

Exit or Own? Portability Mandates and Ownership Screens in Sovereign Procurement

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Abstract

European policy relies on two instruments against dependence on foreign-controlled digital infrastructure: ownership screens, which verify who controls the supplier, and exit-capability mandates (portability, reversibility, switching rights), which lower the cost of leaving. We price both in a single screening framework. An exit mandate carries no information about the supplier's hidden type, and it insures only the observable harms of denial and holdup, leaving compelled and covert access uninsured. It nonetheless changes what screening can achieve: by destroying the lock-in rents that make winning valuable to a non-sovereign mimic, it lowers the verification accuracy an ownership screen requires. We characterize an accuracy band in which ownership screening is feasible only in combination with an exit mandate, so that the two instruments are strict complements, and a denial-dominated region in which exit alone suffices. Exit mandates and price premia emerge as dual instruments: one aids selection and weakens discipline, the other the reverse.

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1. Introduction

Two families of requirements now compete for the same policy space. The first verifies *who the supplier is*: ownership caps, immunity from extraterritorial law, control over keys and administration (France's SecNumCloud structural criteria, the top tiers of the proposed Cloud and AI Development Act). The second verifies *whether the buyer can leave*: mandatory portability, functional equivalence after switching, the abolition of egress charges, tested exit plans (the EU Data Act's cloud-switching chapter, DORA's Article 28 exit strategies for financial entities). In the policy debate the two are routinely placed on one axis, exit-capability as the moderate, market-friendly step and ownership screening as the heavy, protectionist one, with the implication that enough of the first substitutes for the second.

This paper prices both instruments inside a single mechanism-design framework (the companion screening model of sovereign procurement) and shows that the one-axis reading fails on three counts, one of which is, to our knowledge, a new observation about what portability mandates *do*.

First: an exit mandate screens nothing, and cannot. Implementing export interfaces, documented formats, and reversibility tests costs a genuinely sovereign supplier and a foreign-controlled mimic the same: the attribute has no type-cost gap. By the companion's washing theorem, a requirement without a type-cost gap carries zero information about the supplier's hidden type *at any verification accuracy*. Exit-capability is, unusually, verifiable at very high accuracy (a restore test either passes or fails). Perfectly verifiable, perfectly uninformative. Whatever exit mandates are for, it is not telling sovereign suppliers from washed ones.

Second: exit insures only what the buyer can see. Decompose the exposure a non-sovereign supplier creates into three channels, following the companion's application: *legal access* (compelled disclosure through the control chain), *covert access* (compelled code manipulation through the update stream), and *denial* (service withdrawal, license cutoff, holdup at renegotiation). Exit-capability operates after harm is *detected*: it caps the cost of leaving once leaving is warranted. Denial is self-announcing (the service stops), so exit insures it, and, as a second-order effect, deters it: an adversary gains little from

cutting off a customer who can walk away cheaply, so destroying holdup rents lowers the probability of the harm as well as its cost. But compelled and covert access are precisely the harms that do *not* announce themselves: the service runs beautifully while the data is read. Against those channels the option to leave is worth nothing, because the trigger to exercise it never arrives. The principle beneath the decomposition: *you can exit what you can observe; you must screen what you cannot*. Exit-capability and ownership verification are not two intensities of one instrument. They cover disjoint halves of the exposure, split by observability.

Third, the core result: the exit mandate is screening infrastructure. In the companion model, the verification accuracy an ownership screen must reach is set by the mimic's stake in winning. That stake is the price plus its *ancillary rents*: ecosystem value, reference effects, and, prominently, the rents a locked-in customer will yield over the relationship. An exit mandate destroys exactly that last component. Formally, with the mimic's rents reduced from π_B to $\pi_B - \Delta_{lock}$, the required accuracy falls from $\alpha^*(\pi_B)$ to $\alpha^*(\pi_B - \Delta_{lock})$, and there is a *band of accuracies*, $[\alpha^*(\pi_B - \Delta_{lock}), \alpha^*(\pi_B)]$, in which ownership screening is infeasible without the exit mandate and feasible with it (Proposition 1). In that band the instruments are strict complements in the strongest sense: the screen cannot function alone, and the mandate cannot reach the access channels alone. Portability joins beneficial-ownership registries (which raise the cost of cosmetic control-compliance) and open source with reproducible builds (which raise the audit's accuracy) as the third member of the family the companion calls *verification infrastructure*: instruments that change the parameters other screens need without screening anything themselves.

There is a sting in the same algebra. The lock-in rents an exit mandate destroys are the mimic's and the winner's alike: they are also part of what the *winning* supplier stands to forfeit if caught cheating on any other requirement (the bond that, in the companion's Part I, substitutes for costly audits). Exit therefore *weakens discipline* while it *strengthens selection*: the exact mirror of the price premium, which strengthens discipline (more to forfeit) while it weakens selection (a bigger prize for mimics). *Exit and price are dual instruments* (Remark 2), and the duality gives the procurement designer a clean assignment: use the price-bond against the moral hazard of the counterparty you have verified; use the exit mandate against the selection problem of the counterparty you have not.

Where does substitution survive? In one region, which we characterize (Proposition 2): when the exposure is *denial-dominated* (workloads where nothing confidential is at stake and continuity is everything) and the ownership screen is expensive or infeasible, the exit mandate alone dominates: it treats most of the exposure at a fraction of the cost, and what it leaves untreated was small. Non-sensitive but availability-critical public workloads fit this description, and for them the Data-Act instrument genuinely is the cheap adequate policy. For sensitive workloads the regions invert, and in the complementarity band the correct prescription is "both, because each makes the other possible or worthwhile."

What we do not claim. That exit options blunt holdup is classical: second-sourcing as a commitment device (Farrell and Gallini 1988), switching costs as a competition problem (Farrell and Klemperer 2007), and, at the level of nations, outside options as the limit on coercion (Clayton, Maggiori and Schreger 2026). The formal comparison of *ownership remedies against access remedies* has a structured antecedent in energy-market unbundling (Höfler and Kranz 2011; Cremer, Crémer and De Donder 2006) and in pipeline-bypass options against transit holdup (Hubert and Ikonnikova 2011). Our departures are stated against each in Section 2; in brief, none of these prices an exit instrument against an *imperfectly verifiable type screen*, none has the access/denial observability split, and none contains the prize channel by which the exit instrument changes the screen's feasibility: the result we believe is new, and the one on which the policy reading turns.

Roadmap. Section 2 positions the paper. Section 3 states the model: the companion’s primitives plus the exposure decomposition and the exit instrument. Section 4 derives the results. Section 5 reads the EU instruments through them. Section 6 discusses limits; Section 7 concludes.

2. Related literature

Exit options against opportunism. Farrell and Gallini (1988) is the ancestor: a monopolist invites competition as a commitment not to hold up its own customers; the exit option substitutes for trust. The switching-cost literature it seeded (Farrell and Klemperer 2007) treats lock-in as a competition problem: prices, market shares, entry. Our exit instrument is *mandated by the buyer’s regulator, against a potentially adversarial supplier*, and its interesting effect bypasses prices and lands on the feasibility of a *different* instrument: the type screen. The geoeconomics literature scales the same intuition to nations: a hegemon’s coercive power is bounded by its targets’ outside options, so anti-coercion policy improves them (Clayton, Maggiori and Schreger 2026; their coercion is our denial channel, at the country level, without a verification margin or a hidden-type problem). We work at the procurement-design level where both margins live.

Ownership versus access remedies: the energy template. European energy liberalization produced a genuine formal literature comparing ownership unbundling with weaker access remedies: legal unbundling, third-party access (Höfler and Kranz 2011, where legal unbundling emerges as a “golden mean”; Cremer, Crémer and De Donder 2006, where ownership separation can be strictly worse; Pollitt’s empirical assessments). Hubert and Ikonnikova (2011) value pipeline-bypass *options* against transit-country holdup (exit capability shifting bargaining power, in a coercion-adjacent setting). This literature is the structured antecedent of “own versus exit,” and we say so; its objective functions are competition, investment and bargaining shares; exposure to a strategic adversary with a hidden type appears nowhere, and none of it contains a verification-accuracy margin for the remedy to relax. The mapping and its limits matter for us: the remedies compared there are all imposed on an *identified* incumbent; the adverse-selection problem that drives our complementarity result has no counterpart in the unbundling debate.

The policy instruments themselves. The Data Act’s cloud-switching chapter (functional equivalence, the phase-out of egress charges) has been analyzed verbally (Schnurr 2022) and its egress-fee economics documented by the UK competition authority (CMA 2024): competition-framed, no sovereignty exposure, no formal model. DORA’s Article 28 exit strategies are compliance practice without an economic model. The Cloud Sovereignty Framework and the proposed Cloud and AI Development Act instantiate the ownership screen (companion paper, Section 6). We supply the missing object: one framework pricing both.

The companion. The screening model, the washing theorem (requirements without a type-cost gap are non-screens), the accuracy threshold α^* set by the worst mimic’s stake, the price’s two faces, and the verification-infrastructure family are all imported from the companion paper; the present paper adds the exposure decomposition, the exit instrument, and the results of Section 4.

3. Model

Imported primitives (companion, Sections 3 and 5). A buyer awards one contract. Supplier types $\theta \in \{G, B\}$: G genuinely sovereign, B foreign-controlled. The control attribute: genuine compliance costs $C_J(G) \leq \varphi_J$ for G for B , cosmetic compliance (a shell) costs φ_J the audit detects the nominal/effective gap with accuracy α_J . Operational attribute with behavioural parity. Ancillary rents π_G and π_B , with $\pi_B > \pi_G$ (the mimic’s ecosystem edge); penalty cap $\bar{L}$ floor price $\underline{p} = C_J(G) + C_O - \pi_G$. The companion’s Theorem 3: a no-washing mechanism exists iff

$$\alpha_J \geq \alpha^*(\pi_B) = 1 - \frac{\bar{L} + \varphi_J + C_O}{\underline{p} + \pi_B + \bar{L}},$$

increasing in the mimic's rents π_B (and in the price: the premium inversion).

The exposure decomposition. If the award is held by B , the buyer bears expected losses $K = K_A + K_C + K_D$: *legal access* K_A (compelled disclosure), *covert access* K_C (compelled code manipulation), *denial* K_D (withdrawal, holdup). The channels differ in *observability*: denial is self-announcing; the access channels are silent while service continues. If the award is held by G , $K = 0$. (The licensed-technology case, an EU-owned operator on foreign closed technology where K_C and K_D survive sovereign ownership, is taken up in Remark 4.)

The exit instrument. A mandate $e \in \{0, 1\}$: the supplier must implement portability: export interfaces, documented formats, functional equivalence at a successor, tested restoration. Three properties, each grounded in the instrument's reality:

- (E1) *No type-cost gap.* Implementation costs c_E for *both* types: export APIs are engineering, and identity plays no part in their cost. (Verifiability is high, since a restore test passes or fails, and the faking temptation Δ_E correspondingly cheap to deter; the mandate joins the companion's audit cascade at its inexpensive end.)
- (E2) *Denial insurance.* With $e = 1$, the loss from a realized denial falls from K_D to δK_D , $\delta \in [0, 1)$, the residual being migration downtime and re-integration. The access channels are unchanged: K_A, K_C do not depend on e (the trigger to exit never fires).
- (E3) *Lock-in rents destroyed.* Part of the mimic's ancillary rents is the discounted value of holdup over a locked-in relationship: renewal pricing power, egress extraction, the option to degrade terms. The mandate removes it: $\pi_B(1) = \pi_B - \Delta_{lock}$, $\Delta_{lock} > 0$. (A share of π_G may be lock-in too; Remark 2.) That the rents are material at market scale is documented: prices on Europe's locked cloud-and-software base rose 8.7 percent annually over the last three years, an estimated 93 billion euros a year leaving the continent from the inflation alone (Asterès 2026); a magnitude bracket for Δ_{lock} from this and the CMA committed-spend evidence remains the paper's priority empirical task.

The buyer chooses a policy in $\{\emptyset, E, S, S + E\}$: no instrument; exit mandate alone; ownership screen alone (feasible iff $\alpha_J \geq \alpha^*$, at audit-plus-premium cost ρ_A); both.

4. Results

Lemma 1 (exit does not screen, and survives the anti-checklist). *Under (E1), the exit mandate carries no information about θ at any verification accuracy: both types comply genuinely and identically. It is nonetheless not dead weight in the companion's Corollary-2 sense: unlike a gap-less requirement added in the hope of screening, its payoff value (E2) is direct, and its deterrence load in the audit cascade is negligible (high accuracy, small temptation). The contrast is worth a sentence: the companion condemns requirement-stuffing because gap-less clauses screen nothing and dilute the audits that matter; the exit mandate is the exception that proves the rule: a gap-less requirement whose point is not screening, cheap to secure, and (Proposition 1) helpful to the screen through an entirely different channel. $\square$*

Proposition 1 (screening infrastructure: the complementarity band). *Under (E3), the required screening accuracy falls:*

$$\alpha^*(e = 1) = 1 - \frac{\bar{L} + \varphi_J + C_O}{\underline{p} + \pi_B - \Delta_{lock} + \bar{L}} < \alpha^*(e = 0),$$

and for every $\alpha_J \in [\alpha^*(e=1), \alpha^*(e=0)]$ (a non-empty band whenever $\Delta_{lock} > 0$), the ownership screen is infeasible without the exit mandate and feasible with it. In the band, the instruments are strict complements: no policy without E screens, and no policy without S touches $K_A + K_C$. The proof is one line from the companion's Theorem 3 plus (E3); the content is the interpretation. The mimic's willingness to wash is financed by what winning is worth; lock-in rents are a large, policy-destructible share of that worth for exactly the suppliers whose ecosystems make them the worst-type mimics (the companion's Proposition 6). Cutting the prize does what raising the audit budget often cannot: it moves the *threshold* rather than the effort. The exit mandate thus joins corporate-transparency law (raises φ_J) and software transparency (raises α) as the third member of the verification-infrastructure family; it is the member the buyer can verify most cheaply. $\square$

Proposition 2 (policy regions). Comparing $\{\emptyset, E, S, S + E\}$ by expected cost:

- (i) *substitution*: if exposure is denial-dominated ($K_A + K_C$ small) and the screen is costly or infeasible, E alone is optimal: it treats the bulk of the exposure at cost c_E , and the untreated remainder is small;
- (ii) *strict complementarity*: if $K_A + K_C$ is large and α_J lies in Proposition 1's band, $S + E$ is optimal and neither single instrument is: E alone leaves the access exposure; S alone does not exist;
- (iii) *the companion's not-worth-it region extends*: if $K_A + K_C$ is large but the screen is infeasible even with the mandate ($\alpha_J < \alpha^*(e=1)$), no policy reaches the access exposure: the honest options are E (denial insurance only, priced as such) or refusing to place the workload at all. Both regions (i) and (ii) are non-empty on open parameter sets. $\square$

Region (iii) deserves its sentence in policy language: for workloads whose exposure is access-dominated and whose supplier pool cannot be screened, *portability is a consolation rather than a mitigation*. Buying it and calling the workload protected is precisely the category error the observability principle forbids.

Remark 1 (deterrence of denial). Exit reduces both the damage of denial and its probability: an adversary that cuts off a customer able to leave at cost δK_D collects no holdup rent and pays the geopolitical price of a visible act. Endogenizing the denial probability $\pi_D(e)$ strengthens every result above in the same direction; we keep it a remark because the deterrence of a *state* actor involves payoffs outside the model.

Remark 2 (exit and price are dual instruments). The companion's price has two faces: a premium strengthens the forfeiture bond that disciplines the incumbent (its Proposition 3) and enlarges the prize that attracts mimics (its Proposition 5). The exit mandate is the mirror. Selection face: it shrinks the mimic's prize (Proposition 1; good). Discipline face: whatever share of the *winner's* rents was lock-in is destroyed too. Ω_G falls, and with it the bond; the deterrence floors of the companion's Part I rise mechanically. The assignment that follows: **price premia where the problem is disciplining a verified counterparty; exit mandates where the problem is selecting among unverified ones**. A tender combining a fat margin with weak control-verification was the companion's worst configuration; a tender combining strong verification with mandated exit and a floor price is this paper's best one, each instrument pointed at the margin it helps.

Remark 3 (the observability principle). The decomposition generalizes beyond the three channels: exit-type instruments (portability, escrow, second sources, tested fallbacks) insure harms that *announce themselves*; screen-type instruments (type verification, structural requirements) prevent harms that do not. The line between them is *observability of the triggering event*, with severity playing no role. This is why the policy axis "light portability $\rightarrow$ heavy ownership" is mis-drawn: the instruments differ in which half of the exposure they can see, and an ordering by intensity captures none of that.

Remark 4 (licensed technology: exit for the sovereign). The decomposition also prices an instrument the debate under-uses: exit mandates *on sovereign suppliers running licensed foreign technology*. An EU-owned operator on licensed closed technology (the companion’s S3NS case) carries no legal-access exposure while retaining K_C (the update stream) and K_D (license withdrawal, a denial with a delay). An exit requirement pointed at the *technology layer*, the demonstrated ability to migrate off the licensed stack, insures the K_D component of exactly the exposure ownership screening certifiedly does not cover. DORA’s Article 28, which requires tested exit strategies from financial entities regardless of their providers’ ownership, is this instrument in the wild; the model says it is well-aimed.

5. The instruments, read through the model

- *The Data Act’s switching chapter* (functional equivalence, egress-charge phase-out, maximum notice periods) is, in the model’s terms, a horizontal $e = 1$ across the market, with one under-appreciated payoff: by (E3) it lowers α^* for *every* subsequent sovereignty tender. The Act is usually defended as competition policy; the model adds that it is *screening infrastructure for the procurement regimes built after it*: the CSF and CADA tiers need less verification accuracy in a post-Data-Act market than they would have before it.
- *DORA Article 28* is Remark 4 institutionalized: exit plans as insurance on the denial channel, orthogonal to ownership, correctly mandated even for EU-owned providers.
- *SecNumCloud’s reversibility clauses and the CSF’s exit-related objectives* sit inside qualification/procurement instruments that also carry structural criteria, consistent with region (ii): for the sensitive workloads those instruments target, the model prescribes both, and both is what they contain.
- *The mis-reading the model warns against* is the substitution rhetoric: “we mandated portability, so ownership screening is unnecessary.” By Lemma 1 and the observability principle, that argument is available only for denial-dominated workloads; the burden of showing a workload is denial-dominated (nothing confidential, nothing compellable) should fall on whoever invokes it.

6. Discussion and limits

Where the complementarity could fail. Proposition 1 rides on (E3): lock-in rents must be a real, destructible share of the mimic’s prize. If a hyperscaler’s stake in a sovereignty tender is dominated by ecosystem externalities that portability does not touch (reference value, data-adjacent services), Δ_{lock} is small and the band narrows toward nothing. This is an empirical question per market; the CMA’s egress-fee findings and committed-spend-discount analysis suggest Δ_{lock} is material in cloud, but we flag it as the result’s load-bearing empirical premise.

Partial exit. Binary e is a simplification: real portability is a continuum (data, workloads, operational tooling), and functional equivalence degrades with stack depth. A continuous e smooths the band into a marginal condition (more portability, lower α^*) without changing signs; the binary statement is the honest skeleton.

The winner’s bond. Remark 2’s discipline cost assumes the winner’s lock-in rents fall with the mandate. Where the sovereign supplier’s rents are protected by other means (long contracts, switching costs the mandate exempts), the duality is asymmetric in the buyer’s favour. The general treatment, optimal (p, e) jointly, is a natural next step and belongs with the companion’s Part I machinery.

What would kill the paper’s message. Evidence that mimics’ bidding behaviour is insensitive to lock-in destruction (no prize channel), or a demonstrated access channel that exit *does* insure (an observable compelled-access event triggering cheap migration; pre-emptive exit on legal warning is a real but partial case, discussed above as deterrence rather than insurance).

7. Conclusion

Portability mandates and ownership screens are not rungs on one ladder. The exit instrument screens nothing, sees only the exposures that announce themselves, and yet, by destroying the lock-in rents that finance sovereignty washing, lowers the verification bar that ownership screening must clear: infrastructure for the screen rather than a substitute for it. There is a characterized band in which Europe's two flagship instruments only work *together*; there is a denial-dominated region in which the cheap instrument honestly suffices; and there is an access-dominated, unscreenable region in which portability is a consolation that should not be sold as protection. Exit where you can see; own, or verify who owns, where you cannot.

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