



When Do AI Gains Become Broadly Shareable?

A Policy Threshold for AI-Driven Automation

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Suppose AI creates no new jobs.

When could AI gains still improve people's lives compared with **before automation**? We ask what it would take to fund a basic benefit equal to **11% of pre-automation GDP**. The benefit stays fixed as the economy grows.

Less AI productivity needed

5.6× → **3.2×**

when the public share rises from **14.5% to 33%**.

01 Secure a public share of AI income now

Waiting for better AI is only one route. Governments can also secure a larger share of the income AI generates.

Taxes, royalties and public investment funds can all create that claim. Governments can also hold a stake in AI companies without owning them outright.

What matters is the money that actually reaches the public, after tax avoidance and subsidies. A higher headline tax rate helps only if it produces a larger public return.

This budget could support cash payments, tax credits or public services.

Proposition 1: funding threshold

$$\gamma_t^* = \frac{(A_t \bar{\kappa})^{1-\sigma}}{\bar{\alpha}} \left[\frac{B/Y_t}{\Theta(1-c)} \right]^\sigma$$

γ_t^* : AI productivity needed; Θ : public share; c : cost share; $\bar{\alpha}$: automatable share; A_t : economy-wide efficiency; $\bar{\kappa}$: capital/output; σ : task substitution ($0 < \sigma < 1$). Y_0, Y_t : pre-automation/current GDP; $B = 0.11Y_0$ is the fixed benefit.

03 Large gains do *not* require full nationalization

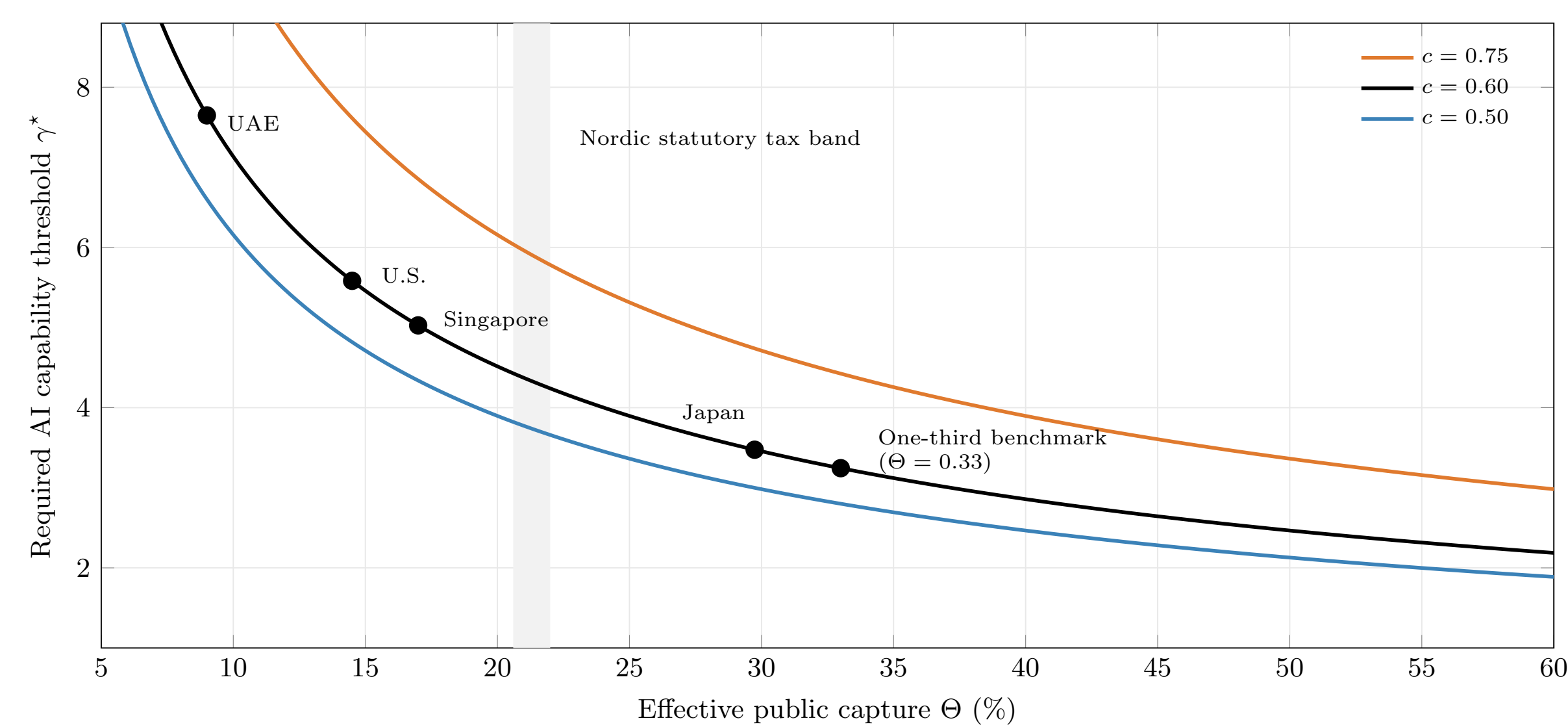


Figure 3. Moving from a small public share to a moderate one makes the largest difference. Further increases still help, but progressively less. The higher curves show how running costs leave less money to share.

Country labels illustrate tax scenarios. They leave out public investment income, which matters in systems such as Singapore and Abu Dhabi.

05 Count costs before promising an AI dividend

Compute, energy, safety and compliance all reduce what is left to share. Report these costs before promising a payout. Public contracts should let agencies change suppliers and make responsibility for errors clear, helping avoid expensive dependence on one supplier.

Corollary 1: how the threshold moves

$$\begin{aligned} \partial_\Theta \gamma_t^* &= -\sigma \gamma_t^* / \Theta < 0, & \partial_c \gamma_t^* &= \sigma \gamma_t^* / (1-c) > 0, \\ \partial_{\bar{\alpha}} \gamma_t^* &= -\gamma_t^* / \bar{\alpha} < 0, & \partial_{\bar{\kappa}} \gamma_t^* &= (1-\sigma) \gamma_t^* / \bar{\kappa} > 0, \\ \partial_s \gamma_t^* &= (1-\sigma) \gamma_t^* / s > 0, & \partial_\delta \gamma_t^* &= (\sigma-1) \gamma_t^* / (e^g - 1 + \delta) < 0. \end{aligned}$$

Other inputs fixed. $\bar{\kappa} = s/(e^g - 1 + \delta)$; s : saving share; g : growth rate; δ : depreciation.

Transfer-size scaling: $\gamma_t^*(\lambda B) = \lambda^\sigma \gamma_t^*(B)$ ($\lambda > 0$).

02 A one-third public share cuts the threshold by 42%

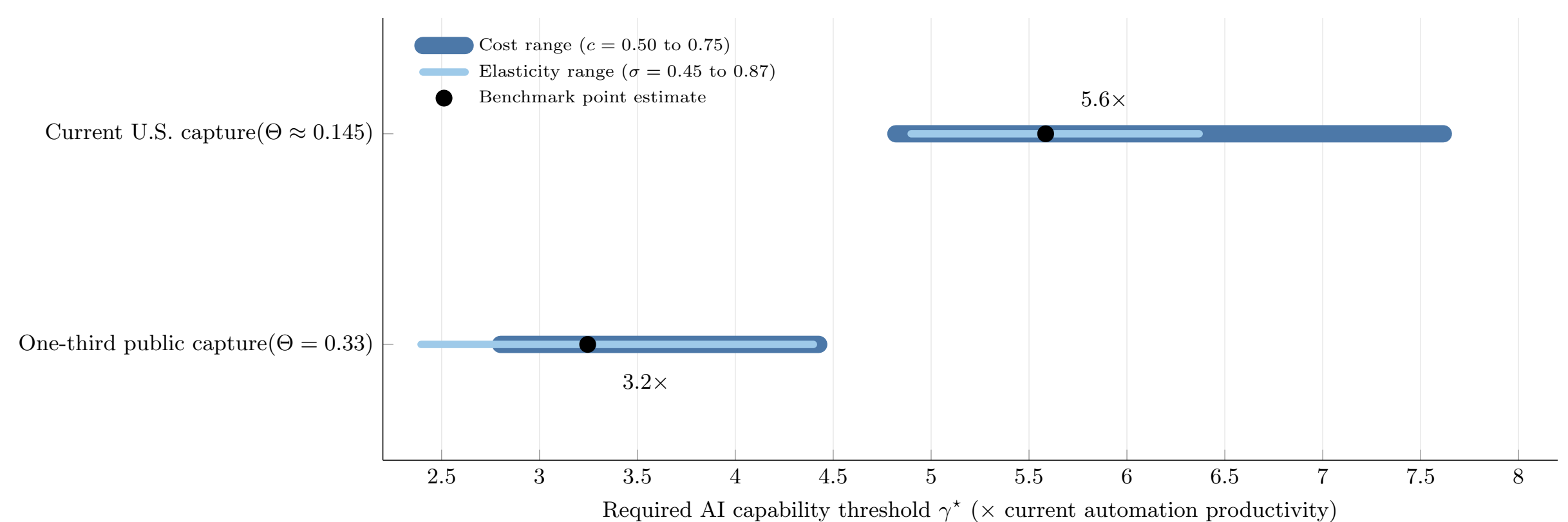


Figure 1. In the paper's U.S. calibration, increasing the public share from about 15% to 33% lowers the required AI productivity from **5.6×** to **3.2×** the pre-AI automation baseline.

Bars show how changing cost and task assumptions affects the estimate. These are model comparisons, not forecasts of when AI will reach them.

04 Pair more competition with a funding plan

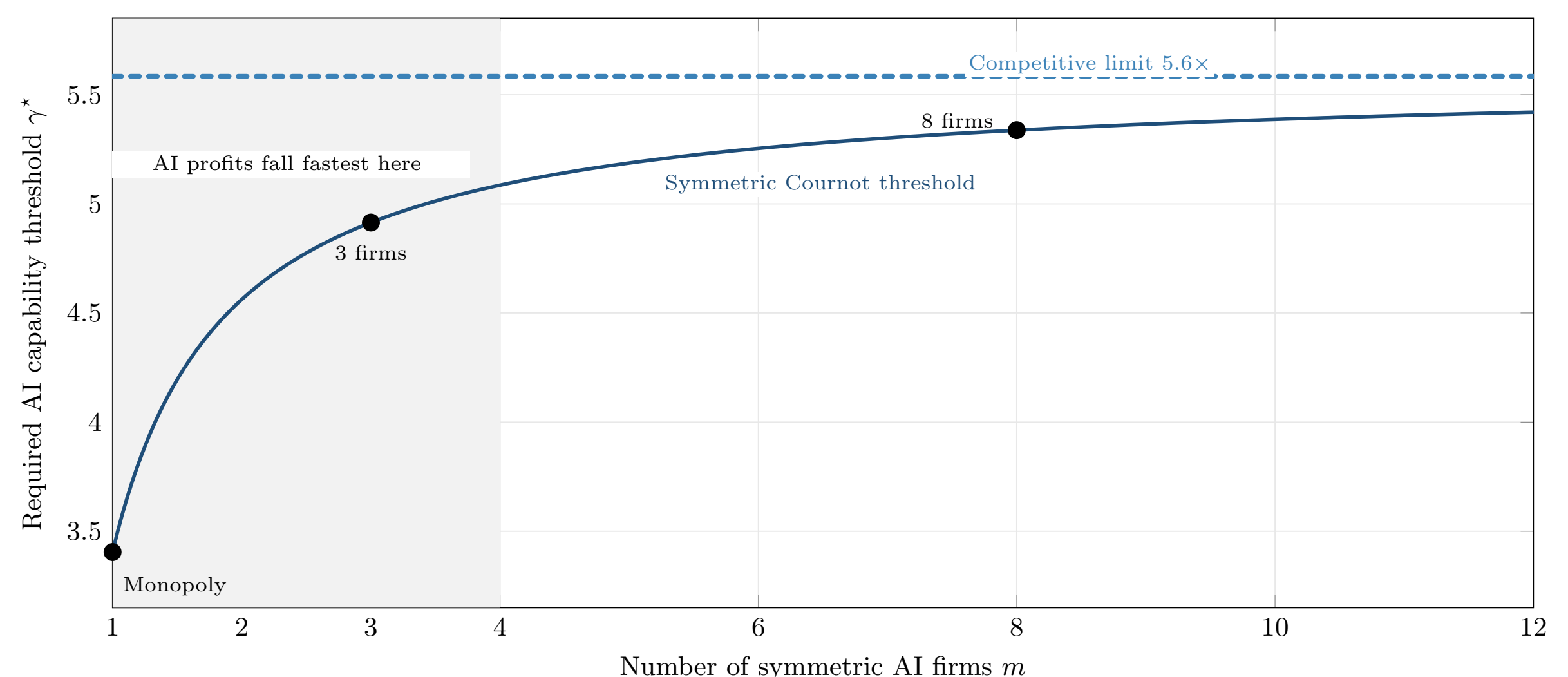


Figure 2. More competition *reduces* excess profits. In this example, that leaves less income available to fund the benefit, so the AI productivity needed rises.

More competition can also mean lower prices and less dependence on a few suppliers. Governments should strengthen the ways they share AI gains as they open markets.

Preserving monopoly profits comes with its own costs. This calculation compares funding; it does not rank all the benefits of competition.

06 Make AI assistance benefit workers

AI can help workers before it replaces their jobs. Track whether that means better pay, shorter hours and better services, or simply higher output targets.

Workers need a say in how AI changes their work. A larger economy alone does not settle who benefits.

Proposition 2: funding under market concentration

$$\gamma_{\text{oligo},t}^* = \frac{(A_t \bar{\kappa})^{1-\sigma}}{\bar{\alpha}} \left[\frac{B/Y_t}{\Theta(1-c)} - \frac{\theta}{\varepsilon} \right]^\sigma$$

$\theta = \sum_i s_i^2$: concentration (s_i : firm market share); $\varepsilon > 0$: demand elasticity. Positive bracket; $\gamma_t \geq 1$.

Corollary 2: higher public share lowers the threshold

$$\gamma_2^* / \gamma_1^* = (\Theta_1 / \Theta_2)^\sigma < 1 \quad (\Theta_2 > \Theta_1),$$