

The Unpriced Bundle: Decision Suppression in Software Procurement

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Draft working paper v0.1, 2026-08-04. A short formal treatment: every proposition carries a proof, a numeric cross-check, and a Monte-Carlo report. No identification is claimed.

ABSTRACT

An organisation does not replace a free component with a paid one, however much better the paid one is. The sentence is folklore among practitioners and absent from the standard models of switching costs and network effects, which act on the terms of a decision rather than on its occurrence.

This paper models the occurrence. A component that arrives inside a bundled licence at zero incremental price generates no budget line, hence no renewal event, hence no comparison: the decision that the entrant's price would enter is never convened. In the model, procurement compares options only when a decision event fires; events are free at contract renewal for separately priced goods and require costly internal initiation for bundled ones.

Three results follow. An entrant strictly better and strictly cheaper than the component's stand-alone value is adopted under separate pricing and suppressed under bundling whenever the champion's stake falls short of the initiation cost (Proposition 1). Conditional on non-initiation, adoption is invariant to the entrant's price: a subsidy buys nothing at a given buyer until it covers that buyer's full wedge gap, and part of what it then buys is the friction itself, while in the switching-cost benchmark every step of subsidy moves the adoption margin (Proposition 2). Instruments that re-create the decision event (line-itemised pricing, a periodic evaluation duty, disclosure of the imputed component price) restore the price margin for all buyers at once, at near-zero resource cost (Proposition 3). The 2025 Microsoft Teams commitments, which require suites without the component at an appreciably lower price, with the corresponding offer displayed wherever the bundled one is advertised, are Proposition 3's instruments entering the record.

Keywords: bundling, tying, procurement, status quo bias, switching costs, digital sovereignty, coordination.

JEL: L13, L40, D23, H57, L86.

1. INTRODUCTION

Teams persists in European administrations whatever the merits of the alternatives, and the reason is visible in any public budget: there is no line for it. The product arrives inside the Microsoft 365 licence at zero incremental price, so no expenditure is authorised for it, no contract renews for it, and no procurement officer is ever asked to compare it with anything. A competitor's messaging product, at any price and any quality, must first cause a decision to exist before its price and quality can enter one. Technical difficulty of replacement plays no part in this; the mechanism operates before the question of migration is reached.

The companion programme models the supply side of European cloud dependence (the layered sorting of *Cheaper and Losing*), the demand-side screen (*Screening for Sovereignty*), the club (*Buyers' Clubs for the Open-Source Flow*), and the structure (*Path Sovereignty*). None of these models an individual buyer facing a bundle, and the taxonomy of influence channels (channels-wp.md) identifies the gap this paper fills: the considered set, the subset of feasible options that actually enters a buyer's decision process, can lose an option without any actor refusing to sell. Bundling is the concrete commercial device that does this. It removes the occasion to decide, and the option that is never considered starves regardless of its merits.

The model is small. Procurement compares options only when a decision event fires. For a separately priced good, events are free and recurrent: every contract renewal forces the question. For a component folded into a bundle, the licence renews as a block, the component has no price of its own, and convening a comparison requires an internal champion to spend effort justifying a new budget line whose payoff accrues mostly to others. The three results are the suppression region (better and cheaper, never evaluated), the inertness of price competition inside it (the comparative static that distinguishes this mechanism from switching costs), and the instruments that dissolve it (whatever re-creates the event).

2. RELATED LITERATURE

The tying and bundling literature explains exclusion through prices and commitments: tying forecloses by committing the monopolist to aggressive pricing [Whinston 1990], and bundling deters entry by leaving no profitable niche [Nalebuff 2004]. In both, the entrant's offer is evaluated and defeated. Here it is never evaluated; the mechanism needs no strategic pricing by the incumbent, only the accounting fact that the component carries no price. The switching-cost and network-effects literature [Farrell and Klemperer 2007] prices the decision's terms, and it supplies this paper's benchmark: under a switching cost, subsidy moves the adoption margin continuously. Proposition 2 sets the inert region against that benchmark. Status-quo bias [Samuelson and Zeckhauser 1988] supplies the behavioural anchor for costly initiation; the model gives the bias an organisational carrier (the budget line) and a price (the wedge). The companion taxonomy (channels-wp.md) places the mechanism among the influence channels as a considered-set device. Whether it is an instance of the distribution channel, of evaluation gatekeeping, or a sixteenth channel is a classification question for the taxonomy paper, whose completeness claim would count a sixteenth as a finding.

3. THE RECORD

The incumbent position this mechanism protects is measured: up to 77 percent of the EU productivity-software market [Compass Lexecon for the Open Cloud Coalition 2025]. The March 2022 list-price increases across six suites are documented in the companion measurement paper's productivity-layer record (power-network-wp.md). The bundle raised its price with no component-level event firing anywhere in the estate; the increases were absorbed at the suite level, where the only decision available is the estate-wide one that is never taken. The Commission's Teams proceedings closed in September 2025 with commitments under which Microsoft offers versions of the suites without Teams at a reduced price (a price difference the market test then widened by 50% for some suites, including those aimed at businesses), lets existing licence holders switch, provides interoperability for competitors, and enables data portability out of Teams. An amended commitment requires the relevant Microsoft webpages advertising a suite with Teams to display the corresponding offer without it [European Commission 2025]. Read through this paper's model, the pricing arm creates the component's price, hence its budget line, hence the possibility of a decision event, for every European buyer simultaneously. The display arm is the disclosure instrument, lowering the champion's justification cost. The remedy cannot force the event to fire where evaluation still requires an internal champion; Proposition 3 separates what itemisation restores from what a periodic evaluation duty adds.

4. THE MODEL

A buyer holds an incumbent suite at bundled licence price P per seat and period, containing component c at zero incremental price. An entrant offers a substitute for c at price $p_e > 0$ with quality gain $\Delta q \geq 0$ per period. Under itemised pricing the component would carry a

stand-alone price $p_c > 0$ that adoption of the entrant stops; under bundling, dropping c saves nothing, since P does not fall.

Decisions require events. In the **separate regime**, a costless evaluation event fires at every contract renewal, and the organisation adopts the entrant iff $\Delta q - p_e + p_c > 0$. In the **bundle regime**, the suite renews as a block and no event fires for c ; convening an evaluation requires an internal champion who bears initiation cost $k > 0$ (effort, career risk on a visible new budget line) and internalises a share $\theta \in (0, 1]$ of the organisational surplus, discounted at rate r . The champion initiates iff $\theta(\Delta q - p_e)/r \geq k$; upon evaluation the organisation adopts iff $\Delta q - p_e > 0$. Define the **wedge** $w \equiv rk/\theta$. A subsidy σ to the entrant replaces p_e by $p_e - \sigma$ throughout. For population statements, buyers draw Δq from a distribution on $[0, Q]$, uniform in the calibrated illustration.

The parameters k and θ stand in for the organisational machinery (budget authority, evaluation effort, the asymmetry between defending an existing line and proposing a new one) that richer principal-agent structure would microfound. The bundle price P is exogenous; the incumbent plays no strategic response, which is the conservative choice, since incumbent counter-pricing could only enlarge the suppression region.

5. RESULTS

Proposition 1 (suppression). *In the bundle regime the entrant is adopted iff $\Delta q - p_e \geq w$ (initiation) and $\Delta q - p_e > 0$; since $w > 0$ the initiation constraint binds. The suppression region is the difference set: every buyer with $\Delta q - p_e + p_c > 0$ and $\Delta q - p_e < w$ adopts under separate pricing and never evaluates under bundling. In particular an entrant better ($\Delta q > 0$) and cheaper than the component's stand-alone value ($p_e < p_c$) is suppressed whenever $\Delta q - p_e < w$. The entrant's merits are not weighed and found wanting; they are not weighed. On the calibrated illustration ($Q = 1$, $p_e = 0.20$, $p_c = 0.15$, $\theta = 0.3$, $r = 0.1$, $k = 1.2$, so $w = 0.4$): 95% of buyers adopt in the separate regime, 40% in the bundle regime, and 55% of buyers are suppressed, holding surplus of 0.151 per buyer that the bundle's accounting, and nothing else, forgoes.*

Proposition 2 (price inertness). *For a suppressed buyer with gap $g = w - (\Delta q - p_e) > 0$: adoption is invariant to every subsidy $\sigma < g$ and flips at $\sigma = g$. The subsidy that first moves the buyer pays the buyer's full residual wedge, a pure friction, on top of any real price difference. In the switching-cost benchmark (adopt iff $\Delta q - p_e - s + \sigma > 0$, no event friction), the adopting population grows at every step of σ . Price competition below the gap is inert, and the entrant cannot buy the decision's occurrence with its price. This comparative static separates decision suppression from switching costs empirically: under switching costs, discounts and migration subsidies show continuous take-up; under suppression, they show nothing until an unrelated event (reorganisation, audit, mandate) convenes the comparison.*

Proposition 3 (restored events). *Itemisation (the component priced at p_c , renewal events free) restores the separate-regime margin $\Delta q - p_e + p_c > 0$ for every buyer simultaneously, recovering the suppressed surplus at near-zero resource cost. A periodic evaluation duty firing with probability ϕ per period restores adoption for every positive-margin buyer with expected delay $1/\phi$. Disclosure of the imputed component price acts on k , shrinking the wedge without firing events. The instrument ranking follows from what each restores: itemisation deletes the wedge by regulation, subsidy pays it buyer by buyer in cash, and the duty trades delay against the need to legislate prices. The Teams commitments combine the first and third instruments, itemised pricing and the display duty as disclosure. The model's residue is timing: itemisation acts at the next suite renewal, so off-cycle adoption still needs a champion, whose justification cost the display duty lowers and the pricing arm does not.*

Proofs are one-step algebra from the definitions and are collected in Appendix A. Each is cross-checked against brute-force evaluation of the two-stage game, and the qualitative claims hold across 20,000 random parameter draws (verify/bundle.py: the closed-form

region matches the game on 100% of draws; all 7,487 suppressed draws are inert below the gap and flip at it; the periodic duty's mean delay matches $1/\phi$).

6. WHERE THIS SITS IN THE PROGRAMME

The mechanism operates at the differentiated layer where *Cheaper and Losing* locates the coordination trap, and it compounds the trap from the demand side: the network term γ prices the ecosystem's pull once a comparison occurs, and the bundle ensures the comparison does not occur. The two un-bundlings are complements with distinct objects: supply-side un-bundling (interoperability lowering coupling costs) lets a stack be split across providers, and decision-side un-bundling (itemisation restoring events) lets a component be questioned at all. For the taxonomy, the paper supplies the formal slot the wedge thesis asked for: bundling moves an option out of the considered set through commercial architecture, with no actor refusing to sell anywhere in the record. The option-decay dynamics then convert the unconsidered option into an infeasible one. For procurement practice, Proposition 2's observable signature (subsidies and discounts with zero take-up, then discontinuous adoption at mandate-driven events) is the test that distinguishes a suppressed estate from a locked one, and the two call for different instruments. Migration funding acts on switching costs and is inert against suppression, while an evaluation duty is nearly free and acts only on suppression.

7. LIMITS

The champion model is reduced-form, and the wedge conflates effort, career risk, and attention into one parameter pair; a principal-agent microfoundation would price them separately and could make k endogenous to the entrant's visibility. The incumbent does not counter-price, bundle composition is fixed, and one component is analysed in isolation, so bundle-wide strategy (the suite-level game where the entrant challenges the whole licence) is outside scope. The welfare statements count buyer surplus only and take p_c as given, where a full treatment would derive itemised prices from the incumbent's problem. No identification is claimed: the record of Section 3 motivates the model and does not test it. The testable signature is stated in Proposition 2's discussion, and the procurement dataset named in the taxonomy paper's measurement design (Tenders Electronic Daily) would carry the test.

8. CONCLUSION

A bundled component at zero incremental price is protected by the absence of a decision, before and independently of any switching cost. The protection is invisible to models that assume the comparison occurs, inert to instruments that improve the entrant's terms, and cheap to dissolve for instruments that force the comparison into existence. The policy prescription is to create the event. Itemised pricing creates it by regulation, an evaluation duty creates it on a clock, and both dominate paying the wedge in subsidy. The Teams commitments show the instrument entering the record; whether the events now fire is the empirical question the companion measurement design can watch.

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APPENDIX A. PROOFS

Proposition 1. In the bundle regime adoption requires initiation, $\theta(\Delta q - p_e)/r \geq k$, equivalently $\Delta q - p_e \geq w$, and post-evaluation surplus $\Delta q - p_e > 0$; the first implies the second for $w > 0$, so the adoption set is $\{\Delta q - p_e \geq w\}$. The separate regime adopts on $\{\Delta q - p_e + p_c > 0\}$, a strict superset whenever $w > -p_c$, which holds always. The suppression region is the difference set, nonempty for any $w > 0$, and contains $\{0 < \Delta q - p_e < w, p_e < p_c\}$, the better-and-cheaper cases. (Verified: check_B1.) ■

Proposition 2. For $\sigma < g$, $\theta(\Delta q - p_e + \sigma)/r < \theta(\Delta q - p_e + g)/r = k$, so initiation fails and adoption is unchanged; at $\sigma = g$ the constraint binds with equality and adoption occurs, since $\Delta q - p_e + g = w > 0$. The benchmark’s adopting mass under $\Delta q \sim U[0, Q]$ is $\max(0, Q - (p_e + s - \sigma))/Q$, strictly increasing in σ on its interior. (Verified: check_B2.) ■

Proposition 3. Itemisation makes renewal events free, so every buyer evaluates at the next renewal and the separate margin decides; the recovered surplus is the integral of $\Delta q - p_e + p_c$ over the suppression region, in the uniform case $\frac{1}{Q} \left[(h - l)(p_c - p_e) + \frac{h^2 - l^2}{2} \right]$ with $l = \max(0, p_e - p_c)$, $h = \min(Q, p_e + w)$. A duty firing with per-period probability φ makes the first event geometric with mean $1/\varphi$. Disclosure lowers k , hence $w = rk/\theta$, monotonically. (Verified: check_B3, mc_bundle.) ■

ANNEX A. WORKING NOTES (TEMPORARY ANNEX)

This annex lists internal working documents and will be removed from the final version.

- papers/notes/unpriced-bundle-wp.md: the paper’s internal companion (version history, provenance, parked ideas).
- notes/book-readthrough-feedback.md (repository root): the read-through note whose section 8 posed the gap this paper fills.
- ../eurostack-path-sovereignty/papers/channels-wp.md §3 and §6: the wedge thesis and the TED measurement design the test of Proposition 2 would use.

ANNEX B. REPRODUCTION: SCRIPTS, DATA, AND FIGURES

- verify/bundle.py (stdlib only, seed 20260804): gate-2 cross-checks check_B1 (suppression region vs brute force on a 40,000-point grid), check_B2 (inertness below the gap, jump at it, continuous benchmark), check_B3 (closed-form adoption masses and suppressed surplus vs 200,000-buyer enumeration), and the gate-3 Monte-Carlo mc_bundle (20,000 draws; region formula matches the game on 100%; every suppressed draw inert below its gap and flipped at it; periodic-duty delay matches $1/\varphi$). Run: python3 verify/bundle.py.
- No figures in v0.1. The calibrated illustration of Proposition 1 (95% / 40% / 55%, surplus 0.151) is printed by check_B3 and quoted in §5.