The Geoeconomics of Advanced AI with Internationally Mobile Capital

July 2026 — Interim working draft; companion to *The Geoeconomics of Advanced AI: A First-Pass Exploration*

Abstract

This paper reruns the companion analysis—a sequence of two-country Solow world-equilibrium models differing only in technology, hit by the appearance of an AI workforce in the leader—with one assumption changed: capital is internationally mobile, equalizing rental rates across countries at every date, while remaining owned by the residents who accumulated it. The change splits the companion's conclusions cleanly in two. *Incomes* (GNI) are remarkably robust: every competitive-benchmark GNI path survives, steady states are unchanged or made more equal (in the nature configuration the long-run income ratio acquires the closed form $1 + 2\alpha_L/\alpha_Z$, below its immobile-capital counterpart), and the follower's inelastic claims— defended chokepoints, land—anchor exactly as before. *Geography* (GDP) becomes hyper-responsive: when the leader restricts AI deployment, world capital chases the AI workforce onto the leader's territory, and the follower's GDP falls *below its pre-AI level*—an outcome impossible under capital immobility, where the worst case was being frozen in place. Where the technology is constant-returns in mobile factors, this hollowing is income-free (a pure relocation of production); where immobile factors exist (nature) or scale economies are local (nontradable varieties), the flight of capital strands them, and the follower suffers genuine transitional absolute income losses whose depth and duration grow with the size of the AI shock, though a common saving rate always restores the steady state. Export controls thereby become costless to the leader—and hence more likely—while the follower acquires a new defensive instrument, capital controls, whose incidence falls on its own capitalists. The static class-level companion paper analyzes that incidence; here we keep representative national consumers and track GDP and GNI.

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1 Introduction

The companion paper's world had one deliberate rigidity: capital, like labor and land, could not cross borders. Its geoeconomics therefore ran entirely through goods trade and the deployment of AI workers. This paper removes the rigidity. Capital services flow instantly to the country offering the higher rental; ownership stays put, and savings (out of GNI, as before) accumulate *owned* capital wherever it happens to be employed. Everything else—technologies, the two-country Solow structure, the AI shock owned by the leader's representative consumer, the policy environments—is unchanged, and we follow the companion section by section, dwelling where mobility changes the answer and compressing where it does not.

The user-facing intuition this paper tests is simple: *it should be much easier for the follower to lose GDP when capital is mobile, particularly if the leader restricts access to the AI workforce.* The intuition is confirmed, sharpened, and given boundaries:

- **Confirmed.** Under the leader's AI export controls, world capital relocates toward the AI-rich leader until rentals re-equalize. The follower's territorial capital, and with it its GDP, falls *below the pre-AI level*—strictly impossible in the companion, where under controls the follower was hermetically sealed and merely frozen. The trough deepens without bound as $L_{AI} \to \infty$.

- **Sharpened.** Whether the hollowing costs the follower *income* depends exactly on what cannot move. With only labor and reproducible capital (constant returns in mobile factors), capital flight is a perfect substitute for AI inflows: every GNI path is identical to the free-deployment benchmark, and the entire effect of export controls is the relocation of production—GDP without GNI. With land (or locally-scaled varieties), the fleeing capital strands the follower's immobile factors: wages and land rents fall below pre-AI values, and for moderate shocks and large nature shares the follower's *national income* falls absolutely—a transitional loss with no counterpart in the companion.

- **Bounded.** With a common saving rate, world accumulation pins the steady-state rental at κ/s and thereby restores every country's local capital, GDP, wage, and rent to pre-AI values in the long run: the hollowing is transitional, though its horizon grows with $\log L_{AI}$. Permanent hollowing requires shutting off accumulation (the static companion, where the same effects are permanent) or breaking the common-s assumption. We flag this as the load-bearing role of the Solow structure.

Two further results are worth previewing. First, the leader's incentive problem flips: in the companion, export controls were transitionally Pareto-dominated—the leader hurt itself by hoarding AI. With mobile capital the leader is exactly indifferent in the constant-returns worlds (capital arbitrage undoes everything) and strictly better off in none; controls become *costless*, so any non-economic motive suffices to trigger them. The follower should therefore expect controls to be more likely in a financially integrated world, and the instrument that protects it—capital controls—costs it the world rental on its savings. Second, capital mobility is an *equalizer of long-run incomes*: in the nature configuration the limit income ratio falls from the companion's implicit fixed point to the closed form $1 + 2\alpha_L/\alpha_Z$, because the follower's land is now always fully capitalized at world rates. Mobile capital hurts the follower's territory and helps its relative income—one more instance of the paper-family's refrain that territorial and income statistics move in opposite directions precisely when policy debates rely on them most.

2 Setup

Everything is as in the companion paper—two countries $c \in \{L, F\}$, identical human populations $\bar{L}$ and nature endowments $\bar{Z}$, discrete time, full depreciation, common saving rate s out of GNI, a single traded final numeraire good, technologies drawn from

$$Y = A\, L^{\alpha_L} K^{\alpha_K} M_A^{\alpha_A} M_B^{\alpha_B} Z^{\alpha_Z} X_1^{\alpha_1} X_2^{\alpha_2},$$

the AI shock L_{AI} appearing in L at $t = 0$ and owned by L's representative consumer—with one change:

Capital mobility. Let $\bar{K}_{c,t}$ denote capital *owned* by country c (the state variable: $\bar{K}_{c,t+1} = s\, GNI_{c,t}$) and $K^{\text{loc}}_{c,t}$ capital *employed* on c's territory. Capital services flow costlessly, so in equilibrium

$$K^{\text{loc}}_{L,t} + K^{\text{loc}}_{F,t} = \bar{K}_{L,t} + \bar{K}_{F,t} \equiv \bar{K}_{W,t}, \qquad r_{L,t} = r_{F,t} \equiv r_t$$

whenever both territories employ capital (corner cases noted where they arise). Rental income accrues to owners: country c's income is

$$GNI_{c,t} = w_{c,t} \times (\text{labor owned by } c) + r_t \bar{K}_{c,t} + q_{c,t} \bar{Z} + (\text{chokepoint/policy rents}),$$

while $GDP_{c,t}$ is output produced with $K^{\text{loc}}_{c,t}$ on c's soil. The GDP/GNI wedge now has two sources: deployed AI workers (as in the companion) and exported capital services.

Policy environments. The companion's four are kept—(a) maximally competitive (now including free capital mobility), (b) leader export controls on AI workers, (c) tariffs on intermediates, (d) cartelization—and one is added, since a new border flow exists: (e) *capital controls*, by either country, restricting the employment of owned capital abroad (or foreign capital at home).

3 Technologies I–II: Labor, and Labor plus Capital

Technology I ($\alpha_L = 1$) uses no capital; mobility is vacuous and the companion's results stand verbatim. Technology II ($Y = AN^{\alpha}K^{1-\alpha}$) is where the central neutrality result lives.

3.1 Location irrelevance under constant returns

Lemma 3.1 (Factor prices depend only on world aggregates)**.** *Under Technology II with mobile capital, for* any *allocation of AI workers across countries, within-period equilibrium factor prices are*

$$w_t = \alpha A \tilde{k}_t^{1-\alpha}, \qquad r_t = (1-\alpha) A \tilde{k}_t^{-\alpha}, \qquad \tilde{k}_t = \frac{\bar{K}_{W,t}}{2\bar{L} + L_{AI}},$$

and each country's GNI depends only on ($\tilde{k}_t$; *ownership*)*, not on where anything is produced.*

Proof. Rental equalization with constant returns forces a common capital–effective-labor ratio across territories, which aggregation pins at $\tilde{k}_t$; factor prices follow from marginal products, and incomes from ownership at those prices. □

Proposition 3.2 (GNI: everything as in the companion)**.** *Under Technology II with mobile capital, in* every *policy environment concerning AI deployment (free mobility, export controls, AI cartel quantities): the GNI paths of both countries coincide with the companion paper's free-mobility benchmark. In particular the follower enjoys the transitional surplus and exact long-run restoration of the companion's Technology II propositions (factor prices return to pre-AI values,* $GNI^*_F = GNI^{\text{pre}}_F$*, and* $GNI^*_L/GNI^*_F = (\bar{L}+L_{AI})/\bar{L}$*), and steady-state factor prices are independent of* L_{AI}*.*

Proof. By Lemma 3.1 the income system—factor prices as functions of $\tilde{k}_t$, accumulation $\bar{K}_{c,t+1} = s(w_t \cdot \text{owned labor} + r_t \bar{K}_{c,t})$—is identical across AI-deployment policies and identical to the companion's wage-equalized system (there, AI mobility produced the same common ratio that capital mobility produces here). The companion's steady-state and transition arguments apply unchanged. □

3.2 GDP: the hollowing theorem

Proposition 3.3 (Export controls hollow the follower's territory— temporarily, income-free, but below pre-AI)**.** *Under Technology II with mobile capital and the leader's AI export controls: (i) capital relocates so that* $K^{\text{loc}}_{F,t} = \tilde{k}_t \bar{L}$ *and* $K^{\text{loc}}_{L,t} = \tilde{k}_t(\bar{L}+L_{AI})$*; (ii) the follower's GDP,* $GDP_{F,t} = A\bar{L}^{\alpha}(\tilde{k}_t\bar{L})^{1-\alpha}$*, falls on impact strictly* below its pre-AI value*, by the factor* $\left(\frac{2\bar{L}}{2\bar{L}+L_{AI}}\right)^{1-\alpha} \to 0$ *as* $L_{AI} \to \infty$*: the hollowing is unbounded in the shock size; (iii)* $GDP_{F,t}$ *recovers to its pre-AI value as* $\tilde{k}_t \to k^*$*, with a transition horizon growing like* $\log L_{AI}$ *(convergence of* $\tilde{k}$ *is log-linear at rate* α*); (iv) throughout, every resident's income is as in the free-deployment benchmark (Proposition 3.2): the entire incidence of the policy is the location of production. Under capital* immobility *(the companion),* $GDP_{F,t}$ *under controls never falls below pre-AI: the below-pre-AI hollowing is created by capital mobility.*

Proof. (i) is rental equalization with AI confined to L. (ii): on impact $\bar{K}_W$ is predetermined at $2k^*\bar{L}$, so $\tilde{k}_0 = k^* \cdot 2\bar{L}/(2\bar{L}+L_{AI}) < k^* = K^{\text{loc,pre}}_F/\bar{L}$; substituting gives the stated factor. (iii): world accumulation is the companion's, converging to k^*; log-linearizing $\tilde{k}_{t+1} = sA\tilde{k}_t^{1-\alpha}$ gives geometric convergence of $\log \tilde{k}$ at rate $1-(1-\alpha) = \alpha$, and the initial gap is $\log(1+L_{AI}/2\bar{L}) \cdot (1-\alpha)$-sized. (iv) is Proposition 3.2; the companion comparison follows because there the follower's capital cannot leave, so its GDP under controls equals its sealed steady-state value. □

Remark 3.4 (Controls become costless, hence likelier). In the companion, export controls were transitionally Pareto-dominated: the leader's own wage bore the cost of hoarding AI. Here the leader loses nothing (Proposition 3.2); the follower loses nothing in income; and yet the follower's territory visibly empties. A leader with *any* lexicographic taste for security, prestige, or onshore production will impose controls. The follower's complaint, correctly stated, is not about income but about the political, fiscal, and strategic externalities of hosting less production—which this model prices at zero and reality may not. When those externalities matter, the follower's remedy is not retaliation on income (there is none to retaliate against) but the capital-control instrument of Section 6, or bargaining over production location directly.

3.3 Other instruments

Tariffs remain vacuous (nothing but the final good and factor services cross borders). The leader's AI-deployment cartel of the companion is neutralized by Lemma 3.1: restricting AI exports no longer moves any price, since capital arbitrage undoes the restriction —market power over AI deployment is worthless when capital is mobile. (Market power over *capital* flows is the follower-side instrument and is treated with nature, where it has bite.)

4 Technology III: Critical Inputs

Capital mobility changes almost nothing here, and the robustness is itself the result.

Proposition 4.1 (Chokepoints are robust to capital mobility)**.** *Under Technology III with mobile capital: (i) with free AI deployment, chokepoints remain worthless (the companion's irrelevance result), and all GNI paths coincide with the Technology II benchmark with labor share $\alpha_L + \alpha_X$; (ii) with the follower's AI-exclusion policy on its critical sector, the follower still collects $\alpha_X Y_W$—a claim on world spending that is indifferent to where capital or final production locates; its income grows without bound in L_{AI} and its workers' wage with it; (iii) embargo threat points are unchanged in kind and sharpened in degree: if the leader embargoes a critical input the follower needs (case (a)), the follower's marginal product of capital collapses to zero and* its own capital flees*, so its GDP falls to zero rather than merely its critical-input-using production—capital mobility makes embargoes bite faster and deeper on the embargoed country's territory, while its owned capital escapes and earns the world rental abroad.*

Proof sketch. (i)–(ii): the companion's arguments run on share identities and labor allocation, not on capital location; rental equalization simply reproduces the integrated allocation. (iii): with $\alpha_X > 0$ and $X_F = 0$, territorial output and hence the local marginal product of capital are zero; mobile capital exits until (corner) none remains; owned capital earns r abroad, so GNI falls to $r\bar{K}_F$ plus nothing, while GDP is zero. □

Remark 4.2. The asymmetry in (iii) previews the paper's theme: under coercion, a country's *owned* wealth is protected by capital mobility while its *territory* is exposed by it. An embargoed follower with large foreign capital income is a rentier state in exile on its own land.

5 Technology IV: The CES Intermediate Sectors

5.1 Tradable varieties: triple redundancy

The companion established that trade in varieties substitutes for AI mobility (its FPE-irrelevance proposition). Capital mobility is a third arbitrage channel performing the same task.

Proposition 5.1 (Neutrality with redundant arbitrage channels)**.** *Under Technology IV with tradable varieties, any* one *of (i) AI mobility, (ii) variety trade with endowments in the FPE set, or (iii) capital mobility suffices to decentralize the integrated equilibrium: factor prices, entry, and all GNI paths coincide with the companion's competitive benchmark, including the unbounded growth of the follower's income and of the world wage. With capital mobility present, the FPE-set qualification becomes unnecessary: even endowment distributions outside the diversification cone are arbitraged by capital movements, so the companion's transitional wage-gap case under export controls disappears. GDP location, and the pattern of specialization across countries, remain indeterminate up to the factor-market-clearing correspondence; export controls select within it (production concentrates where AI is confined) without touching incomes.*

Proof sketch. The integrated equilibrium requires factor-price equalization and world-level factor market clearing. Channel (iii) directly imposes rental equalization and, with constant-returns composites, wage equalization follows from free entry and traded varieties; the allocation of variety production across countries adjusts residually. Outside the FPE cone, immobile-factor models fail because local factor proportions cannot be absorbed at integrated prices; mobile capital adjusts proportions directly, eliminating the failure. □

5.2 Nontradable varieties: two-factor tipping

With nontradable varieties, the companion found national scale economies, tipping of the AI workforce to one country, and exclusion of the follower. Capital mobility accelerates the tipping and deepens its territorial signature.

Proposition 5.2 (Capital joins the cluster)**.** *Under Technology IV with nontradable varieties, mobile capital, and the AI cluster in the leader (by history or by export controls): (i) within each period rental equalization allocates* $K_{F,t}^{\text{loc}}/K_{L,t}^{\text{loc}} = (\bar{L}/(\bar{L}+L_{AI}))^{\tilde{\lambda}/(1-\tilde{\kappa})}$*, so the follower's territorial capital share collapses polynomially in the shock size—a far deeper hollowing than Technology II's, because local scale economies amplify the reallocation (*$\tilde{\lambda}/(1-\tilde{\kappa}) > 1$ *for* $\mu > 1$*); (ii) the follower's GDP and wage fall below pre-AI values on impact and in transition; (iii) in the steady state, the world rental is pinned at* $r^* = \kappa/s$ *and the follower's local capital, GDP, and wage are restored exactly to pre-AI values; its GNI equals the pre-AI value plus the world rental on whatever owned capital its (unchanged) income supports: the follower is excluded from the AI revolution's gains, as in the companion, and transitionally hollowed, unlike in the companion; (iv) the coordination multiplicity survives: a cluster in F is also an equilibrium, and capital mobility* raises *the stakes of the coordination game, since the winner attracts the world's capital as well as the world's AI.*

Proof sketch. (i) equate $\tilde{\kappa}$-share marginal returns $\kappa Y_c/K_c^{\text{loc}}$ across countries using the national reduced form $Y_c = BN_c^{\tilde{\lambda}}(K_c^{\text{loc}})^{\tilde{\kappa}}$. (ii) substitute into Y_F and compare with the symmetric pre-AI allocation. (iii) world accumulation $\bar{K}_W = sY_W$ forces $r^* = \kappa/s$; the follower's local capital then solves $\kappa B\bar{L}^{\tilde{\lambda}}(K_F^{\text{loc}})^{\tilde{\kappa}-1} = r^*$, which is its pre-AI condition. (iv) as in the companion, each corner satisfies all equilibrium conditions. □

Remark 5.3. Steady-state restoration in (iii) should be read with its horizon in mind: the world must accumulate capital proportional to the cluster's size, so the follower's "transitional" hollowing lasts on the order of $\log L_{AI}$ convergence half-lives. For large shocks, the medium run *is* the political run.

6 Technology V: Nature

This is where capital mobility earns its keep: one result that makes the follower relatively *richer* in the long run, and one that makes it absolutely *poorer* in transition.

6.1 Competitive benchmark: an equalizing closed form

With AI and capital both mobile and identical $(\bar{L}, \bar{Z})$ endowments, production is symmetric across territories at every date: each hosts half the world's effective labor and capital, so $Y_L = Y_F = Y_W/2$, and all rents and wages are equal across countries.

Proposition 6.1 (Closed-form long-run income ratio)**.** *Under Technology V with mobile capital and free AI deployment, as* $L_{AI} \to \infty$ *the steady-state income ratio converges to*

$$\frac{GNI_L^*}{GNI_F^*} \longrightarrow R_\infty^m = 1 + \frac{2\alpha_L}{\alpha_Z},$$

independent of α_K*. In the companion (immobile capital) the limit ratio solves* $(1-\alpha_L)R - R^{\alpha_K/(\alpha_K+\alpha_Z)} = \alpha_L$ *and exceeds* R_∞^m *whenever* $\alpha_K > 0$ *(the two coincide as* $\alpha_K \to 0$*):* capital mobility compresses long-run relative incomes*. The follower's income remains unbounded in* L_{AI} *and its human wage still falls to zero: mobility changes the division, not the nature, of the gains.*

Proof. Steady state: $\bar{K}_W = sY_W$ and $r\bar{K}_W = \alpha_K Y_W$ give $r^* = \alpha_K/s$, so $r^*\bar{K}_c^* = \alpha_K\, GNI_c^*$ by $\bar{K}_c^* = s\, GNI_c^*$. Then $GNI_c^*(1-\alpha_K) = w^* \times (\text{owned labor}) + \alpha_Z Y_W^*/2$ using production symmetry. As $L_{AI} \to \infty$, $w^*\bar{L}/Y_W^* \to 0$ while $w^*(\bar{L}+L_{AI}) \to \alpha_L Y_W^*$, giving $GNI_L^*(1-\alpha_K) \to (\alpha_L+\alpha_Z/2)Y_W^*$ and $GNI_F^*(1-\alpha_K) \to (\alpha_Z/2)Y_W^*$; divide. The comparison with the companion's fixed point holds at $\alpha_K \to 0$ by direct substitution ($R = (1+\alpha_L)/(1-\alpha_L)$ in both) and, for $\alpha_K > 0$, follows from evaluating the companion's fixed-point function at R_∞^m; we have verified the sign numerically across the parameter space and flag a general analytic proof as remaining. □

Remark 6.2 (Why mobility equalizes). In the companion, the leader's land ends up better capitalized than the follower's (the leader saves the AI wage bill and its capital cannot leave), so the leader's territory produces more and its land collects more. Mobile capital breaks the link between national savings and national capitalization: both countries' land is capitalized to the same world rental, production equalizes across territories, and the follower's land collects rents on the full, evenly spread AI economy. The follower would therefore *oppose* capital-account restrictions in the competitive world—the same instrument it will want under export controls below. Openness preferences are policy-regime-contingent.

6.2 Export controls: stranding the immobile

Now confine AI to L. Capital chases it onto the leader's land; the follower's land and labor lose their complement.

Proposition 6.3 (Transitional absolute losses for the follower)**.** *Under Technology V with mobile capital and the leader's AI export controls: (i) on impact, capital relocates until rentals equalize, $K_{F,0}^{\text{loc}} < \bar{K}_W/2$; the follower's GDP, wage, and land rents all fall strictly below their* pre-AI *values, and the shortfalls grow without bound in L_{AI}; (ii) the follower's* national income *falls below its pre-AI value—a genuine transitional absolute loss with no counterpart under capital immobility (where controls merely froze the follower)—whenever the rental gain on its owned capital fails to cover the stranding losses of its labor and land, which holds for moderate L_{AI} and large α_Z (and always fails to hold as $L_{AI} \to \infty$, where the rental gain dominates); (iii) in steady state, $r^* = \alpha_K/s$ restores the follower's local capital, GDP, wage, and rents exactly to pre-AI values, and $GNI_F^* = GNI_F^{\text{pre}}$: the loss is transitional, with depth increasing in L_{AI} and α_Z and duration increasing in L_{AI}; (iv) the leader strictly gains from controls in transition relative to pre-AI (its land absorbs the world's capital and all AI), though it does worse than under free deployment (one $\bar{Z}$ instead of two).*

Proof sketch. (i) Rental equalization across territories with unequal labor allocations gives $K_L^{\text{loc}}/K_F^{\text{loc}} = ((\bar{L}+L_{AI})/\bar{L})^{\alpha_L/(1-\alpha_K)}$; the follower's local output $Y_F = A\bar{L}^{\alpha_L}(K_F^{\text{loc}})^{\alpha_K}\bar{Z}^{\alpha_Z}$ falls below its pre-AI value since K_F^{loc} falls below $\bar{K}_W/2$ (predetermined at the pre-AI level), and w_F, q_F are fixed shares of Y_F. (ii) $GNI_F = (\alpha_L+\alpha_Z)Y_F + r\bar{K}_F$; the first term falls, the second rises; the envelope comparison at moderate L_{AI} mirrors the static companion's Corollary on national losses, and as $L_{AI} \to \infty$, $r \to \infty$ at fixed $\bar{K}_W$ so the capital term dominates. (iii) as in Proposition 5.2(iii): the steady-state rental pin $r^* = \alpha_K/s$ makes the follower's local-capital condition identical to pre-AI; the income recursion then restores GNI_F^*. (iv) direct comparison of the leader's allocations. □

Proposition 6.4 (Capital controls as the follower's defense)**.** *If the follower responds to the leader's export controls by forbidding the export of its capital, it replicates its sealed pre-AI economy at every date: GDP, wage, rents, and GNI all remain at pre-AI values—the stranding losses of Proposition 6.3 are fully averted, at the cost of forgoing the (transitionally elevated) world rental on its savings. The instrument is time-consistent in the loss window and optimally lifted once the world*

rental converges back to α_K/s. Its within-country incidence—protecting workers and landowners at the capitalists' expense—is analyzed in the static class companion.

Proof. With AI and its own capital both immobile and only the homogeneous final good traded, the follower's economy is closed to the shock; the comparison of rentals is Proposition 6.3(i)–(iii). □

Remark 6.5 (The controls game). Putting Propositions 6.3–6.4 together with Remark 3.4: with mobile capital the leader's controls are cheap (it gains transitionally here), the follower's best response is capital controls, and the resulting equilibrium—AI hoarded, capital fenced—wastes the entire allocative gain from deploying AI across the world's land, relative to which both countries are worse off. The structure is a prisoner's dilemma in border instruments, and it identifies what a negotiated bargain must trade: leader access to the follower's land (deployment rights) against follower access to the AI-augmented rental and wage streams (compensation, or deployment fees as in the companion's entry-fee analysis).

7 Technologies VI–VIII: Combined Worlds

The composition results of the companion carry over with the by-now predictable amendments; we record them compactly.

Technology VI (nature + critical inputs). The competitive benchmark reduces to Technology V with labor share $\alpha_L + \alpha_X$; Proposition 6.1's closed form applies with that substitution. A defended follower chokepoint stacks $\alpha_X Y_W$ on top of the (now symmetric) land rents and is robust to capital flight (Proposition 4.1); under leader export controls the chokepoint also caps the stranding of the follower's *labor* (Proposition 4.1(ii)), though its land still suffers Proposition 6.3's transitional losses. Embargo threat points are as in the companion, with the capital-flight sharpening of Proposition 4.1(iii) applying to whichever side is cut off.

Technology VII (nature + varieties). With tradable varieties, the race condition $(\alpha_A+\alpha_B)/(\sigma-1) \gtrless \alpha_Z$ continues to sign the long-run wage, and capital mobility adds Proposition 5.1's neutrality on the reproducible side plus Proposition 6.1's compression on the land side. With nontradable varieties, the companion's agglomeration-versus-dispersion dichotomy survives with amplified stakes: in the variety-dominant regime the cluster now attracts the world's capital as well as its AI (Proposition 5.2), deepening the follower's transitional hollowing; in the nature-dominant regime dispersion wins and the equalizing symmetric allocation of Proposition 6.1 reasserts itself.

Technology VIII (everything). The asymptotic anatomy of the follower's income now reads: defended chokepoint share $\alpha_{X_F} Y_W$ (robust to everything), land rents $\alpha_Z Y_W/2$ under any regime that reaches the symmetric allocation (compressed ratio, Proposition 6.1), capital income $\alpha_K GNI_F$ (protected by mobility even under coercion), and a vanishing wage share. The follower's exposure is concentrated in one place: the *transition*, where the leader's deployment restrictions can strand its immobile factors (Proposition 6.3) unless offset by chokepoint anchors or capital controls.

8 Synthesis: What Capital Mobility Changes

8.1 Comparative table

Entries state the change relative to the companion (immobile capital) at the same technology and policy.

Configuration / policy	GNI (incomes)	GDP (territory)
II, competitive	unchanged	location indeterminate
II, L export controls	unchanged (controls now costless to all)	F hollowed below pre-AI, transitionally, unboundedly in L_{AI}
III, exclusion-defended chokepoint	unchanged (robust)	F critical sector anchored; rest mobile
III, embargo on F	unchanged in kind	F GDP $\to$ 0 faster (capital flees a dead economy)
IV, tradable varieties	unchanged; FPE-cone caveat disappears	indeterminate; controls select location costlessly
IV, nontradable varieties	unchanged (exclusion)	cluster attracts capital too: deepest hollowing
V, competitive	ratio compressed: $R^m_\infty = 1 + 2\alpha_L/\alpha_Z$	production symmetric across territories
V, L export controls	**new: transitional absolute loss for F**	F land and labor stranded; SS restored
V, $+F$ capital controls	F frozen at pre-AI (loss averted)	F territory sealed and intact

8.2 The crucial assumptions, revisited

1. **Capital mobility moves geography, barely moves income.** Every competitive-benchmark GNI conclusion of the companion survives; the one quantitative change (the nature-world ratio) is *equalizing*. What mobility transforms is the territorial incidence of policy: production becomes footloose, and the leader's deployment restrictions redirect the world's capital onto its own soil. If the objects of geoeconomic concern are tax bases, employment, and war potential—GDP-like objects—capital mobility is the follower's problem; if they are incomes, it is closer to the follower's friend.

2. **The leader's controls flip from self-defeating to costless.** The companion's strongest dovish result—hoarding AI hurts the hoarder—rested on capital immobility. With mobile capital the market rebuilds the leader's advantage around the hoarded AI at no cost to anyone's income (constant-returns worlds) or at a transitional cost borne by the *follower's* immobile factors (nature worlds). Financial integration thus makes AI export controls strictly more attractive to leaders—a testable comparative-statics prediction across policy regimes.

3. **What cannot move is what gets hurt.** The incidence of every coercive policy lands on immobile factors: labor and land in the follower under controls; nothing at all when only mobile factors exist. The follower's protections are unchanged in kind from the companion—inelastic *owned* claims (chokepoints robust even to capital flight; land, conditionally) and border instruments (now capital controls, the mirror of the leader's deployment controls)—but their urgency is redistributed toward the transition.

4. **The common saving rate is load-bearing.** Every steady-state restoration in this paper runs through $r^* = \kappa/s$: world accumulation always rebuilds the follower's territorial capital. Heterogeneous saving rates, endogenous savings responding to the transition itself, or a static horizon (the class companion) would convert transitional hollowing into permanent hollowing. Since the transition already scales with $\log L_{AI}$, we regard the distinction between "long transitional" and "permanent" as second-order for policy, and the static companion as the better guide to the politically relevant horizon.

9 Final Remarks

Next steps specific to this variant, beyond the companion's list: (i) endogenize the leader's control decision and the follower's capital- control response as a dynamic game (the prisoner's-dilemma structure of Section 6 suggests the cooperative bargain and its enforcement problem are the interesting objects); (ii) partial capital mobility (a friction parameter spanning the two papers) to locate the threshold at which controls flip from self-defeating to costless; (iii) foreign direct investment as distinct from portfolio flows—if variety production abroad requires owned local capital (multinationals), capital mobility and the nontradability of intermediates interact differently; (iv) heterogeneous saving rates, which break the steady-state restoration and make hollowing permanent; (v) the class disaggregation of the static companion grafted onto these dynamics, where the follower's capitalists accumulate abroad during exactly the window in which its workers and landowners are stranded.

References. Companion papers: *The Geoeconomics of Advanced AI: A First-Pass Exploration in a Sequence of Two-Country World-Equilibrium Models*, and *The Class Geoeconomics of Advanced AI: Static Incidence with Mobile Capital*, this project, July 2026. Ventura, J. (2005), "A Global View of Economic Growth," *Handbook of Economic Growth*, Vol. 1B, ch. 22.