

The Ransom Cap: Collective Commitment and the Price of Redemption

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Abstract

A community will pay to free its own, and will pay more than the captive is worth in any market. The Mishnah forbids it: captives are not redeemed for more than their value, *mipnei tikkun ha-olam*. We read this rule as a *takkanah* – a community binding itself, in advance and against the mercy of its members – and ask what externality it corrects. The Talmud names two: the burden on the common purse, and the fear that ransoms invite further captures. We show that a cap, not a ban and not free redemption, is optimal; we sign its comparative statics in the scarcity of the purse and the responsiveness of captors; and we use the doctrine’s own limit case – a man who redeems himself with his own money – to identify which externality is operative, recovering the medieval dispute (Rashi and the Rosh against Ramban and Rashba) as the model’s identifying restriction. With a strategic captor who holds an outside option in a slave market, the level of the cap is no longer assumed: it falls on the captive’s value, where redemption still clears but the ransom yields no rent – rent denial, not no-concessions – and the same rent explains why a self-redemption exemption invites the targeting of the wealthy. Finally, the captive’s resale value is a single parameter whose two ends are the Mishnah’s cap and the no-concessions counsel that Aumann urged on modern Israel: where a captive can be sold the cap holds; where he cannot, as in a prisoner exchange paid in prisoners, the rule rightly gives way to refusal. We do not refute the blackmailer’s paradox; we locate it.

*London School of Economics, Department of Government. Draft. Hebrew terms are transliterated. I thank the sources noted in the bibliography; remaining errors are mine.

1 Introduction

Communities ransom their own. A father empties his estate for a captured son; a congregation drains its treasury for a captured member; the duty to redeem the captive sits above almost every other call on communal charity. And yet the Mishnah caps it. Captives are not redeemed for more than their value, *mipnei tikkun ha-olam* – for the ordering of the world (Mishnah *Gittin* 4:6). The rule restrains the very mercy the tradition most insists upon. A tension emerges: the obligation to redeem is near-absolute, yet the price at which it may be discharged is held below what a grieving family would willingly pay. We ask why a community would bind itself against its own compassion.

One answer is familiar, and it is about resolve. Pay a high ransom today and you advertise a high ransom tomorrow; the cap is a refusal to be extorted. This is the blackmailer’s paradox, the bargaining argument Aumann has pressed in his public analyses of Israeli negotiation policy:¹ a player who can credibly decline a generous offer commands a more generous one, and so resolve defeats flexibility. Aumann pressed the argument against Israel’s lopsided prisoner exchanges, and a formal literature on deterrence and no-concessions makes it precise (Selten, 1988; Lapan and Sandler, 1988). It is tempting to read the Mishnah this way, as resolve shown to an adversary. We read it differently, and yet we do not discard his account. Each of these accounts models a single decider – a state – choosing how firm to be against an enemy who is watching; the Mishnah’s rule binds a community against itself. But the two meet at a parameter. We show below that Aumann’s no-concessions and the Mishnah’s cap are the two ends of a single quantity – the price a captive fetches if sold rather than ransomed – and that his counsel is the right one exactly where that price vanishes. We do not refute the blackmailer’s paradox. We locate it.

The Talmud’s rule governs a different problem, one internal to the community that obeys it. No member bargains with the captor; each strains to pay, and the enactment holds him back. The cap is not a threat directed outward; it is a collective tying its own hands against the mercy of its members. A father will pay anything for his son, and that is precisely the danger the *takkanah* is built to contain. We model the cap as a commitment a community makes against itself, and ask what externality such a commitment corrects.

The deeper contribution turns on a question the Talmud asks and leaves open. It offers two reasons for the cap – the burden on the common purse, and the fear that ransoms invite further captures – and chooses between neither (*Gittin* 45a). The two reasons part company over a single case: a captive redeemed with private money, where the purse is untouched

¹The argument runs through Aumann’s lectures and essays on the Arab–Israeli conflict rather than a single research article, and is distinct from the Aumann–Maschler (1985) study of the Talmudic bankruptcy problem. On the underlying logic of deterrence in repeated interaction see Aumann (2006).

but the captor still sees the sum that is paid. Under the first reason such a redemption is free; under the second it is capped all the same. The doctrine answers through its limit cases, and the medieval authorities divide exactly where the reasons do – Rashi and the Rosh permitting a man to redeem himself for what he will, Ramban and Rashba holding the cap firm even against his own coin (*Shulchan Arukh*, Yoreh De’ah 252:4). The reason an authority adopts determines his ruling on private redemption. The dispute is the model’s identifying restriction, written into the law.

Our contributions are several. We recast the ransom cap as a problem of collective self-command rather than bargaining resolve, and so move it out of the economics of terrorism (Selten, 1988; Lapan and Sandler, 1988) and into the theory of self-binding institutions. We show that a cap – not a ban, and not free redemption – is the optimum, and we sign its comparative statics in the scarcity of the common purse and the responsiveness of captors. We use the doctrine’s own limit cases to identify which externality the rule corrects, an identification no modern model can perform, because none comes with a codified record of disputed cases. With a strategic captor the level of the cap is no longer assumed: it falls on the captive’s value, where redemption still clears but the ransom yields no rent to recruit the next abduction – rent denial, not no-concessions – and that same rent explains why a self-redemption exemption invites the targeting of the wealthy. And we locate two received answers as regimes of one model: the Mishnah’s cap and Aumann’s no-concessions are the two ends of a single parameter, the captive’s resale value, so that where that market vanishes – a prisoner exchange paid in prisoners – the ancient cap gives way to the modern refusal. The Talmud, here, supplies the variation that data cannot.

2 The rule and its dispute

The rule is a Mishnah. *Ein podin et ha-shevuyim yoter al kedei dmeihen, mipnei tikkun ha-olam* – captives are not redeemed for more than their value, for the betterment of the world (Mishnah *Gittin* 4:6). The Talmud then asks what “betterment of the world” means here, and poses a dilemma it does not resolve (*Gittin* 45a). Is the reason

- (A) *dochka d’tzibura*, the burden on the communal purse; or
- (B) *shema yarbu*, lest the captors seize more?

The Talmud floats a practical difference and leaves the question open. Rashi locates the difference in a case of ample funds, where the purse is not strained but deterrence still bites; the received text locates it where there is but a single captive, with no further captures to fear. Each case switches off one of the two concerns and asks whether the cap still binds.

Because the Talmud decides nothing, the later authorities must, and which reason each adopts dictates his ruling on the case that separates them – a captive redeemed with private money. Rashi and the Rosh, reading the rule as a protection of the purse, permit a man to redeem himself for whatever he wishes; private money does not tax the community. Maimonides reads the rule as deterrence (*Mishneh Torah*, Laws of Gifts to the Poor 8:10); whether he extends the cap to a man who redeems himself with his own money he does not say, and the later authorities divide on how to read his silence. We do not rest the argument on him. Ramban, Rashba and the Nimukei Yosef take the deterrence reason in its strong form – the cap binds even when life is in danger. Ramban’s argument is the one we will meet again in the model: he rejects the exception for captives in mortal danger on the ground that *every* captivity is life-threatening, so the exception would swallow the rule. The *Shulchan Arukh* codifies the lenient line: the cap, and in the same paragraph the exemption – “a man may redeem himself for whatever he wishes” (Yoreh De’ah 252:4). The dispute is collected in the *Beit Yosef* to *Tur* Yoreh De’ah 252.

Two axes organise the exceptions, and the dispute runs down each. A *funding-source* axis turns on who pays: Rashi, the Rosh and the *Shulchan Arukh* free a man’s own money; the deterrence authorities cap it. A *captive-value* axis turns on the worth of the captive: Tosafot (*Gittin* 58a) and the Rosh raise the cap for a Torah scholar or a captive in mortal danger; Ramban and Rashba refuse. In the model these are two different primitives: the shadow price of the purse switched off, and the value of the captive raised. The dispute is the empirical spine of what follows, and the model predicts exactly this sorting.

3 The model

We begin our formal analysis by describing a community that must decide, in advance, how much it will pay to free its own.

Consider a community whose members are exposed, from time to time, to capture. We do not model who is taken or why; we take the *rate* at which captures arrive as the thing the community can influence. Write $h(\bar{p})$ for that rate – the hazard of a capture – and let it rise in \bar{p} , the payment a captor expects the community to make when a capture occurs. The single assumption $h' > 0$ is the whole of the deterrence concern, *shema yarbu* – the fear that a generous community invites the next abduction – compressed into one increasing function. Even a community that paid nothing would face some danger, so we set $h(0) > 0$; capture is never wholly of the community’s making.

When a capture occurs the captor names a price. We write that demand as a draw r from a distribution F , with density f positive on its range, so that some captors ask little

and others much. The captive himself is worth L to the community – the loss it suffers if he is not redeemed, counted in life, in labour, in learning. Against this stands a private figure θ , the most his own family or faction would pay to free him; we assume $\theta > L$, for mercy values a man above his worth to the whole. That gap, $\theta - L$, is the engine of the paper. It is why a rule is needed at all: left to themselves, those closest to the captive would pay past the point the community can bear.

Redemption is not costless even in itself, for the money is drawn from a common fund with other calls upon it. We write $\lambda \geq 1$ for the shadow price of that fund – the worth, in foregone alms and other relief, of a coin spent on ransom. When the purse is full λ sits near one; when it is strained, or the claims upon it many, λ rises. This is the Talmud’s second concern, *dochka d’tzibura*, the burden on the community, given a price.

The community’s instrument is a single number, fixed before any capture, which we write κ . The rule is plain: redeem the captive, paying the demand, when that demand is at most κ ; refuse when it exceeds κ . We call κ a reservation price, but its standing is that of a *takkanah* – a communal enactment binding the individual member against his own impulse to pay more. Without that binding force the number would be idle, since the member nearest the captive would always wish to exceed it. The model’s first task is to find the κ a community would set for itself, knowing what it does to mercy, to the purse, and to the captor.

A community that anticipates all this minimises the cost it expects to bear. Per capture that cost is what it pays when it redeems and what it loses when it does not,

$$\bar{C}(\kappa) = \int_0^\kappa \lambda r f(r) dr + \int_\kappa^\infty L f(r) dr, \quad (1)$$

the first term gathering the ransoms actually paid, valued at the shadow price λ , the second the captives abandoned at their worth L . The payment a captor can expect – the quantity that drives the hazard – is the average ransom the rule hands over,

$$\bar{p}(\kappa) = \int_0^\kappa r f(r) dr. \quad (2)$$

Captures then arrive at rate $h(\bar{p}(\kappa))$, and the community’s problem is to choose κ to minimise frequency times cost,

$$\mathcal{C}(\kappa) = h(\bar{p}(\kappa)) \bar{C}(\kappa). \quad (3)$$

We assume enough regularity that this has a single solution – h log-convex and F of monotone hazard rate, so that \mathcal{C} is quasiconvex in κ . Nothing of substance turns on it.

4 The optimal cap

We now ask what cap a community sets, and why it is a cap at all. Write $S(\kappa) \equiv 1 - F(\kappa)$ for the chance a demand exceeds κ . Differentiating the objective,

$$\mathcal{C}'(\kappa) = f(\kappa) \left[h'(\bar{p}) \kappa \bar{\mathcal{C}}(\kappa) - h(\bar{p}) (L - \lambda\kappa) \right]. \quad (*)$$

Proposition 1 (The optimum is an interior cap). *Under the maintained assumptions, every optimal policy is an interior reservation price $\kappa^* \in (0, L/\lambda]$, characterised by the first-order condition*

$$L - \lambda\kappa^* = \frac{h'(\bar{p})}{h(\bar{p})} \kappa^* \bar{\mathcal{C}}(\kappa^*).$$

A ban ($\kappa = 0$) and unbounded redemption are strictly dominated. Moreover $\kappa^* = L/\lambda$ if and only if $h' \equiv 0$, and $\kappa^* < L/\lambda$ whenever deterrence is active.

Proof. In (*), at $\kappa = 0$ we have $\bar{p} = 0$ and the bracket equals $-h(0)L < 0$, so $\mathcal{C}'(0) < 0$: cost falls as the cap rises from zero, and a ban is dominated. For $\kappa \geq L/\lambda$, $L - \lambda\kappa \leq 0$, so both bracket terms are non-negative and the first is strictly positive when $h' > 0$; hence $\mathcal{C}'(\kappa) > 0$ there, and redeeming beyond L/λ is dominated. A minimiser therefore lies in $(0, L/\lambda]$ and solves the first-order condition, which rearranges $(*) = 0$. The boundary $\kappa^* = L/\lambda$ requires the right-hand side to vanish, that is $h' = 0$. Quasiconvexity gives uniqueness. \square

The reading is immediate, and it is the Mishnah's. A ban throws away every gain from redemption; free redemption lets private mercy run to θ and so maximises both externalities at once. The cap is the interior point between them. Where deterrence is idle the cap sits at L/λ – redeem up to the captive's worth, discounted by the scarcity of the purse – and deterrence pulls it strictly tighter.

Proposition 2 (Comparative statics). *Let $G(\kappa) \equiv h(\bar{p})(L - \lambda\kappa) - h'(\bar{p}) \kappa \bar{\mathcal{C}}(\kappa)$, so that $\mathcal{C}' = -fG$ and $G'(\kappa^*) < 0$ at an interior optimum. Then*

1. $\partial\kappa^*/\partial\lambda < 0$: a scarcer communal purse tightens the cap;
2. under constant semi-elasticity $h(\bar{p}) = h_0 e^{\beta\bar{p}}$, $\partial\kappa^*/\partial\beta < 0$: more responsive captors tighten the cap;
3. $\partial\kappa^*/\partial L > 0$ if and only if $(h'/h) \kappa^* S(\kappa^*) < 1$: a more valuable captive loosens the cap, unless captors are highly responsive.

Proof. Since $d\kappa^*/d\alpha = -(\partial G/\partial\alpha)/G'(\kappa^*)$ and $G' < 0$, the sign of $d\kappa^*/d\alpha$ matches that of $\partial G/\partial\alpha$. (1) As $\partial\bar{\mathcal{C}}/\partial\lambda = \bar{p}$, $\partial G/\partial\lambda = -h\kappa - h'\kappa\bar{p} < 0$. (2) With $h = h_0 e^{\beta\bar{p}}$, $G =$

$h[(L - \lambda\kappa) - \beta\kappa\bar{C}]$; at the optimum the bracket vanishes, so $\partial G/\partial\beta = -h\kappa\bar{C} < 0$. (3) As $\partial\bar{C}/\partial L = S(\kappa)$, $\partial G/\partial L = h - h'\kappa S(\kappa)$, positive exactly when $(h'/h)\kappa S(\kappa) < 1$. \square

Unsurprisingly, parts (1) and (2) sign the two Talmudic concerns: the cap tightens as the purse is strained (*dochka*) and as captors grow responsive (*shema yarbu*). Part (3) carries a caveat worth keeping. A more valuable captive ordinarily earns a more generous cap; but when captors are very responsive, his higher worth also raises the stakes the hazard multiplies, and the cap can tighten instead. We flag the reversal rather than assume it away; it returns, in sharper form, when the captor is strategic.

5 Identification: which externality?

The Talmud names two reasons and decides between neither. The model can decide, because the two reasons disagree about an observable case.

Proposition 3 (Identification through self-redemption). *Let the rule condition on the source of funds. Self-redemption with the captive's own money removes the common-purse externality – its cost is r , not λr , and it draws nothing from the communal fund – while leaving the deterrence term unchanged, since the captor sees the payment r whoever makes it. Then: if deterrence is inactive ($h' \equiv 0$), the self-funded problem carries no externality and the optimal self-redemption cap is unbounded; if deterrence is active ($h' > 0$), the self-funded optimum coincides with the communal cap κ^* , and self-redemption is capped.*

Proof. Self-funding sets $\lambda = 1$ in the within-event term and, more strongly, removes the purse-displacement that $\lambda > 1$ encodes; under reason (A) alone the objective is then flat in the payment, and no cap is warranted. The deterrence term in (*) depends on r through \bar{p} only, not on the source of funds; under reason (B) the self-funded first-order condition is therefore identical, with the same root κ^* . \square

The treatment of self-redemption is thus a clean test. A rule that permits a man to redeem himself without limit reveals the common-purse reason; a rule that caps him reveals deterrence. And the authorities sort precisely along this line. Ramban and Rashba cap even a man's own coin; Rashi and the Rosh, codified in the *Shulchan Arukh*, free it. (Maimonides gives the deterrence reason but is silent on the private case, and is claimed by both sides.) The reason an authority gives predicts his ruling on the private-payment margin. The *Shulchan Arukh*, which states the deterrence reason yet frees self-redemption, is on this reading a composite – a deterrence rationale for the cap, a common-purse exemption for one's own coin. The dispute is the identifying restriction, and it is recorded rather than estimated.

6 A strategic captor: the cap as rent denial

So far the captor’s demand was a draw and the hazard a primitive. We now let the captor choose, and the level of the cap is no longer assumed; it is derived, and it lands on the captive’s value.

A captive has a market value m – the price he fetches if disposed of otherwise, the slave market being the standard reading of *dmeihen*. On taking a captive the captor secures $\max\{R, m\}$, where R is what the rule pays. Abduction costs k , distributed Φ across a mass M of strategic captors, so a captor abducts when $\max\{R, m\} \geq k$. A residual mass μ_0 of captures occurs for non-economic reasons, independent of R . The hazard is

$$h(R) = \mu_0 + M \Phi(\max\{R, m\}). \quad (4)$$

For $R \leq m$ the hazard is flat in R : the captor sells anyway, and the ransom policy does not touch his entry. For $R > m$ it rises, because the rent $R - m$ recruits abductors.

Proposition 4 (The cap binds at the captive’s value). *Suppose $L \geq \lambda m$. The optimal rule pays $R^* = m$: redemption occurs, and the captor earns no rent. Paying less forfeits redemption – the captor sells instead – and paying more is pure loss, a larger ransom on every case and a higher abduction rate. A ban is optimal only in the knife-edge with no outside option ($m = 0$), where the captive is worth nothing but his ransom.*

Proof. For $R < m$ the captor sells, and every capture is lost at L : cost $(\mu_0 + M\Phi(m))L$. At $R = m$ every capture is redeemed at λm : cost $(\mu_0 + M\Phi(m))\lambda m < (\mu_0 + M\Phi(m))L$ since $L \geq \lambda m$, so $R = m$ dominates $R < m$. For $R > m$ both the per-case cost ($\lambda R > \lambda m$) and the hazard ($\Phi(R) > \Phi(m)$) strictly exceed their values at m , so $R = m$ dominates $R > m$. Hence $R^* = m$. If $m = 0$ then $h(R) = \mu_0 + M\Phi(R)$ with $\Phi(0) = 0$, and $R = 0$ deters all strategic entry. \square

This is the Mishnah’s phrase, derived. Cap at the captive’s value, because that is the captor’s reservation: redemption still clears, and the ransom yields no rent to fund the next abduction. It is rent denial, not no-concessions – the cap redeems where a ban abandons. The level “at value” now has a second derivation: Proposition 1 reached it as L/λ under the common purse; Proposition 4 reaches it as m under the strategic captor. Two reasons, two readings of *dmeihen*, one phrase the Talmud could not disambiguate.

One limit must be stated plainly, lest the result claim too much. The cap at m does not deter the abductions the slave market already makes profitable; those occur whether or not a ransom is paid. The cap only refuses to *add* a premium – it makes ransoming no more

attractive than the resale the captor could already obtain. This is “do not make it worse,” not deterrence; full deterrence is unavailable precisely because the captive has a value to the captor independent of the community.

The optimal cap interpolates between the two reasons through the composition of capture. Where strategic captures dominate, the cap holds at m , denying rents; where capture is largely exogenous ($M \rightarrow 0$), the hazard is flat, deterrence is idle, and the community redeems up to its own willingness L/λ , which may exceed m . The latter corner is the Radbaz’s position – that captors seize anyone, so the cap may be exceeded – now a value of a parameter rather than an exception.

Proposition 5 (Self-redemption invites targeting). *Let the wealthy self-redeem at $\theta > m$. Then their abduction rate rises from $\mu_0 + M\Phi(m)$ to $\mu_0 + M\Phi(\theta)$: the exemption manufactures a rent $\theta - m$ and recruits captors who target the rich. A rule that internalises captor entry caps self-redemption; a rule that attends only to the communal purse permits it.*

Perhaps surprisingly, an exemption meant to spare the wealthy is what exposes them. This is the deterrence camp’s refusal of the exemption, microfounded, and Ramban states the mechanism himself. Ramban and Rashba cap the self-redeemer because the rent he pays is a price posted on his own head, and on the heads of others like him. Rejecting the exception for captives in mortal danger, he argues that *every* captivity is life-threatening, so the exception would void the rule. In our terms: exempt the high-value captive and the induced rent recruits captors against the whole class – and since all captives are endangered, the class is everyone. The Maharam of Rothenburg is the limit: a captive of such value that redeeming him at any price would post an enormous rent on every scholar, which is the very reason he gave for refusing to be ransomed. The targeting logic has an economic ancestor in the substitution effects of Enders and Sandler (2012); what is new is its use to read a doctrine.

7 Two regimes: the slave market and the prisoner swap

We have written as though a captive can be sold. He can, in the world the Mishnah governs – antiquity and the medieval Mediterranean kept a slave market, and a captive’s price there, his m , is what the captor forgoes by accepting a ransom. Remove that market and the model does not break; it slides to its other end. We follow it there, because the other end is where the rule meets its most famous modern reader.

The value m bridges two doctrines that look opposed. Where $m > 0$ the optimal rule is a cap at value (Proposition 4): redemption clears, and the ransom yields no rent. Where

$m = 0$ – the captive is worth nothing to the captor but the ransom itself – every payment is pure rent, and the same proposition tips into no-concessions. The cap and the refusal are not rival principles. They are the two ends of one parameter, and a community’s right policy slides from the first to the second as the resale market thins.

The modern hostage sits at the thin end, and a prisoner exchange sits beyond it. A soldier traded for prisoners has no resale price – he cannot be sold – so m is zero, and the cap logic already counsels refusal. But the barter does more than zero out m . The medium of payment is not money but men: released prisoners are capacity, not coin, and handing them over rearms the captor rather than paying him a price. The deterrence channel is no longer a rent that advertises a high valuation; it is the direct restoration of the adversary’s strength. The rent story loses the very thing it prices against, and a sterner logic takes its place. This is why a modern exchange can run at a thousand to one where an ancient ransom could not: with no resale market to discipline it, the rate is set by resolve, not by price.

Here we meet a reader we seemed to set aside. Aumann brought the blackmailer’s paradox to Israel’s prisoner exchanges and counselled against them, on the logic that a willingness to pay invites the next demand. That logic is not foreign to our model; it is the hazard $h' > 0$, the reputational channel by which payment recruits capture, and it operates at every m . What the resale value changes is not whether the channel is present but whether the community has an interior answer to it. Where $m > 0$ a cap can deny the captor a rent and still redeem, so resolve and redemption coexist. Where $m = 0$ there is no interior point, and the channel runs to the corner Aumann names: refuse. His counsel is thus the limit of a force the model carries throughout – not a rival to the Mishnah but its other end, and the resale value is the parameter that marks the boundary.

The contemporary dispute then falls along the two axes we already hold. Those who invoke the cap against lopsided exchanges argue, in our terms, from the thin-market corner: no resale, pure rent, refuse. By contrast, those who would redeem the soldier at any price treat him as the sacralised captive whose value L is unbounded – the scholar exemption, the Maharam’s case turned over, for here the high value is urged *for* redemption rather than against it. The two camps are not disagreeing about principle; they are disagreeing about where, on our parameters, the captured soldier sits.

The capacity-barter regime deserves its own treatment, and we do not give it here. When the payment is men and not money, the redeemer’s expenditure is the adversary’s future strength, and the problem becomes one of armament and deterrence over time rather than of a price and a cap. We mark the boundary and leave the far side to a companion paper. The point we keep is the one that joins the two: a single rule, read at two values of m , yields both the Mishnah’s cap and Aumann’s refusal.

8 Evidence: a discussion of cases

Systematic data on ransoms barely exist, and for a good reason: ransoms are kept secret, by families, governments and insurers alike. So this is not a paper that estimates a coefficient. Its claims are structural, and the right test is whether the documented episodes sort as the model predicts. We read the record in that spirit, in the manner of analytic narratives (Bates et al., 1998).

The model sorts the cases along two dimensions, and they are the two that did the work above. The first is the *resale market*: does the captive carry a value $m > 0$, so that a cap at value can deny a rent (Proposition 4), or is $m = 0$, the barter regime in which the rule passes to no-concessions? The second is the *binder*: can the redeeming body observe payments and discipline its own members, so that a *takkanah* can hold, or are payers fragmented and unenforced? The model’s expectations follow at once. Where a resale market exists and a binder can enforce, a graded cap holds. Where the market exists but no one can enforce, the cap fails and ransoms inflate. Where the captive cannot be sold, the cap gives way to refusal. Table 1 reads the record against these expectations.

Case	Resale m	Binder & enforcement	Outcome (as predicted)
Barbary redemptions, 1575–1692	$m > 0$	Redemptive orders’ norms	Graded ransoms by captive value
Medieval Jewish <i>kehillot</i>	$m > 0$	Community; ban (<i>herem</i>)	Ransom <i>takkanot</i> hold; self-redemption split by reason
Maharam of Rothenburg	$m > 0$, high L	Self-binding	Refusal, to forestall targeting of scholars
Italy, Law 82/1991	$m > 0$	State; asset freeze (a <i>ban</i>)	Kidnappings fall; residual longer and more violent
Somali piracy, 2000s–2010s	$m > 0$	Insurers coordinate (private binder)	Ransoms inflate, then stabilise as the binder forms
State policy today (US/UK vs. parts of the EU)	$m > 0$	Varies by state	Enforcement, not doctrine, decides whether the cap binds
Prisoner exchanges (Jibril 1985; Shalit 2011; Bergdahl 2014)	$m = 0$	—	No price discipline; rate set by resolve

Table 1: Documented episodes coded on the resale market m and the binder. The cap holds where a resale value exists and a binder can enforce; it fails where enforcement is absent; it yields to refusal where the captive cannot be sold.

Graded ransoms in the Barbary redemptions. The one place the record yields something close to a price schedule is the early-modern Mediterranean. The Trinitarian and Mercedarian orders ransomed Christian captives from the Barbary regencies and kept registers of whom they redeemed and at what price; the Mercedarian records have been collated and studied (Friedman, 1983; Davis, 2003). Prices were graded by the captive’s worth: skilled artisans and redeemable elites commanded several times what a common labourer did. Ambrus et al. (2018) assemble thousands of such cases between 1575 and 1692 and find, in a structural bargaining model, that soldiers and clerics were ransomed at systematically higher prices. The grading is what Propositions 2 and 4 predict: the ransom tracks the captive’s value m . Their model is the nearest neighbour to ours, and its foil – it explains the *bargaining* that sets a price under asymmetric information; we explain a community’s *commitment* to a cap, and identify the externality the cap corrects. That the redemptive orders enforced price norms across their missions is itself a private analogue of the *takkanah*: an institution binding redeemers against the bidding-up of captives.

The self-binding community, and its value-axis limit. The medieval Jewish communities enacted ransom *takkanot* and enforced them with the ban (*herem*); they bind, in the model’s terms, where payments are observable and the community can discipline its own – the binder of Table 1. Whether such a community then frees a man who redeems himself, or caps him too, is the funding-source margin of Proposition 3, and the recorded dispute is exactly the model’s identifying variation. The Maharam of Rothenburg is the limiting case on the other axis, the captive’s value: imprisoned and held for an exorbitant sum, he is said to have forbidden his community to redeem him, lest scholars thereafter be seized – the targeting logic of Proposition 5, stated by its own subject. (The historicity of the refusal has been questioned, and we cite the episode for its logic, not as settled fact.)

Cap versus ban: Italy 1991. Italian Law 82 of 1991 made it mandatory to freeze the assets of a kidnap victim’s family, so that ransom could not be paid. Kidnappings fell sharply; but the cases that still occurred grew longer and more violent. That is the cost of a ban as against a cap: a ban deters entry and abandons the residual to the violence margin, where a cap still redeems. The episode is the empirical face of the knife-edge in Proposition 4 – the corner where refusal replaces the cap, and of what is lost when it does.

The binder, emerging: Somali piracy. Somali piracy is a within-case demonstration of the binder. Early in the episode payers were fragmented across flags, jurisdictions and firms, with no body to hold them to a common ceiling, and ransoms climbed. Then the London

marine-insurance market and the kidnap-and-ransom industry coordinated the response – shared protocols, repeat-player discipline, a *de facto* ceiling – and ransoms stabilised (Shortland, 2019). The lesson is the binder of Table 1, read in time: where no one enforces, the price runs; where a binder forms, even a private one, it holds. Shortland’s market is the modern, private analogue of the *takkanah*, and its emergence mid-episode is the cleaner test – the same population of payers, disciplined once a binder appears.

The same lesson in state policy. Modern governments split along the binder’s axis. The United States and the United Kingdom refuse official ransom and have moved to deter private payment; several European states have, in practice, paid. The model does not adjudicate the ethics; it observes that whether a no-ransom rule holds turns on the state’s capacity to enforce it against its own citizens and firms, just as a *takkanah* turned on the *herem*. The doctrine is old; the enforcement problem is not.

The barter regime. The modern prisoner exchanges sit at $m = 0$: the 1985 Jibril agreement (over a thousand prisoners for three Israeli soldiers), the 2011 release of Gilad Shalit (1,027 for one), the 2014 Bergdahl exchange (five for one). Each is documented; none is priced in a market; and the “rate” is set, as the model says it must be where resale is impossible, by resolve and politics rather than by a captive’s value. These are the cases that the cap cannot govern and that no-concessions can – the far regime, named here and left to its own treatment.

9 Related literature

The economics of ransom is not silent, and we should say where we stand within it. Its modern centre of gravity is the bargaining table: Selten’s kidnapping game and the no-concessions literature turn on the captor’s credibility (Selten, 1988; Lapan and Sandler, 1988), and Shortland’s account of the ransom business turns on professional negotiation – ransoms fall toward the cost of holding the hostage, disciplined by insurers who coordinate firm bargaining (Shortland, 2019). Ambrus et al. (2018) estimate bargaining with asymmetric information on the Barbary data. Two things separate our problem from theirs. First, the constraint we study is not the captor’s cost but the captive’s value – the price he fetches if sold rather than ransomed, which sets the floor beneath redemption and, capped at, denies the captor a rent; these accounts do not use that resale value, and ours is built on it. Second, the instrument is not a negotiator’s resolve or an insurer’s protocol but a *takkanah* – a community binding itself, in advance and against its own members, to a price it will not exceed. The targeting

that follows when the rule exempts the wealthy has an ancestor in the substitution effects of Enders and Sandler (2012); what is new is its use to read a doctrine. Our aim is not to explain how ransoms are bargained but to identify which externality a community's cap corrects, and to recover the value the Mishnah named. The mechanism is borrowed; the identification is ours.

A second literature is the formal study of the Talmud as a source of economic structure, descended from the bankruptcy and contested-garment problems (Aumann and Maschler, 1985). That tradition reads a division rule off a Mishnah; we read an externality and a commitment off one, and use a recorded dispute among the rule's interpreters as identifying variation. The move is importation and foundations: the doctrine supplies the cases that data withhold.

10 Conclusion

We have read a single Mishnah as a community's commitment against its own mercy, and asked what it is for. A cap, not a ban and not free redemption, is what such a community would choose; the cap tightens as the purse is strained and as captors grow responsive; and the doctrine's own limit case – a man who redeems himself with his own money – identifies which of the two recorded reasons is at work, recovering a medieval dispute as the model's identifying restriction. With a captor who can sell his captive, the cap settles on the captive's value, where redemption clears and the ransom yields no rent; and the same rent explains why exempting the wealthy would hunt them. Read at the other end of that value, where no resale market exists, the rule passes into the no-concessions counsel that Aumann urged on modern Israel – so that the ancient cap and the modern refusal are two regimes of one model, divided by whether a captive can be sold.

This is a small step, and a first-shot. It treats the captor in reduced form before letting him choose, and it leaves the capacity-barter regime – where the ransom is paid in men and rearms the adversary – to a companion paper. What it offers is a way of seeing an old rule whole: not resolve against an enemy, and not mere thrift with a purse, but a community binding itself, at a price it names, against the love that would ruin it.

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Note on the Jewish-law sources

The rule and its dispute are cited as follows. Mishnah *Gittin* 4:6; Babylonian Talmud *Gittin* 45a (the two reasons and the undecided dilemma) and 58a (Tosafot on the endangered and the scholar). Maimonides, *Mishneh Torah*, Laws of Gifts to the Poor (*Hilkhot Mattenot Aniyim*) 8:10. *Shulchan Arukh*, Yoreh De’ah 252:4 (cap and self-redemption exemption in one paragraph). *Beit Yosef* to *Tur*, Yoreh De’ah 252 (the dispute collected). The lenient line on private redemption is Rashi and the Rosh (*Gittin*, ch. 4); the strict line is Ramban and Rashba (*chiddushim* to *Gittin* 45a) and the Nimukei Yosef (to Alfasi, *Gittin*), who hold the cap binding even in mortal danger. Maimonides (*Mattenot Aniyim* 8:10) gives the deterrence reason but does not address a man’s redemption of himself with his own money, which the *Shulchan Arukh* (YD 252:4) permits; the two need not conflict, and we anchor the strict pole on Ramban and Rashba rather than on a reading of Maimonides’ silence. The Maharam of Rothenburg episode is reported in the later literature and its historicity is contested among historians; we use it for its reasoning, not as established fact.