Compensating elites: Online Appendix

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Derivations in the compensation game

Equation 1.1 of the manuscript describes the maximum level of repression the autocrat is willing to accept in the final node of the game. The basic condition is that the payoff of accepting ρ must be higher than the combined expected payoff, under collective action and no collective action, of rejecting it.

$$\omega\lambda' + (1-\omega)(-d) < \lambda' - \rho$$

$$\omega d - d < \lambda' - \rho + \omega\lambda'$$

$$p < \lambda'(1-\omega) + d(1-\omega)$$

$$p^* < (1-\omega)(\lambda' + d)$$

Next is the selectorate's decision of accepting λ'. As explained in the manuscript, weak selectorates always accept λ', and the game will proceed. However, strong selectorates may reject large λ'. In particular, the selectorate will reject the offer unless

$$1 - \lambda - c < 1 - \lambda' + p$$

$$-c < \lambda - \lambda' + p$$

Substituting p^* in,

$$-c < \lambda - \lambda' + (1-\omega)(\lambda' + d)$$

$$-c < \lambda + d - \omega(\lambda' + d)$$

$$\lambda'^* < \frac{\lambda + d + c}{\omega} - d$$

Robustness checks of statistical models

Table 1 presents alternative specifications testing hypothesis 1 in the manuscript. It examines how economic liberalization (λ) affects levels of repression depending levels of elite collective action (ω). The dependent variable for models A1-A3 are the Schnakenberg and Farris scores, while models A4-A6 examine the restrictions on civil society as reported by V-DEM.

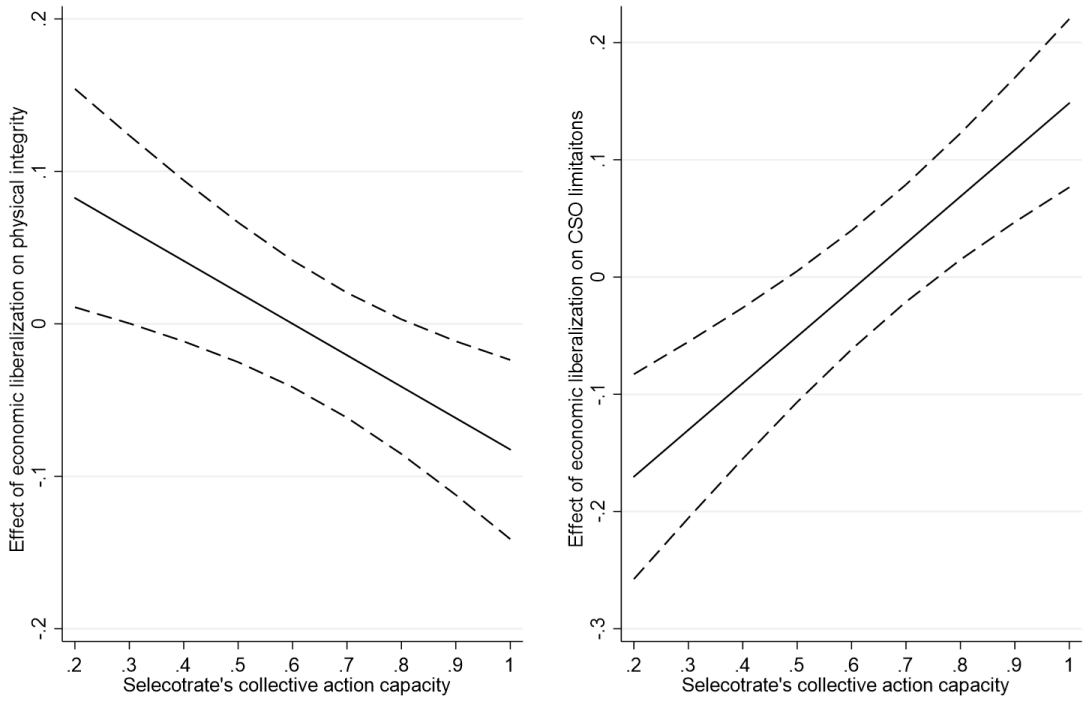
Table 1: Alternative specifications for hypothesis 1

	Physical integrity			Limitations on CSOs		
	Quadratic λ	Lagged λ	Fixed effects	Quadratic λ	Lagged λ	Fixed effects
	A1	A2	A3	A4	A5	A6
λ	0.13 (0.09)	0.11* (0.05)	0.14** (0.05)	0.32** (0.11)	-0.16** (0.06)	-0.19** (0.06)
ω	0.06*** (0.02)	0.11*** (0.03)	0.12*** (0.03)	-0.14*** (0.02)	-0.18*** (0.03)	-0.18*** (0.03)
d	-0.30*** (0.03)	-0.31*** (0.03)	-0.27*** (0.03)	0.14*** (0.04)	0.14*** (0.04)	0.13*** (0.04)
λ * ω		-0.20** (0.07)	-0.25*** (0.07)		0.28*** (0.08)	0.30*** (0.08)
λ * λ	-.01 (.13)			-.072*** (0.16)		
λ * λ * ω	-0.26** (0.08)			0.51*** (0.10)		
Monarchic	0.05 (0.03)	0.07* (0.03)	0.01 (0.04)	0.20*** (0.04)	0.17*** (0.04)	0.26*** (0.05)
Military rule	-0.03** (0.01)	-0.02 (0.01)	-0.03** (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.05*** (0.01)
Party rule	0.05*** (0.01)	0.06*** (0.01)	0.05*** (0.01)	0.09*** (0.01)	0.09*** (0.01)	0.09*** (0.01)
IFI mem.	0.01 (0.01)	-0.00 (0.01)	0.02 (0.01)	-0.06*** (0.02)	-0.06*** (0.02)	-0.06** (0.02)
ODA	-0.06 (0.06)	-0.07 (0.06)	-0.05 (0.06)	-0.25** (0.08)	-0.22** (0.08)	-0.25** (0.08)
Oil revenue	-0.04** (0.01)	-0.04*** (0.01)	-0.02 (0.01)	-0.07*** (0.02)	-0.07*** (0.02)	-0.08*** (0.02)
GDP	0.86*** (0.12)	0.74*** (0.12)	1.33*** (0.13)	1.01*** (0.14)	1.08*** (0.14)	1.06*** (0.16)
Domestic conflict	-0.36*** (0.02)	-0.38*** (0.02)	-0.35*** (0.02)	0.15*** (0.03)	0.17*** (0.03)	0.15*** (0.03)
N	2231	2125	2231	2231	2125	2231

*p<.05, **p<.01, ***p<.001. All variables are standardized to range from 0 to 1. All models include a time-trend component. N of countries=106.

Models A1 and A4 examine if the negative effect of liberalization at high levels of collective action are a consequence of assuming linear effects. Figure 1A plots the estimated effects at different levels of the interaction (λ * λ * ω). The effects are similar to the ones obtained when using a non-quadratic form (λ * ω). The interaction in model A4 does become particularly pronounced under a quadratic form, but the estimated effects remain similar to the ones presented in Figure 2 of the manuscript. In short, the repressive outcomes as a consequence of liberalization under high levels of selectorate collective action are not a result of using a linear structure on the statistical models.

Figure 1A: Marginal effect of economic liberalization by ω (models A1 and A4)



Models A2 and A5 replicate models 1 and 3 in the manuscript but use a one-year lagged version of the economic liberalization variable. The objective in these models is to further test the argument that increased repression is a response to liberalization, and address potential endogeneity concerns. The results remain very similar not only in terms of statistical significance but also in terms of effect sizes, the small differences may well be a result of the difference in sample size. Since there are no strong theoretical reasons to think the compensation dynamic occurs in a specific time frame (within a year as opposed to a year

later), the main manuscript uses measurements from the same year. Models A3 and A6 use a fixed-effects specification instead of the random-effects specification used in the manuscript. Judging by the effect sizes of the variables of interest (i.e., λ and ω), the fixed-effects specifications offers slightly stronger support to hypothesis 1 than the random-effects specification. The manuscript presents the results of the random-effects specification because, in this case, it is more conservative and because a Hausman test supported its use.

Table 2 show the results of similar specifications testing hypothesis 2. It examines how the compensation dynamic captured in the interaction of λ * ω changes depending on the international costs dictators face when losing office (d). Like before, the results remain robust when using a lagged version of λ, or when using fixed-effects. Examining the coefficients show the same substantive pattern as the ones reported in the manuscript. A quadratic term for λ is not included as that would imply a four-way interaction, which would push the limits of the data and would likely resulting in overfitting. Moreover, since the quadratic term proved unnecessary in models A1 and A4, a four-way interaction seems unjustified.

Table 2: Alternative specifications for hypothesis 2

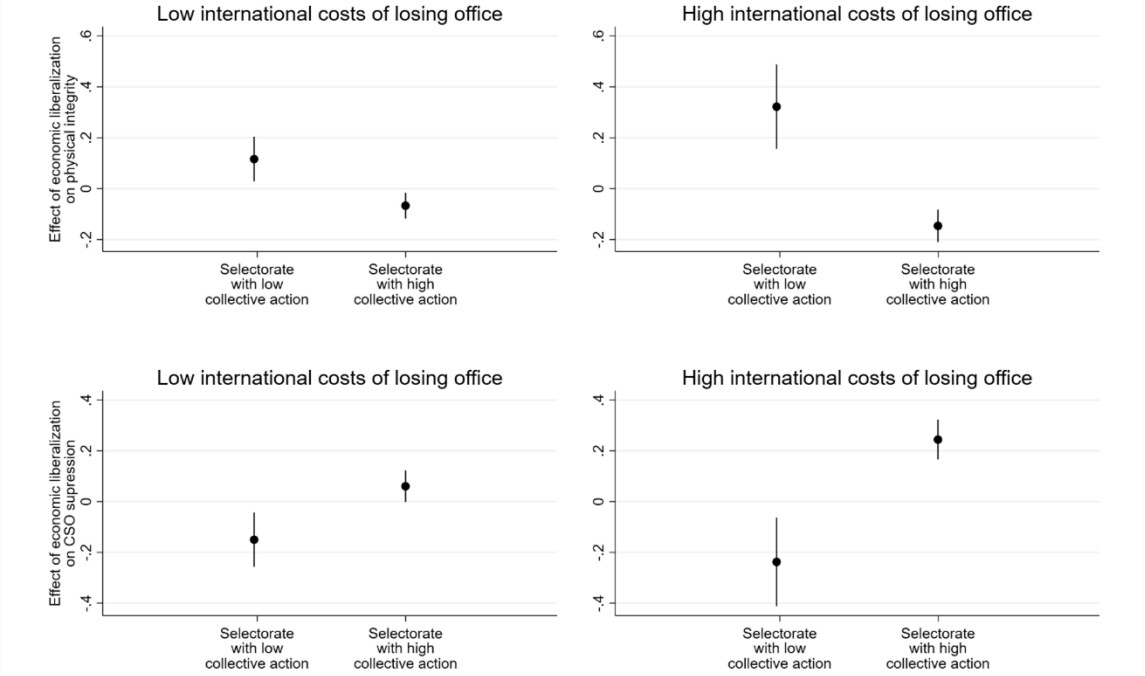
	Physical integrity		Limitations on CSOs	
	Lagged λ	Fixed-effects	Lagged λ	Fixed-effects
	A7	A8	A9	A10
λ	-0.22* (0.11)	-0.14 (0.11)	0.12 (0.13)	0.04 (0.13)
ω	-0.11 (0.06)	-0.07 (0.06)	0.05 (0.07)	-0.00 (0.07)
λ * ω	0.31* (0.15)	0.15 (0.15)	-0.38* (0.18)	-0.22 (0.18)
d	-1.31*** (0.28)	-1.18*** (0.28)	0.74* (0.34)	0.58 (0.34)
λ * d	2.24*** (0.67)	1.90** (0.67)	-1.84* (0.82)	-1.42 (0.82)
ω * d	1.46*** (0.37)	1.30*** (0.37)	-1.30** (0.45)	-1.05* (0.45)
λ * ω * d	-3.30*** (0.88)	-2.72** (0.88)	3.94*** (1.07)	3.19** (1.08)
Monarchic rule	0.07* (0.03)	0.01 (0.04)	0.17*** (0.04)	0.26*** (0.05)
Military rule	-0.02* (0.01)	-0.03** (0.01)	0.06*** (0.01)	0.06*** (0.01)
Party rule	0.05*** (0.01)	0.04*** (0.01)	0.10*** (0.01)	0.10*** (0.01)
IFI memberships	0.01 (0.01)	0.03 (0.01)	-0.08*** (0.02)	-0.08*** (0.02)
ODA (logged)	-0.12 (0.06)	-0.08 (0.06)	-0.17* (0.08)	-0.20** (0.08)
Oil revenue	-0.04*** (0.01)	-0.02 (0.01)	-0.06*** (0.02)	-0.07*** (0.02)
GDP (logged)	0.67*** (0.12)	1.27*** (0.13)	1.12*** (0.14)	1.12*** (0.16)
Domestic conflict	-0.38*** (0.02)	-0.35*** (0.02)	0.16*** (0.03)	0.14*** (0.03)

N	2125	2231	2125	2231

*p<.05, **p<.01, ***p<.001. All variables are standardized to range from 0 to 1. All models include a time-trend component. N of countries=106.

As reported in the main manuscript, the three-way interactions in models A7-A10 show that as the international costs increase, dictators are more likely to engage in the compensation dynamic, making repressive outcomes more pervasive. Figure 2A plots the results of models A7 and A8 to facilitate interpretation. As expected by hypothesis 2, as the costs of losing office increase, so do repressive outcomes under high levels of elite collective action.

Figure 2A: Marginal effect of economic liberalization by ω and d (models A7 and A9)

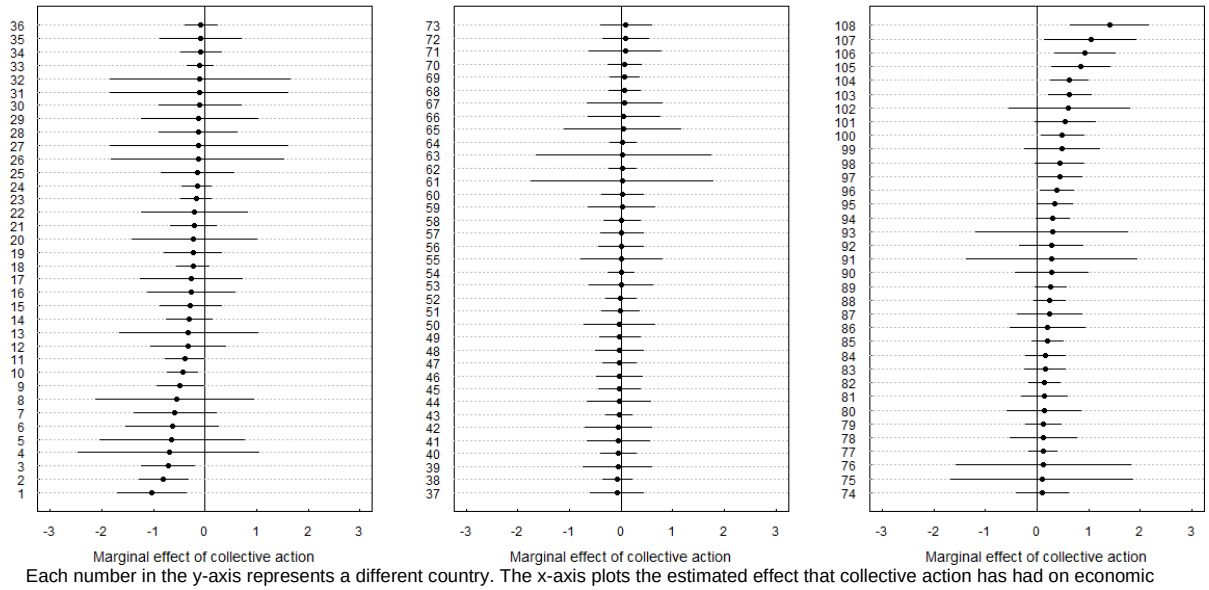


Collective action and liberalization

A potential concern is that autocrats that face strong selectorates will be less likely to pursue economic liberalization. This would imply that repression observed at high levels of collective action would not be directly related to liberalization, but instead may be the result of other dynamics (such as an independent increase in political opposition). However, economic liberalization does not seem to be endogenous to the selectorate's capacity for collective action. Examining the descriptive statistics of these two variables shows that the mean collective action at the 10th percentile of collective action is in fact lower than at the 90th percentile (0.36 vs 0.41), suggesting that regimes with high capacity for collective action do liberalize. To test this potential selection dynamic more thoroughly, I utilize a multilevel model with random slopes to assess the correlation between these two variables by country; the only other control in the

model is a time-trend. Figure 3A shows there is a negative association in only 4 out of the 108 countries in the sample. On average, collective action had no significant effect on economic liberalization (B= -0.02, SE= 0.08). Similarly, *changes* in economic liberalization were not explained by collective action (B= -0.003, SE= 0.003). In short, autocrats facing strong selectorates pursue liberalization at similar rates as the ones facing weaker selectorates. The ability to bargain with strong selectorates to accommodate the demands of an influential international community explains why autocrats facing strong selectorates can secure higher levels of liberalization.

Figure 3A: Marginal effect of collective action on economic liberalization by country



Each number in the y-axis represents a different country. The x-axis plots the estimated effect that collective action has had on economic liberalization for each country.