Data & Baseline Calibration (2010–2022)

Task Exposure Calibration
- O*NET (tasks/weights)
- BLS OEWS (employment)
- IPEDS (education data)

Physical Protection (P_i)
Work context: Physical share (%)
Output: P_i

Composite Exposure (X_i)
AI capability × task weight
Window: 2010–2022

Baseline Calibration Output
Calibrated params: $\kappa_E, \delta_0, \varepsilon_D$
Baseline profile
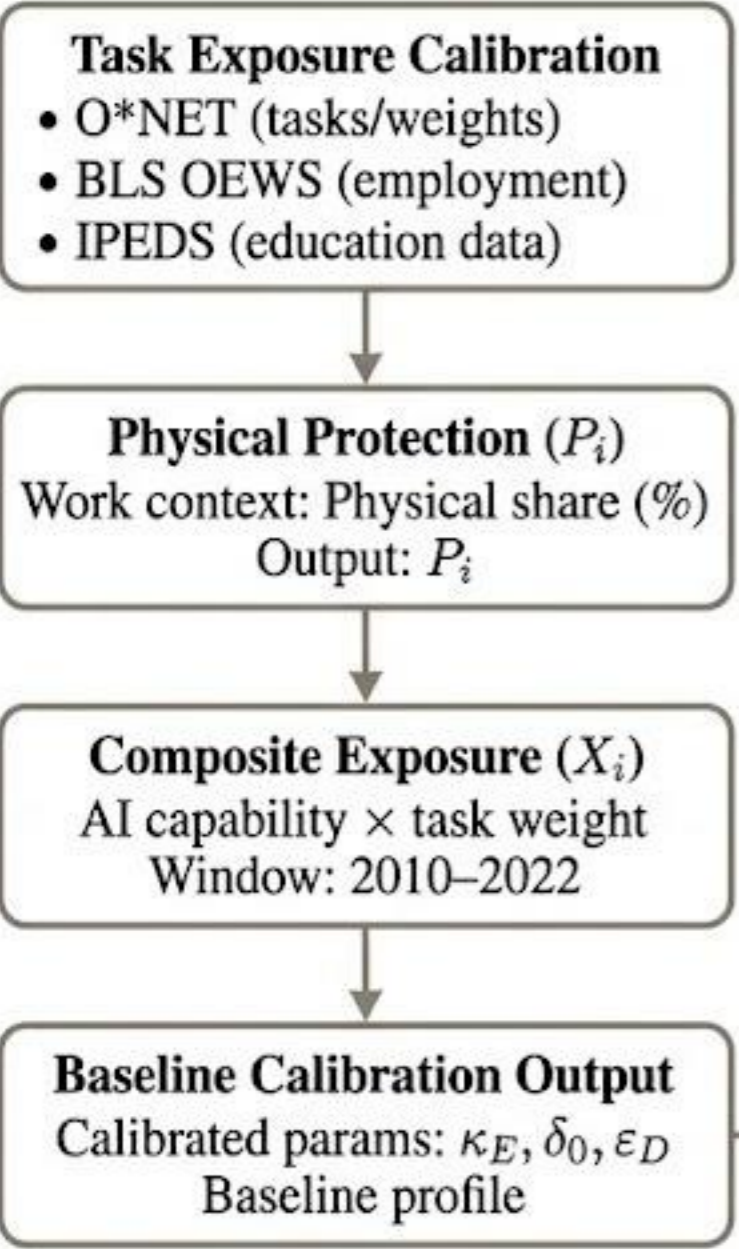
Dynamic Core (TECM + VBC + Demand)

Adoption & Congestion
State: $A(t), \rho_v(t)$

Verification Bottleneck
Adoption → Verification
load → Congestion

Employment Evolution
State: $E(t)$
Augmentation vs. Displacement

Market Feedback
Demand-side response

Market Demand (Jevons effect)
Demand offset
Rebound
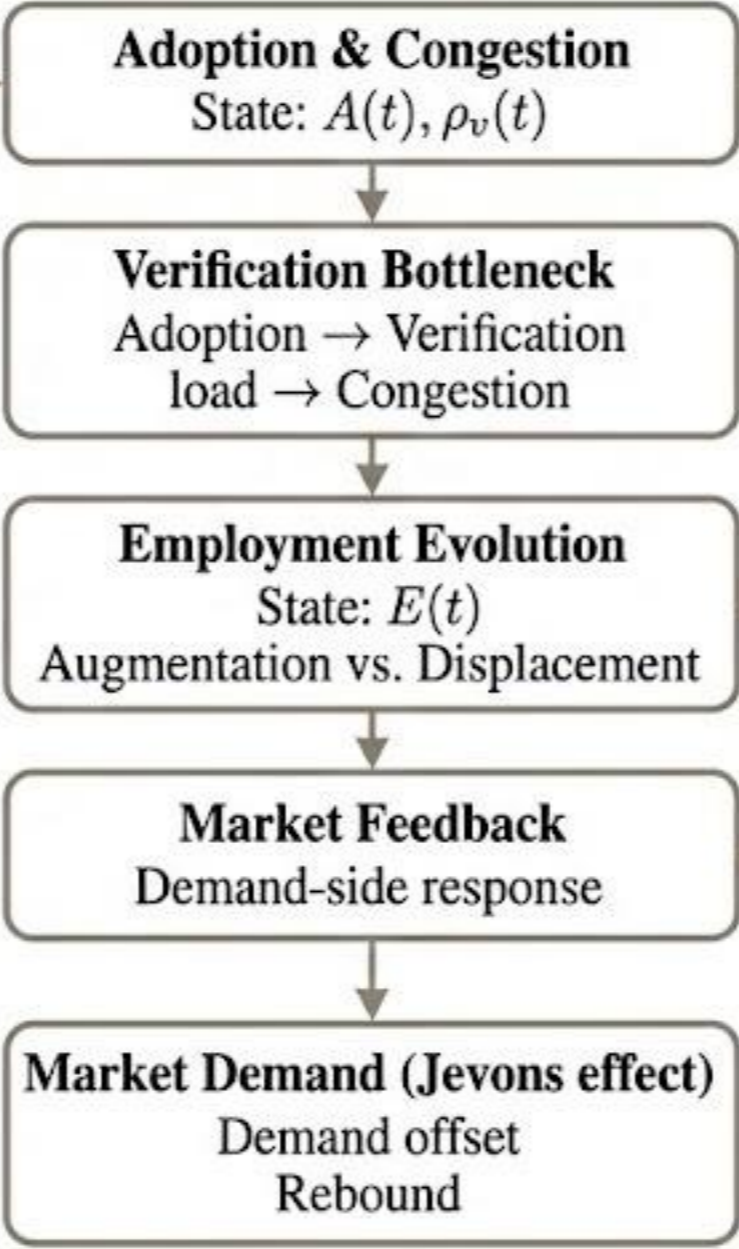
Policy & Adaptive Recommendations

Scenario Assumptions (2023+)
$\{\kappa_A, A_{\mathrm{cap}}, s_{\mathrm{base}}, \dots\}$

Policy Levers
Enrollment size N
Curriculum intensity ϕ
Verification capacity $C_v(t)$

Decision Outputs (Thresholds)
Tipping point A^*
Stress-test bands for $E(t)$

Uncertainty & Stress Test
PRCC sensitivity
Forecast bands

Simulated Outcomes
Recommended $\Delta N, \Delta \phi$
Projected $E(t)$ bands

ΔN

$\Delta \phi$

ΔC_v

Solid dark arrows: causal flow
Orange dashed arrows: policy feedback