: a top-down legal ban on lavish wedding celebrations in Tajikistan and a bottom-up, community-driven norm agreement in Kyrgyzstan—interventions with close analogues in Afghanistan, China, India, and Pakistan. Both yield reductions in ceremonial spending, with household savings larger under the bottom-up approach, but they operate through fundamentally different compliance mechanisms. The top-down reform hinges on external monitoring and credible sanctions, while the bottom-up intervention relies on social trust and norm internalization. These findings identify external enforcement and social trust as the key compliance mechanisms underlying top-down and bottom-up consumption regulations respectively, with broader implications for the design of policies targeting socially motivated expenditures.

JEL classification

D12, D04, H31, O17

Keywords

ceremonial spending, conspicuous consumption, compliance, monitoring, trust, anti-poverty policy

Corresponding author

Alisher Aldashev
a.aldashev@kbtu.kz

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1. Introduction

Celebrations are central to social life, yet they generate a striking behavioural paradox: even the poorest households in countries like China, India, the Kyrgyz Republic, Niger, or South Africa devote substantial resources to ceremonies—sometimes exceeding annual household incomes (Aldashev 2024; Banerjee and Duflo 2007; Case et al. 2013; Chen and Zhang 2017; Rao 2001a). These expenditures arise from a social trap in which individually rational behaviour – conforming to community spending norms – produces collectively suboptimal outcomes. This well-documented "keeping up with the Joneses" phenomenon leads to a number of undesirable outcomes. Ceremonial spending can crowd out essential consumption or business investments, increase household indebtedness, and in some settings contribute to adverse health outcomes such as stunting or underweight (Banerjee and Duflo 2007; Banuri and Nguyen 2023; Bulte et al. 2018; Chen and Zhang 2017; Singh et al. 2008; Suzuki 2025; Woldehanna et al. 2022). The magnitude of devoted resources raises the question of whether excessive ceremonial spending generates negative externalities – a positional rat race – and may therefore warrant policy intervention. Governments across Asia, including Afghanistan, China, India, and Pakistan, have repeatedly introduced measures to curb excessive ceremonial expenditure, underscoring the universality of the underlying social trap.

While the extent of ceremonial spending has been well documented, effective policy responses remain poorly understood. Conceptually, one approach is to shift behaviour by changing individual preferences and social norms, fostering prosocial rather than purely self-interested motives (Hirsch 1976). A second approach targets the negative externalities of status consumption through Pigouvian taxation (Frank 1985). Both face serious behavioural and institutional constraints. The evidence on taxation is mixed. Taxing status goods requires a precise definition of which products signal status, and the failed 1990 US luxury excise tax illustrates how producers can internalize the tax or redesign products to circumvent taxation (Mason 2000). Moreover, higher prices may paradoxically reinforce the desirability of status goods by signalling exclusivity—a Veblen effect that undermines standard

price-based deterrence. Yet, the automobile component of this tax (the luxury tax was repealed in 1993 on all goods but automobiles which remained in place until 2002) generated small net welfare gains due to reduced status competition as shown by Jinkins (2016). Shifting social norms faces a different obstacle: coordination failure. Even when individuals collectively prefer lower spending equilibria, unilateral deviation is costly, and convergence to a new norm requires either a credible commitment device or sufficient social trust (Akerlof 1980; Bicchieri 2006).

In this paper, we analyse ceremonial spending in Central Asia and evaluate two policy interventions designed to break this spending trap: one relying on external enforcement, the other on endogenous norm change. In Tajikistan, the government implemented a *top-down* ban on lavish wedding celebrations by imposing legally specified limits on the number of guests, cars, and meals—effectively very high taxes on conspicuous wedding inputs. Enforcement relied on police monitoring of celebrations. In contrast, some villages in the Kyrgyz Republic pursued a *bottom-up* approach, in which community members collectively agreed to lower spending limits. This policy depends on social trust and the internalization of new norms, aiming to coordinate households onto a lower-spending equilibrium and dissolve the positional externality inherent in the ceremonial rat race.

The two settings provide a rare natural experiment for studying the behavioural foundations of compliance. Compliance with the Tajik top-down regulation is predicted by the credibility of external sanctions — specifically, police presence. Compliance with the Kyrgyz bottom-up reform is predicted by social trust, which sustains the cooperative equilibrium. By exploiting plausibly exogenous variation in enforcement capacity and trust levels across households and villages, we can disentangle the mechanisms through which each policy operates and directly compare their effectiveness. This design allows us to speak to a broader question in institutional economics and behavioural public policy: how does top-down regulation compare to bottom-up norm coordination, and what individual and community characteristics determine compliance?

Our contributions are threefold: First, we provide the first empirical evaluation of consumption bans and community norm agreements as tools for correcting positional externalities in ceremonial spending. The theoretical literature on conspicuous consumption has developed rich frameworks for optimal taxation (Aronsson and Johansson-Stenman 2021) and redistributive policy (Bilancini and Boncinelli 2012), but direct consumption limits have received little empirical attention. We complement the literature on regulating consumer goods through bans (Marcus and Siedler 2015; Steffens and Carvalho Pereda 2025) and contribute to understanding how evasion undermines regulatory effectiveness. Crucially, our study extends the analysis of regulatory compliance – where trust, fear of sanctions, and corruption have been studied primarily in tax and environmental contexts (Murphy 2004; Hamm et al. 2013; Wahl et al. 2010; Sjöstedt et al. 2022) – to the domain of consumption regulation. Second, we conduct an unusually data-intensive econometric evaluation. Ceremonial spending is a relatively rare event, requiring detailed micro-level household panel data. Kyrgyzstan and Tajikistan provide comparable datasets spanning six and four years respectively, covering household expenditures on anniversaries, births, weddings, and funerals. Our analysis is sufficiently powered to illuminate the mechanisms through which top-down and bottom-up policies operate and to identify heterogeneous treatment effects by enforcement exposure and trust. Third, we estimate household and local income elasticities of ceremonial spending using micro-level household surveys, contributing to the limited literature on conspicuous consumption in developing countries (Rao 2001a; 2001b; Bloch et al. 2004; Brown et al. 2011) and Central Asia specifically (Danzer et al. 2014; Aldashev 2024; Aldashev and Aldashev 2025).

Our findings reveal that ceremonial spending in Central Asia is substantial and socially determined. At least one third of households celebrate a major event each year, and some celebrations – particularly weddings in Tajikistan – can easily exceed one annual household income. The household income elasticity of ceremonial spending ranges from 0.1 to 0.24, indicating compressed spending levels consistent with strong norm conformity across the income distribution. Expenditures are

strongly influenced by local spending norms, making celebrations disproportionately burdensome for poorer households. These findings that ceremonial spending is income-inelastic and strongly influenced by local norms mirrors results from rural China, where 'gift competition' driven by community averages disproportionately burdens the poor (Bulte et al., 2018). On the policy side, Tajikistan's top-down law leads to significant reductions in wedding expenditures, concentrated in areas with active police monitoring—consistent with a deterrence mechanism. In Kyrgyzstan, expenditures are lower in reform villages, but the effect is concentrated among households with higher levels of social trust—consistent with a norm internalization mechanism. External enforcement and social trust thus emerge as the key behavioural levers for the top-down and bottom-up approaches respectively. Notably, the magnitude of household savings is larger in Kyrgyzstan's bottom-up reform, pointing to the potentially superior effectiveness of internalized norm change over externally imposed compliance in reducing positional spending.

The paper proceeds as follows: Section 2 provides background on ceremonial spending and the policy regulations. Section 3 describes the data and outlines the empirical methodology. Section 4 presents regression results and discusses the findings. Section 5 concludes.

2. Background

2.1 Ceremonial spending: explanations and regulation options

Ceremonial spending in Kyrgyzstan and Tajikistan is common and generous. Such expenditures—on weddings, funerals, or other family ceremonies—can exceed annual household incomes and impose significant financial strain, including debt accumulation (Aldashev 2024). Economic theory suggests several explanations for why celebrations can become overly lavish. Large ceremonies can function as informal contract-enforcing mechanisms (for weddings: Miller 2005) or tools to access social capital in contexts of limited formal institutions, such as insurance (Anggraeni 2009; Rao 2001b; Woldehanna et al. 2022). At the same time, conspicuous spending generates negative

externalities: households compete in a social "rat race" to signal status, which may lead to excessive expenditures, distort demand for non-positional goods, and reinforce poverty traps (Veblen 1899; Frank 1985; Moav and Neeman 2010; Aldashev and Aldashev 2025).

These features may justify policy intervention. In Tajikistan, the government imposed top-down limits on wedding expenditures enforced by the police, while in Kyrgyzstan, some community leaders adopted bottom-up spending restrictions enforced through social norms and trust, similar to Orthodox Rabbis from the US East Coast (Cohen 2002). Central Asia thus offers a natural laboratory to evaluate the short-run effectiveness of alternative regulatory approaches in reducing excessive ceremonial spending.

The success of top-down or bottom-up regulatory approaches depends on several factors. On the one hand, economic pressure may make reducing the size of celebrations attractive for households, and compliance provides them with financial relief. On the other hand, social norms, informal social contracts or status-seeking behaviour encourage hosting impressive celebrations with many guests, counteracting efforts to limit expenditures. Households are likely to comply with an explicit or implicit cap on ceremonial spending if the financial cost (C) of non-compliance exceeds the benefits (B) of holding an extravagant event. Policy interventions influence this cost–benefit calculation in two ways. First, increasing the financial cost of celebrations, for instance, through fines, raises C and makes compliance more attractive. This requires effective monitoring and enforcement, as some households attempt to evade the rules (Slemrod 2007). Second, if the prevailing spending norm is credibly lowered—through a trustworthy leader or a community publicly committing to reduced expenditure—the perceived benefits B of overspending fall (Bicchieri and Xiao 2009). Tajikistan primarily addresses the first channel by targeting the financial costs of weddings, while Kyrgyzstan focuses on the second by lowering the moral and social benefits of extravagant celebrations.[1]

[1] While Kyrgyzstan theoretically allowed monetary fines, anecdotal evidence suggests that the actual sanction was ostracism, i.e., exclusion from future community festivities, which eliminates any benefits from lavish

2.2 Regulating ceremonial expenditures in Tajikistan

In 2008, President Imomali Rahmon of Tajikistan introduced a law banning lavish weddings.[2] The legislation regulates several quantitative aspects of celebrations, including the maximum number of guests (150), the length of the event, and the number of cars in the traditional wedding cortege (four).

To ensure compliance, Tajikistani police regularly monitor weddings by performing headcounts, and violations are penalized with fines of approximately USD 580 (Marat 2008). Anecdotal evidence suggests some non-compliance, either through paying bribes or through excessive spending on qualitative dimensions. For instance, to maintain an impressive wedding cortege and accommodate more guests, some grooms rent expensive Western stretch limousines instead of using old Russian cars. Tajikistan's import statistics reflect this adaptation: the average value of imported cars increased sharply (+70 to +100%) following the law's enactment (see Fig. A-1 in the Appendix). Both reactions, bribery and quality improvements, will counteract the dampening effect on spending levels.

The government reports that the law saved households roughly USD 1.6 billion between 2008 and 2013. Average wedding expenditures fell from over USD 1,800 in 2007 to under USD 600 in 2012 (Umarsoda 2012). Authorities also claim that fewer households relied on loans to finance celebrations and that spending on cars and housing increased, concluding that the law was successful (Umarsoda 2012). Independent evaluations of the policy do, however, not exist.

events. Similarly, laws could gradually influence social norms in Tajikistan (Lane et al. 2023); however, we ignore this effect due to our relatively short observation period.

[2] Laws of the Republic of Tajikistan No. 6/428/2007 and 6/448/2008. Article 1: 'The goal of this law is to protect the social interests of the people of Tajikistan, to reduce poverty and to prevent inappropriate expenditures which lead to severe damage to the financial interests and moral principles of the citizens.'

2.3 Regulating ceremonial expenditures in Kyrgyzstan

Following the Tajikistani law, concerns about excessive spending on celebrations emerged in Kyrgyzstan. Two attempts to cap ceremonial spending through national legislation failed to secure parliamentary approval. Despite the absence of national regulation, local authorities took action. In Osh Oblast, two regions—Uzgen and Nookat—implemented rules to limit ceremonial expenditures. In 2011, Uzgen issued a by-law enabling fines of 25,000–50,000 soms (approximately USD 550–1,100) for excessive spending; at the same time, non-monetary sanctions were announced for lavish celebrations. A year later, Nookat introduced similar measures.

While violators in Kyrgyzstan theoretically face monetary and social sanctions, anecdotal evidence suggest that the latter are substantially more important. Without central monitoring, communities try to ensure compliance through ostracism: villagers refrain from attending subsequent events hosted by families perceived as engaging in excessive spending. Such forms of self-regulation rely on social cohesion and interpersonal trust. Indeed, trust can facilitate cooperation and help mitigate collective-action problems akin to the "tragedy of the commons" (Ostrom 2002; Coleman and Stern 2018). There are no official reports regarding the success of the bottom-up regulation, so that an empirical test of the intervention is warranted.

3. Data and methodology

3.1 Datasets

We rely on two nationally and regionally representative data sources for highlighting some key empirical patterns concerning ceremonial spending. The first is the longitudinal Tajikistan Household Panel Survey (THPS), administered by the World Bank in 2007 and 2009 and by the Institute for Eastern European Studies (IOS Regensburg) in 2011. The THPS contains a household survey and an individual survey collecting various socio-economic characteristics, such as household composition, housing, assets, consumption and expenditure, employment, and income. The household expenditure

module contains spending on ceremonies, such as weddings or funerals. The survey covered 4,860 households in 2007, 1,500 households in 2009, and 1,500 in 2011 (Danzer et al. 2013).

The second data set is the Life in Kyrgyzstan (LiK) Study, a longitudinal survey conducted in the Kyrgyz Republic. The survey started in 2010, and at the time about 3000 households and 8000 individuals were interviewed (Brück et al. 2014). Interviews continued in 2011, 2012, 2013, 2016, and 2019. The LiK contains a household survey and an individual survey with various socio-economic questions on: household composition, housing, assets, consumption and expenditure, employment, and income. Importantly, the household survey contains the module on traditions, where families report types and costs of celebrations (weddings, funerals, anniversaries, etc.). Unfortunately, the module on traditions was removed in 2019, so we use the 2010-2016 waves for our analysis.

Table 1: Descriptive statistics

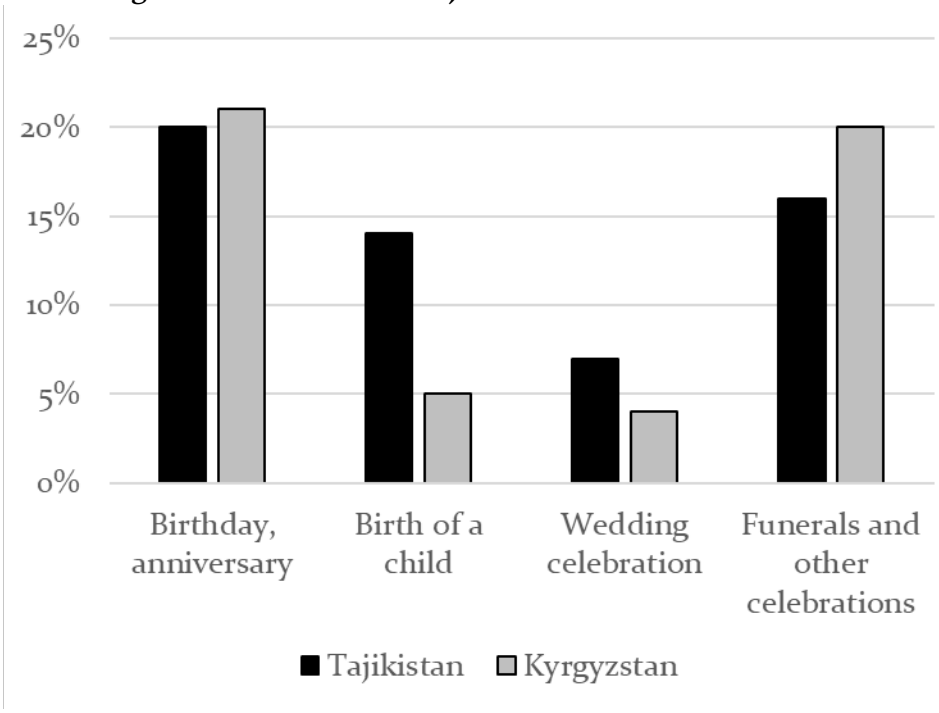
	Tajikistan, 2007-11		Kyrgyzstan, 2010-2016	
	Mean	St.dev.	Mean	St.dev.
Ceremonial spending (USD 2011)	336.18	458.07	251.38	518.92
Household income (USD 2011)	2 889.27	6 328.81	4 147.55	5 914.08
Household size	6.42	2.25	5.12	2.25
Household head without work	0.35	0.48	0.31	0.46
Rural	0.67	0.47	0.66	0.47
Households with marriage (post)	0.13	0.34		
Police station in PSU	0.50	0.50		
Households in reform villages			0.08	0.15
Number of households	3,964		8,184	

Source: THPS 2007-11, LiK 2010-2016.

While the two surveys are highly comparable, they capture different time periods: THPS was collected between 2007 and 2011 and LiK between 2010 and 2016. Table 1 summarises the main variables in both datasets. Ceremonial spending is about one third higher in Tajikistan. At the same time, Kyrgyzstan is better off, especially on a per-capita basis as households are smaller. Similar across countries, one third of household heads is without work and two thirds of households reside in rural

areas. In Tajikistan, 13% of households have a marriage and half of households live in areas with a police station. In Kyrgyzstan, 8% of households reside in one of the voluntary reform villages.

Figure 1: Incidence of major ceremonies in households



Source: THPS 2007-11, LiK 2010-2016.

In Tajikistan and Kyrgyzstan, about one third of households celebrate at least one festive event. Figure 1 reveals some cross-country similarities and differences in the incidence of ceremonies. In both countries, around 20% of households spend money on birthday parties or anniversaries. The celebration of a child's birth is more prevalent in Tajikistan with 14% of households holding such a party, compared to 5% in Kyrgyzstan. While some cultural differences may exist, Tajikistan features substantially higher (crude) birth rates during the observation period (2006-2016: Tajikistan 31.3‰ and Kyrgyzstan 25.9‰; UN Population Division 2025). The generally younger population in Tajikistan also translates into higher incidences of wedding celebrations (7%) than in Kyrgyzstan (4%). The final category comprises funerals and other celebrations and applies to every fifth to sixth household in both countries.

3.2 Determinants of ceremonial spending

To unearth patterns and determinants of ceremonial spending, we estimate the following econometric model:

$$\boldsymbol{Cerm_{it}} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1 Inc_{it}} + \boldsymbol{\beta_2 \overline{Cerm_{ct}}} + \boldsymbol{\beta_3 X_{it}} + \boldsymbol{u_{it}}, \quad (1)$$

where $\boldsymbol{Cerm_{it}}$ is the inverse hyperbolic sine transformation (IHST) of ceremonial spending of household *i* in a given year *t* since many households have zero ceremonial spending in some years.[3] $\boldsymbol{Inc_{it}}$ is the log household income, $\boldsymbol{\overline{Cerm_{ct}}}$ is the log average ceremonial spending in the geographic cluster *c* in a given year and $\boldsymbol{X_{it}}$ are other household characteristics. Among these characteristics are household size and a dummy indicating whether the household head has no work. Additionally, we control for rural locations of households, oblasts (regions) and interview years. Geographic clusters represent primary sampling units, which normally comprise a village or a town/city district.

3.3 Evaluation of policy interventions

Tajikistan. The data from Tajikistan present a unique opportunity to test the effectiveness of the legal regulation of wedding celebrations. While all margins of the regulation (number of guests etc.) aimed at reducing the cost of celebrations, the law does not stipulate exact spending limits. The bill was enacted in 2008, so that the THPS panel contains one period before and two periods after the treatment, allowing a policy evaluation in a difference-in-differences framework. As the regulation only targets wedding celebrations, but not other celebrations like birth, anniversaries or funerals, the treatment group comprises households celebrating a wedding in a given year, while the control group

[3] This approach approximates the logarithmic transformation for positive values while being defined at zero for households without celebrations, hence, maintaining interpretability: $\sinh^{-1} y = \ln\left(y + \sqrt{(1+y^2)}\right)$ which is roughly equal to $\ln(y+1)$. We winsorise spending values at the 5th and 95th percentile, but results are robust to using the 1st and 99th percentile as alternative cut-offs.

is formed by households holding other festive events. Our hypothesis is that wedding celebrations ***wed*** become relatively less expensive after the wedding bill (β_4), compared to other (unaffected) celebrations. Given the limited overall sample size and the imbalance between subsamples with and without wedding celebrations, we expect to detect effect sizes of around 20%.

$$\boldsymbol{Cerm_{it} = \beta_0 + \beta_1 Inc_{it} + \beta_2 \overline{Cerm_{ct}} + \beta_3 X_{it} + \beta_4 post \ x \ wed + \beta_5 wed + \beta_6 post + u_{it},} \quad (2)$$

Since marriages, unlike funerals, can be scheduled, comparing weddings with other events might be partly spurious. We therefore propose to compare wedding celebrations across different levels of compliance, exploiting the quasi-exogenous probability of monitoring. We capitalize on THPS's community survey, which collects information on a range of institutions, and among them the existence of a police station in the village or town (PSU). Therefore, we can investigate whether wedding celebrations under high monitoring (in PSUs with a ***police*** station) have become relatively less costly than wedding celebrations under low monitoring (in PSUs without a police station) in a triple-differences framework (β_7):

$$\boldsymbol{Cerm_{it} = \beta_0 + \beta_1 Inc_{it} + \beta_2 \overline{Cerm_{ct}} + \beta_3 X_{it} + \beta_4 post \ x \ wed + \beta_5 wed + \beta_6 post + \beta_7 post \ x \ wed \ x police + u_{it},} \quad (3)$$

Kyrgyzstan. The natural experiment to regulate excessive ceremonial spending in Kyrgyzstan provides an opportunity to test the effect of local (bottom-up) initiatives on ceremonial spending. In Uzgen the treatment begins in 2011 and in Nookat in 2012, so the treated observations are households residing in Uzgen after 2011 (4.4% of the sample) or households residing in Nookat after 2012 (3.7% of the sample).

Given the staggered nature of the treatment and the challenge of identifying appropriate control regions, we rely on the Synthetic Difference-in-Differences (SDiD) estimator (Arkhangelsky et al.

2021). This method generalizes both the difference-in-differences and synthetic control approaches by constructing a counterfactual from a weighted average of control units that closely matches the pre-treatment path of the treated units. In the first stage, unit weights $\hat{\omega}_i$ are picked such that the pre-treatment trajectory of the synthesized control unit best matches the pre-treatment trajectory of the treated units. Time weights $\hat{\lambda}_t$ are chosen to balance the influence of different time periods, effectively stabilizing the underlying trend in outcomes and helping satisfy the parallel trends assumption. The average treatment effect on the treated (ATT), denoted $\hat{\tau}$, is then estimated by solving the following weighted two-way fixed effects optimization problem:

$$(\hat{\tau}, \hat{\beta}, \hat{\alpha}, \hat{\mu}) = \arg\min \left\{ \sum_{i=1}^{N} \sum_{t=1}^{T} (Y_{it} - \beta X_{it} - \alpha_i - \mu_t - W_{it}\tau)^2 \, \hat{\omega}_i \, \hat{\lambda}_t \right\}, \quad (4)$$

where X is the matrix of covariates, α_i is the individual fixed effect, μ_t is the time fixed effect, W is the binary treatment variable. Note, that the SDiD estimator requires balanced panels, so that we restrict the sample to households that are observed across all survey years. We estimate the model with placebo standard errors with 200 replications, which is particularly appropriate for settings with few treated clusters.

To explore trust as a potential mechanism for compliance, we identify survey items capturing trust and cooperation. Respondents in LiK are asked to rate their trust in (i) the village or town council, (ii) the village head or town mayor, and (iii) religious leaders, as well as their agreement with statements such as “people in the community can be trusted”, “most people in the community are willing to help if needed”, and “people in the community trust each other in lending and borrowing”. All items are measured on a four-point Likert scale ranging from “do not trust at all” to “fully trust”. We extract the first principal component of these items as an index of overall trust and cooperation (all eigenvectors are positive), and re-estimate the SDiD for the subsamples split at the median value.

Identifying assumption. Note that both data sets from Tajikistan and Kyrgyzstan contain only one pre-policy period; hence, a direct assessment of the common-trends assumption is not feasible. To address this limitation, we conduct balancing tests using time-invariant characteristics as dependent variables in the pre-treatment year. By construction, these outcomes cannot change over time, which makes them suitable candidates to gauge the plausibility of the absence of group differences. As reported in Table A-1, this placebo exercise yields no statistically significant estimates, lending support to the identifying assumption.

4. Results

In the following, we assess the determinants of ceremonial spending and evaluate the efficacy of top-down and bottom-up interventions. These estimates enable us to verify officially purported success stories.

4.1 Determinants of ceremonial spending

Table 2 presents the regression results from equation (1). The estimated coefficients are remarkably similar across both countries. The income elasticity of ceremonial spending is generally low. In Tajikistan, a 10% increase in household income is associated with an increase in ceremonial expenditures of only about 1%. This implies that a household with twice the income of another spends merely 11% more on celebrations. In Kyrgyzstan, the income elasticity is roughly twice as large: a doubling of income corresponds to an increase of about 24% in ceremonial spending. Such income-inelastic ceremonial spending implies that households of different incomes spend comparable amounts, placing a relatively heavier burden on poorer families. Ironically, this compression is most pronounced in Tajikistan—the poorest Central Asian country—suggesting the presence of strong social spending norms. This interpretation is strengthened by the insignificant coefficients for households in which the head is not employed, as well as by the limited urban–rural differences. In

Kyrgyzstan, rural and urban households do not differ significantly, while rural households in Tajikistan spend somewhat less. Household size is positively associated with expenditures. Ceremonial spending is positively correlated with the spending of other households within the same geographic cluster, consistent with a "keeping up with the Joneses" effect found in other developing countries (cp. Roychowdhury, 2019; or for example Bulte et al., 2018, in the context of gifts). Households adjust their celebration expenses in line with locally accepted norms: a 10% higher average spending level among neighbours is associated with an increase in a household's own spending of about 1.6% in Tajikistan and 4.6% in Kyrgyzstan—an elasticity that is substantial relative to that of household income.

Taken together, these results indicate that local spending norms are dominant for ceremonial expenditures, while household characteristics such as employment status or place of residence play minor roles.

Table 2: Determinants of ceremonial spending

	Tajikistan	Kyrgyzstan
Dependent variable	Ceremonial expenditures in household (IHST)	
Log household income	0.107***	0.242***
	(0.017)	(0.036)
Log ceremonial spending (mean)	0.156***	0.459***
	(0.021)	(0.051)
Household size	0.042***	0.050***
	(0.008)	(0.009)
Household head without work	-0.047	-0.030
	(0.034)	(0.036)
Rural	-0.188***	-0.101
	(0.049)	(0.076)
Observations	3,964	8,059
Number of clusters	269	125
R squared	0.075	0.140

Notes: Robust standard errors clustered at the PSU level in parentheses. Regressions control for year and oblast fixed effects. *** p<0.01, ** p<0.05, * p<0.1. Source: THPS 2007-11, LiK 2010-16.

4.2 Policy Evaluation

4.2.1 Top-down policy: Tajikistan

Results in Table 3 indicate that households celebrating a wedding after the introduction of the wedding bill reduced their expenditures by approximately 13% relative to households celebrating other types of ceremonies (column 1). This suggests a modest degree of policy effectiveness. However, unlike anniversaries or funeral ceremonies, weddings can be strategically scheduled, raising concerns about endogenous timing. Importantly, the significant negative effect of the law on wedding expenditures persists during 2010–2011, implying that the observed reduction in spending is not solely attributable to potential short-run shifts in marriage timing.

A cleaner identification strategy compares different wedding celebrations directly rather than contrasting weddings with other festivities. We exploit variation in the likelihood of legal monitoring as a source of exogenous variation to law enforcement, comparing households residing in villages with a police station to those in villages located far from one (intent-to-treat). Prior to the introduction of the wedding law, households in primary sampling units (PSUs) with a police station (treatment group) were statistically indistinguishable from those without a station (control group) in terms of observed characteristics, except for a higher likelihood of rural residence (see Table A-2). One potential concern is that the introduction of the law itself, and/or the associated monitoring, may have altered marriage patterns in Tajikistan. To examine this, Table A-3 reports DiD estimates based on the police × post interaction, using two alternative outcome variables: a dummy indicating whether a household hosted a marriage in the previous 12 months (column 1), and the age of the newly married household member (column 2). In both specifications, the DiD coefficient is not statistically distinguishable from zero, suggesting that neither the policy's introduction nor the local presence of a police station affected marriage behaviour.

Table 3: Policy Evaluation: top down approach - Tajikistan

	(1)	(2)	(3)	(4)
Dependent variable	Ceremonial expenditures in household (IHST)			
Sample	Full	PSU with police station	PSU without police station	Full
Log household income	0.097***	0.111***	0.078***	0.097***
	(0.014)	(0.019)	(0.020)	(0.014)
Log ceremonial spending (PSU mean)	0.148***	0.107***	0.177***	0.147***
	(0.020)	(0.029)	(0.026)	(0.020)
Household size	0.036***	0.029***	0.039***	0.036***
	(0.007)	(0.010)	(0.010)	(0.007)
Household head without work	-0.017	-0.124**	0.083*	-0.022
	(0.034)	(0.048)	(0.047)	(0.034)
Rural	-0.151***	-0.160**	-0.101*	-0.151***
	(0.049)	(0.064)	(0.058)	(0.048)
Post reform	0.179***	0.234***	0.211***	0.112*
	(0.043)	(0.064)	(0.085)	(0.065)
Marriage	1.141***	1.101***	1.177***	1.173***
	(0.045)	(0.063)	(0.063)	(0.063)
Police station	-0.030			-0.026
	(0.039)			(0.052)
Marriage × post (β_4)	-0.135*	-0.219**	0.021	0.044
	(0.079)	(0.106)	(0.117)	(0.119)
Police × post				0.127
				(0.096)
Marriage × police				-0.067
				(0.089)
Marriage × police × post (β_7)				-0.301*
				(0.160)
Observations	3,964	1,997	1,967	3,964
R-squared	0.321	0.306	0.358	0.324

Notes: DiD estimation. Robust standard errors clustered at the PSU level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: THPS 2007-11.

Splitting the sample into treatment and control groups (columns 2 and 3), we find that post-policy wedding expenditures declined significantly in PSUs with a police station—by about 20%—whereas the change in PSUs without a police station is statistically indistinguishable from zero. The difference-in-difference-in-differences (ITT) estimates confirm that weddings in PSUs with a police

station are roughly 26% less expensive than those in PSUs without police after the introduction of the policy. This is a sizeable decline in wedding expenditures in areas where monitoring and enforcement of the law are more likely.

As a falsification exercise, we exploit the local availability of other infrastructure, such as medical institutions (hospital, health post etc.), fire stations, newspaper agencies, government offices, or restaurants. Unlike for police stations, we find no spending variation with respect to these institutions (Table A-4).

4.2.2 Bottom-up policy: Kyrgyzstan

In Kyrgyzstan, a national top-down initiative with monitoring institutions failed politically. However, several regions subsequently launched bottom-up initiatives aimed at curbing excessive ceremonial expenditures. Some regions adopted communal self-restraint measures in 2011, while others followed in 2012.

Results reported in Table 4 (column 1, full sample) show that the average treatment effect on the treated (ATT) is highly significant and large in magnitude (roughly equal to 1 in absolute value). This implies that treated households reduced their spending on celebrations by about 64% on average in response to the initiative. We then re-estimate the SDiD model for households with high trust (above the median) and for households with low trust (below the median). The estimated ATTs are reported in the second and third columns of Table 4. The ATT for low trust households is about 10 times smaller in magnitude and not statistically significant. For high trust households we observe large and highly significant effects on spending levels. The ATT value of -1.868 implies a 85% decrease in ceremonial spending in response to the bottom-up initiative. This stark heterogeneity is consistent with the proposed enforcement mechanism of the bottom-up policy. The penalty for non-compliance is social ostracism (i.e., the refusal of other villagers to attend future events organized by the violating family). This penalty is less potent for low-trust households, who might be less integrated into the community

and thus have little to lose from the boycott. Conversely, for high-trust households the threat of exclusion presents a powerful deterrent, explaining the dramatic reduction in their spending.

Given the relatively small number of treated observations and few periods before the treatment, these findings should be interpreted with caution. Nonetheless, they offer important policy insights: local initiatives to curb excessive ceremonial spending appear especially effective in high trust settings.

The staggered nature of the treatment allows us to additionally conduct a placebo timing test. We exclude the regions treated in 2011 and re-estimate DiD specification for the 2012-treated localities as if they were treated in 2011. These results are reported in Table A-5. The estimated placebo effect is substantially smaller in magnitude and statistically insignificant, providing no evidence for anticipatory behavior prior to the actual policy implementation.

Table 4: Policy Evaluation: bottom up approach – Kyrgyzstan.

	(1)	(2)	(3)
Dependent variable	Ceremonial expenditures in household (IHST)		
Sample	Full sample	Bottom 50% of trust	Top 50% of trust
Overall ATT	-1.011***	-0.112	-1.868***
	(0.252)	(0.378)	(0.396)
N treated	719	337	382
N total	9395	4700	4695

Notes: Values in the table are estimated ATT. Placebo standard errors based on 200 replications in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: LiK 2010-16.

4.3 Discussion

To compare both regulation policies, we assess the associated financial benefits for households in both countries using simple back-of-the-envelope calculations. For Tajikistan, we test the substantial savings reported by the Government of Tajikistan: USD 1.6 bln. over the six-year period 2008-2013. Our own calculation indicates that households saved approximately USD 55 million per

year through the wedding law, based on an estimated 100,000 marriages annually (Statistical Office of Tajikistan). This corresponds to about 0.8% of GDP per year, or roughly USD 323 million over six years (ignoring monitoring costs). Hence, our estimated savings are substantially lower than the government's figures, most likely for two reasons: First, we find significant reductions in wedding expenditures only in areas with close monitoring—in roughly half of the country—suggesting that the government's calculations overstate aggregate savings due to widespread noncompliance. Second, our estimated decline in wedding expenditures that is attributable to the law (26%) is considerably smaller than the government's assumption of 66%. We acknowledge that our survey data may underestimate total expenditures to some extent due to recall bias. In fact, average pre-reform wedding spending exceeds USD 1,500 in our data, whereas government reports assume USD 1,800—a 20% higher figure; however, we do not expect recall bias to change over time. At the same time, respondents might possibly include the post-reform fines for excessive parties in their total spending amount. Assuming full compliance (100%) and a 66% reduction in spending, our estimates would align closely with government figures. However, such assumptions ignore behavioural responses to the law and therefore preclude a meaningful assessment of the policy's true effectiveness.

Regulating ceremonial spending through trust is probably cheaper in the long-term. Yet, this approach builds on social relationships that are hard and slow to create, especially with rare events without regular repeated social interaction. We assess the savings in Kyrgyzstan under the assumption that the entire country adopted the self-restraint policy: Total ceremonial spending for all ceremonies amounts to roughly 1.01 bln. USD over the six-year period 2011-2016, according to LiK data. Treated households reduce their spending by 63%, corresponding to 140 million USD annually, or about 2.2% of GDP. The bottom-up approach, hence, seems to have reduced spending substantially stronger than the top-down approach of Tajikistan. This is also reflected in much greater annual per capita savings of the policy intervention in Kyrgyzstan (24.2 USD) than in Tajikistan (7.8 USD).

5. Conclusion

We provide comprehensive evidence on ceremonial spending in Central Asia, based on representative surveys from two countries. Our results indicate that regular spending levels are substantial and compressed along the income distribution, in line with ceremonial spending levels following social norms. While the general patterns are similar across states, every society displays specific patterns.

The paper also evaluates two different policies with the common objective to reduce conspicuously high ceremonial spending: one nationally legislated and locally monitored top-down regulation of weddings in Tajikistan, and a regional bottom-up initiative promoting voluntary self-restraint in Kyrgyzstan. According to our results, top-down regulation succeeds under monitoring, while bottom-up regulation works where residents trust each other. This implies that the effectiveness of top-down reforms necessitates a powerful and costly monitoring apparatus while effective bottom-up approaches require cohesiveness and trust within the community. Both types of regulation, although context-dependent, can succeed in the short-run. Whether these benefits translate into long-term gains or whether the population welcomes such policies is, however, beyond the scope of this paper, not least given our data limitations.

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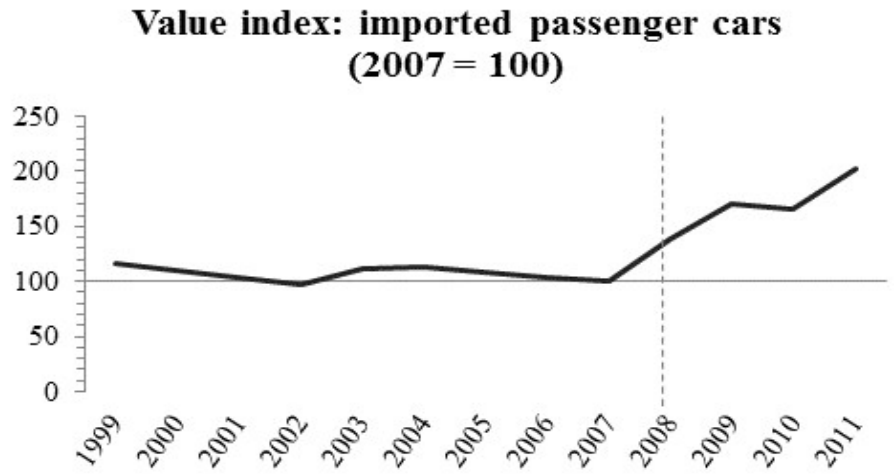
Figure A-1. The value index for passenger cars imported to Tajikistan



Notes: Values for 2002-2005 reported in tons, other values reported for pieces. For comparability, we assume that one car weighs one ton in 2002-2005. Note that before 2002 and between 2006 and 2011, the data are reported consistently. Dashed vertical line indicates the policy limiting wedding celebrations to four cars. Source: Tajikistan Import Statistics 1999-2011.

Table A-1: Balancing test with time-invariant variables (Tajikistan and Kyrgyzstan)

Country	(1) Tajikistan	(2) Tajikistan	(3) Kyrgyzstan	(4) Kyrgyzstan
Time-invariant dependent variable	Rural	Household size	Rural	Household size
Treatment	0.050	-0.048	-0.157	0.298
	(0.038)	(0.191)	(0.144)	(0.262)
Regional and year FE	Yes	Yes	Yes	Yes
Observations	2200	2200	1879	1879
R-squared	0.454	0.157	0.46	0.16

Notes: Treatment for Tajikistan (= police) and for Kyrgyzstan (= treatment village). Robust standard errors clustered at the PSU level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: THPS 2007 (columns 1 and 2), LiK 2010 (columns 3 and 4).

Table A-2: Balancing table for households in treatment and control group (Tajikistan 2007)

	Treatment group PSU with police station	Control group PSU without police station	Difference
Rural	0.525	0.808	-0.283
			(0.061)***
Household income	3321.52	2405.43	916.159
			(607.700)
Ceremonial spending (PSU mean)	234.58	241.27	-6.698
			(37.674)
Household size	5.56	5.48	0.080
			(0.162)
Household head without work	0.306	0.347	-0.042
			(0.026)

Note: Standard errors in parentheses. *** indicates mean difference significant at 1% level. Owing to the significant mean differences for rural, we condition all remaining mean differences on settlement type. Source: THPS 2007, own calculations.

Table A-3: Test of changing marriage behaviour post-policy (Tajikistan)

Dependent variable	(1) Marriage (0/1)	(2) Marriage age (in years)
Police station	0.006	0.623
	(0.008)	(1.036)
Post	0.015	0.731
	(0.017)	(1.098)
Police × Post	-0.007	-0.693
	(0.020)	(1.250)
Controls (sse Table 3)	Yes	Yes
Observations	3964	483
R-squared	0.077	0.087

Notes: DiD estimation. Robust standard errors clustered at the PSU level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Source: THPS 2007-11.

Table A-4: Falsification test with alternative infrastructures (Tajikistan)

	Police station	Fire station	Newspaper	Health	Government office	Restaurant
Dependent variable	Ceremonial expenditures in household (IHST)					
DiDiD	-0.301*	-0.125	-0.158	-0.244	0.215	0.213
	(0.160)	(0.224)	(0.290)	(0.250)	(0.257)	(0.163)
Incidence	0.504	0.141	0.082	0.785	0.106	0.276

Note: Standard errors in parentheses. * indicates mean difference significant at 10% level. Full specification regressions, cp. Table 3, col. 4. Source: THPS 2007-2011, own calculations.

Table A-5: Placebo test with alternative timing (Kyrgyzstan)

Dependent variable	Ceremonial expenditures in household (IHST)
Log income	0.254***
	(0.039)
HH size	0.043***
	(0.009)
Rural	-0.112
	(0.078)
Log ceremonial spending (PSU mean)	0.430***
	(0.053)
Post	-0.317**
	(0.127)
Treated	0.056
	(0.281)
Treated × Post	-0.290
	(0.204)
Observations	6583
R-squared	0.140

Note: Robust standard errors clustered at the PSU level in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Specification includes oblast fixed effects and year fixed effects.