

When Fixed Costs Vanish

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*Disinflationary Pressure in the Age of
Near-Zero Marginal Cost Compute
A Prescott Framework Analysis
April 2026*

01 The question

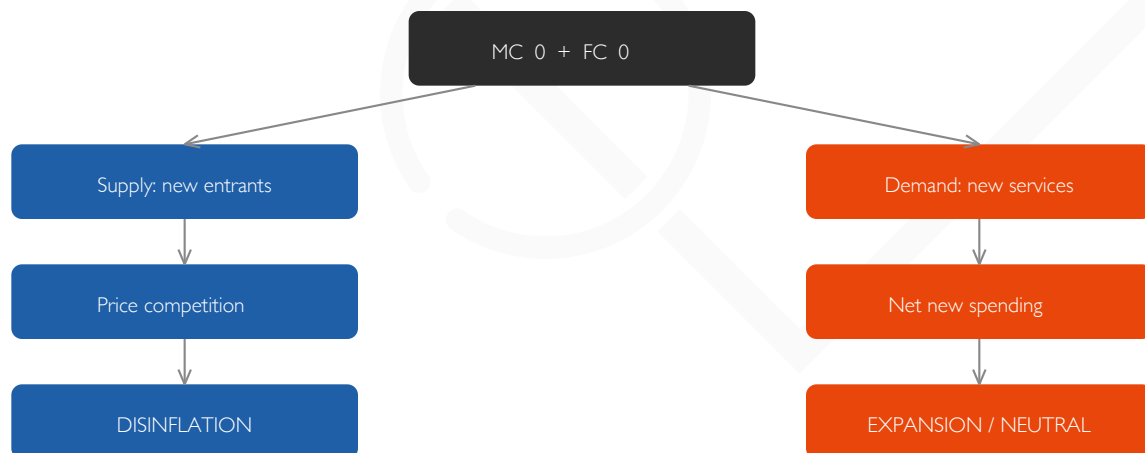
Deliverable 20 established the micro finding: when $MC(AI \text{ compute})$ approaches zero, the production function for creative services undergoes a phase transition. The binding constraint migrates from labor cost to accumulated context. Deliverable 46a formalized the constraint architecture and identified the Baumol inversion—the historical tendency for service costs to rise relative to manufacturing costs reverses when the service labor itself becomes computational.

This paper asks the macro question: when both MC and FC simultaneously approach zero—enabling freelancers, solo practitioners, and moonlighters to launch second enterprises with negligible startup costs—does this exert disinflationary pressure on the economy, or the opposite?

The answer, grounded in the Prescott framework, is: it depends on which channel dominates. The supply-side channel is unambiguously disinflationary. The demand-side channel may be inflationary. The net effect depends on the elasticity of substitution between AI-augmented and traditional services, and on whether the new entrants create net new demand or merely redistribute existing demand at lower prices.

We model this using two Prescott frameworks in tandem: the Real Business Cycle mechanism (Kydland and Prescott, 1982) to formalize the productivity shock, and the Barriers to Riches framework (Prescott, 1998; Parente and Prescott, 2000) to explain why FC approaching zero matters asymmetrically across sectors. These are embedded in a broader theoretical landscape—Romer (1990) on endogenous knowledge growth, Coase (1937) on firm boundaries, Schumpeter (1942) on creative destruction, Becker (1964) on human capital, and Nordhaus (2007) on computing cost trajectories—that independently converge on the same structural prediction. The conjunction produces a testable finding: sectors with high regulatory barriers will experience inflation (incumbents capture rents); sectors with low barriers will experience disinflation (entrants compete price down).

Figure 1. The two-channel model: supply-side disinflation vs. demand-side expansion



The net price-level effect depends on elasticity of substitution and barrier height per sector.

02 The Prescott framework

2.1 RBC as mechanism: the productivity shock

In the Kydland-Prescott RBC model, aggregate fluctuations are driven by technology shocks to total factor productivity (TFP). The standard formulation:

$$Y = A \cdot F(K, L)$$

where A is TFP, K is capital, L is labor

When AI compute costs collapse, A increases discontinuously for any firm that adopts. But the Prescott insight is that this is not a uniform shock. The TFP gain accrues to the individual practitioner in proportion to their ability to deploy the technology—which is itself a function of human capital, domain expertise, and accumulated context (Deliverable 20's binding constraint).

The FC collapse amplifies this. In the traditional model, a positive TFP shock benefits existing firms that can amortize fixed costs over larger output. When FC approaches zero, the shock benefits potential entrants equally—the freelancer with domain expertise and a \$20/month subscription captures the same TFP gain as the established agency. This is the Prescott mechanism operating at the extensive margin: the number of producers increases, not just the output per producer.

2.2 The broader theoretical landscape

The Prescott framework does not operate in isolation. Multiple theoretical traditions converge on the same structural prediction, each illuminating a different facet of the MC/FC collapse.

Romer's endogenous growth theory (1990) formalizes the mechanism by which knowledge accumulation drives TFP growth endogenously rather than as an exogenous shock. In the AI-augmented regime, accumulated context—the stock of shared vocabulary, calibration decisions, and problem-history that Deliverable 20 identified as the binding constraint—is precisely the non-rival, partially excludable knowledge good that Romer models as the engine of growth. The novelty is that this knowledge accumulates within a human-AI dyad rather than within a firm or economy, and it depreciates across context windows rather than across generations.

Coase's theory of the firm (1937) predicts the organizational topology. The firm exists because market transaction costs exceed internal coordination costs. When AI reduces the execution cost of creative services to near-zero, the coordination cost of maintaining a multi-person firm becomes the dominant expense. The Coasean prediction is precise: the boundary of the firm contracts until the marginal cost of internal coordination equals the marginal cost of market transaction. When a solo practitioner can execute an agency's output unilaterally, the Coasean firm shrinks to one.

Schumpeter's creative destruction (1942) names the extensive-margin entry mechanism. The FC collapse is not incremental improvement—it is a discontinuity that enables a new class of entrepreneur. Deliverable 46a documented this empirically: three variables had to converge simultaneously—the practitioner's earning power (making FC invisible as a proportion of income), decades of curatorial practice (taste as accumulated capital), and model capability (the AI reaching sufficient competence to unpack a proper noun on the first attempt). Any two without the third produces nothing. This is Schumpeterian innovation as simultaneous capability convergence, not as gradual diffusion.

Becker's human capital theory (1964) grounds the distributional prediction. In sectors where entry is unrestricted, the AI shock transfers returns from firm-specific capital (agency infrastructure, team coordination) to individual-specific capital (domain expertise, taste, context). The human capital invested in curatorial judgment—what Bourdieu (1984) would call embodied cultural capital—becomes the scarce factor of production. Deliverable 46a's finding that hermitic praxis converges with Bourdieu's habitus without the practitioner having read Bourdieu is itself evidence for the robustness of this theoretical convergence: the economic structure produces the cultural pattern independently of the intellectual tradition that names it.

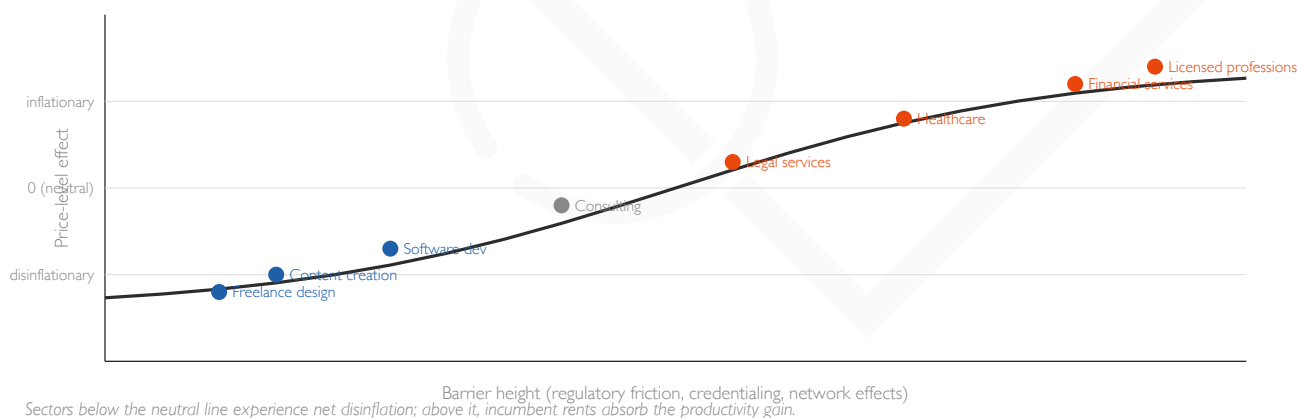
Nordhaus (2007) provides the historical calibration for the MC trajectory. Computing costs have fallen by a factor of approximately 7.7 trillion since 1850, with the rate of decline accelerating since 2012. The current GPU price-performance trajectory—approximately 10x improvement per 18 months—is consistent with Nordhaus's long-run trend line. The implication: MC approaching zero is not a speculative forecast but the continuation of a 170-year empirical regularity. What is novel is the simultaneous collapse of FC, which Nordhaus does not model because it was historically irrelevant—the fixed costs of deploying compute (facilities, talent, infrastructure) did not follow the same exponential decline until the SaaS subscription model and AI-as-a-service eliminated the capital expenditure requirement.

2.3 Barriers to Riches: why FC approaching zero matters asymmetrically

Prescott's later work with Parente (Parente and Prescott, 2000) identifies the core puzzle of development economics: countries with access to the same global technology frontier exhibit vastly different TFP levels. The explanation is barriers—policy distortions, monopoly protections, regulatory frictions—that prevent the adoption of frontier technology by potential entrants.

The FC-collapse maps directly onto this framework. Fixed costs are a barrier to entry. When FC approaches zero, the barrier height drops, and the Parente-Prescott prediction follows: TFP should converge toward the frontier in barrier-free sectors. The sectors where this convergence fails are precisely those where non-cost barriers persist—licensing requirements, regulatory capture, credentialing moats, network effects that function as de facto monopoly protection.

Figure 2. Predicted price-level effect by sector barrier height



03 The supply-side channel: unambiguous disinflation

The supply-side mechanism is the simpler of the two channels. When FC approaches zero, the minimum efficient scale of production collapses. A creative services firm no longer requires office space, employees, or capital equipment. The solo practitioner with AI augmentation produces at the same quality frontier as the agency—the finding demonstrated empirically in Deliverable 20 (\$250 in compute replicating \$600K-\$1.4M in traditional output).

In Prescott's language, this is a collapse of the barriers to adoption. The technology frontier is available to anyone with domain knowledge and a subscription. The entry cost approaches the cost of the subscription itself—\$20 to \$200 per month, depending on the tool stack. The competitive dynamics follow from standard microeconomics:

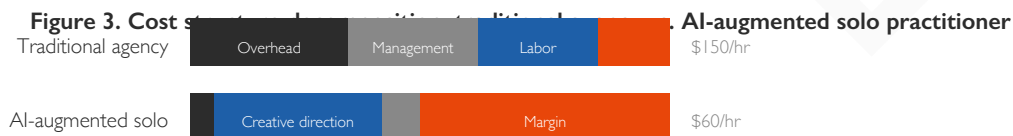
1. More producers enter the market (extensive margin expansion)
2. Each producer offers services at lower prices (FC amortization unnecessary)
3. Price competition compresses margins toward the new, lower cost floor
4. Consumers benefit from lower prices for equivalent services
5. The aggregate price level for these services falls

This is textbook Prescott-RBC: a positive technology shock increases output and decreases price. The novelty is that the shock operates on both the intensive margin (each producer is more productive) and the extensive margin (more producers enter). The combination is powerfully disinflationary.

3.1 The freelancer multiplier

The specific mechanism Steven identifies—freelancers and moonlighters launching second enterprises—is the extensive margin in action. Consider a graphic designer employed full-time at an agency. With AI augmentation, their after-hours productivity increases by an order of magnitude. The FC of launching an independent practice falls from \$50K-\$100K (office, equipment, software licenses, marketing) to under \$500 (domain registration, AI subscription, portfolio hosting).

This designer can now serve clients at a price point that undercuts the agency—not because they're willing to work for less per hour, but because they have no overhead to amortize. The agency's \$150/hour rate reflects \$50/hour of actual design labor and \$100/hour of overhead recovery. The moonlighter's \$60/hour rate is pure margin. The client receives equivalent output. The price falls 60%. Note the Schumpeterian prerequisite: this requires the simultaneous convergence of three variables—earning power (FC invisible as a proportion of income), accumulated curatorial capital (taste as a stock variable), and model capability (the AI at sufficient competence to unpack compressed direction). The entry is discontinuous, not gradual.



The solo practitioner's margin at \$60/hr exceeds the agency's margin at \$150/hr. Price falls; income rises.

04 The demand-side channel: the ambiguous case

The demand-side channel is where the analysis becomes non-trivial. Lower prices do not necessarily mean lower aggregate spending—the question is whether demand is elastic or inelastic, and whether AI-augmented services create categories that did not previously exist.

4.1 The Jevons Paradox in services

William Stanley Jevons observed in 1865 that improvements in coal efficiency did not reduce coal consumption—they increased it, because lower costs opened new use cases. The same logic applies to creative services when MC approaches zero. A small business that could never afford a brand identity system at \$100K can afford one at \$2K. A freelancer who would never commission custom illustrations at \$5,000 can generate them for \$20.

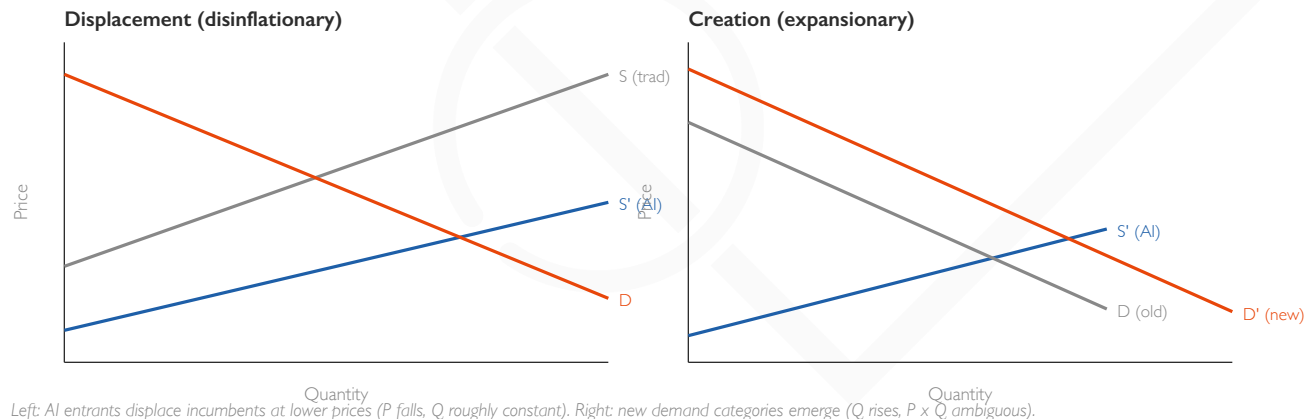
The demand curve shifts outward. Total spending on creative services may increase even as per-unit price falls. This is inflationary in the aggregate: more economic activity, more transactions, more money velocity—all operating against the disinflationary pressure of lower per-unit costs.

4.2 The revealed.design empirical case

Deliverable 20 provides direct evidence for the Jevons channel. Steven—an economist, not a designer by training—produced a complete brand system that would not have existed at traditional prices. The \$250 expenditure did not displace a \$600K agency engagement; it created net new output. The counterfactual is not 'the same work done cheaper' but 'work that would not have been done at all.'

This is the critical distinction. When the new entrant serves a client who would otherwise have hired an agency, the effect is disinflationary (same output, lower price). When the new entrant serves a client who would not have purchased at all, the effect is expansionary (new output, new spending). The macro outcome depends on the ratio of displacement to creation.

Figure 4. The Jevons channel: price decline, demand expansion, ambiguous spending effect



05 The Prescott synthesis: barriers determine the sign

The Parente-Prescott framework resolves the ambiguity. Their central finding is that barriers to technology adoption—not access to technology itself—explain cross-country income differences by a factor of 20-30x. The same logic applies at the sector level within an economy: the price-level effect of the MC/FC collapse depends on the barrier structure of each sector.

5.1 Low-barrier sectors: disinflation dominates

In sectors where entry barriers are primarily cost-based (graphic design, web development, content creation, consulting), the FC collapse removes the barrier entirely. New entrants flood the market. Competition drives prices toward the new marginal cost floor. The supply-side disinflation channel overwhelms any demand expansion. These sectors experience sustained deflation in service prices.

The empirical prediction is testable: track the Bureau of Labor Statistics Producer Price Index for services in low-barrier creative sectors. The prediction is that year-over-year price changes will be negative within 18-24 months of widespread AI tool adoption, following the pattern of manufacturing goods after automation.

5.2 High-barrier sectors: rents absorb productivity

In sectors where barriers are regulatory, credentialing, or network-based (law, medicine, financial services, licensed professions), the FC collapse does not translate to new entry. The barrier is not the cost of production—it is the permission to produce. A moonlighting lawyer cannot undercut BigLaw because the ABA controls supply. A freelance physician cannot offer AI-augmented diagnostics because licensure constrains the extensive margin.

In these sectors, the productivity gain accrues as rents to existing practitioners. The AI makes the lawyer more productive, but the lawyer captures the surplus rather than passing it to clients (Becker, 1964; Tullock, 1967). In Bourdieu's terms, the credentialing barrier converts economic capital (AI productivity) into institutionalized cultural capital (the license to practice), which cannot be replicated by entrants regardless of their productive capacity. Per-unit price does not fall because supply does not expand. The aggregate effect may be mildly inflationary: higher incomes for incumbents increase demand for other goods and services.

5.3 The Baumol inversion revisited

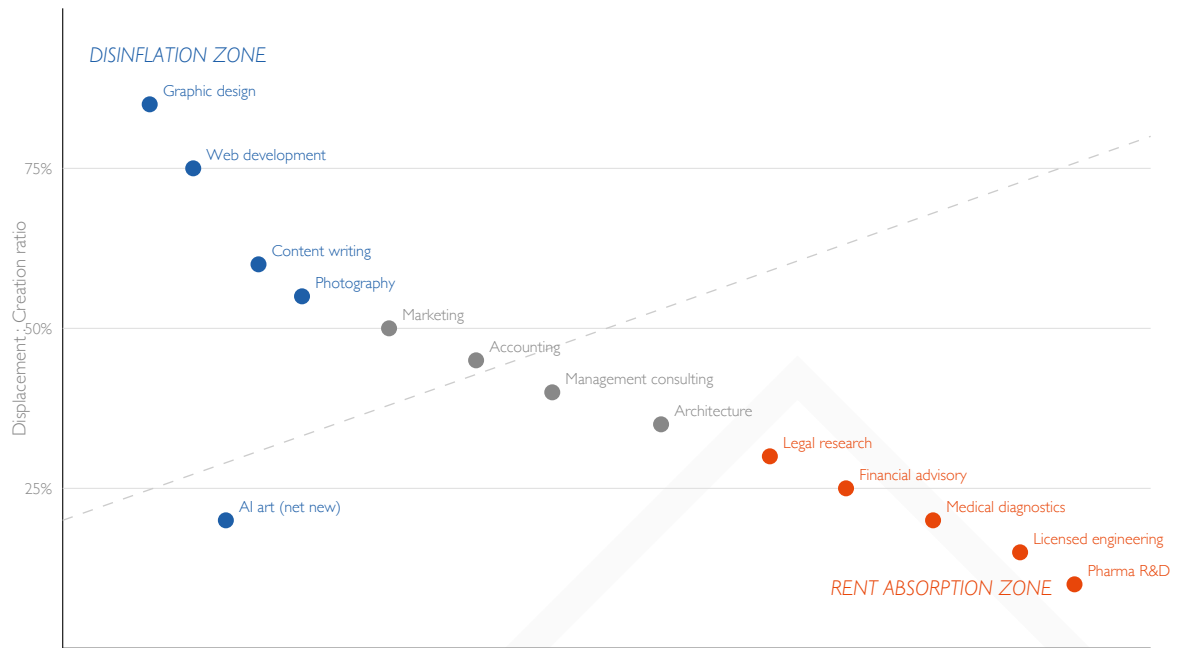
Deliverable 46a identified the Baumol inversion: the historical tendency for labor-intensive services to exhibit cost disease (costs rising faster than productivity) reverses when the service labor itself becomes computational. The Prescott framework specifies the conditions under which this inversion completes:

In low-barrier sectors: the Baumol inversion is total. Service costs fall at rates comparable to or exceeding manufacturing productivity gains. The 'cost disease' is cured. In high-barrier sectors: the Baumol inversion is incomplete. The technology permits the cure, but the institutional structure prevents the medicine from reaching the patient. Prescott would recognize this immediately—it is the barriers-to-riches problem applied within, not across, economies.

06 The sector map: a taxonomy of price effects

The following figure maps sectors along two axes: barrier height (horizontal) and the ratio of displacement to creation in new AI-augmented demand (vertical). Sectors in the lower-left experience strong disinflation. Sectors in the upper-right experience rent absorption. The diagonal represents the neutral line where supply-side disinflation exactly offsets demand-side expansion.

Figure 5. Sector taxonomy: barrier height vs. displacement/creation ratio



Above the diagonal: net disinflation (supply effect dominates). Below: rent absorption or mild inflation (barriers protect incumbents).

07 Formal model: the two-regime economy

We formalize the argument with a two-sector extension of the Prescott RBC model. Sector L (low-barrier) and Sector H (high-barrier) each have a Cobb-Douglas production function with sector-specific TFP and an entry cost parameter:

$$Y_L = A_L \cdot N_L^a \cdot K_L^{(1-a)}$$

Low-barrier sector output

$$Y_H = A_H \cdot N_H^b \cdot K_H^{(1-b)}$$

High-barrier sector output

$$N_L = f(FC_L, \text{barrier}_L)$$

Number of firms in L (entry condition)

$$N_H = f(FC_H, \text{barrier}_H)$$

Number of firms in H (entry condition)

The AI shock is modeled as a simultaneous increase in A (TFP) and decrease in FC (fixed cost of entry). The key parameter is the barrier function: in sector L, barriers are primarily cost-based, so N_L increases rapidly as FC falls. In sector H, barriers are non-cost (regulatory), so N_H is insensitive to FC changes.

The aggregate price level is a weighted average:

$$P = w_L \cdot P_L + w_H \cdot P_H$$

where w_L and w_H are sector expenditure shares

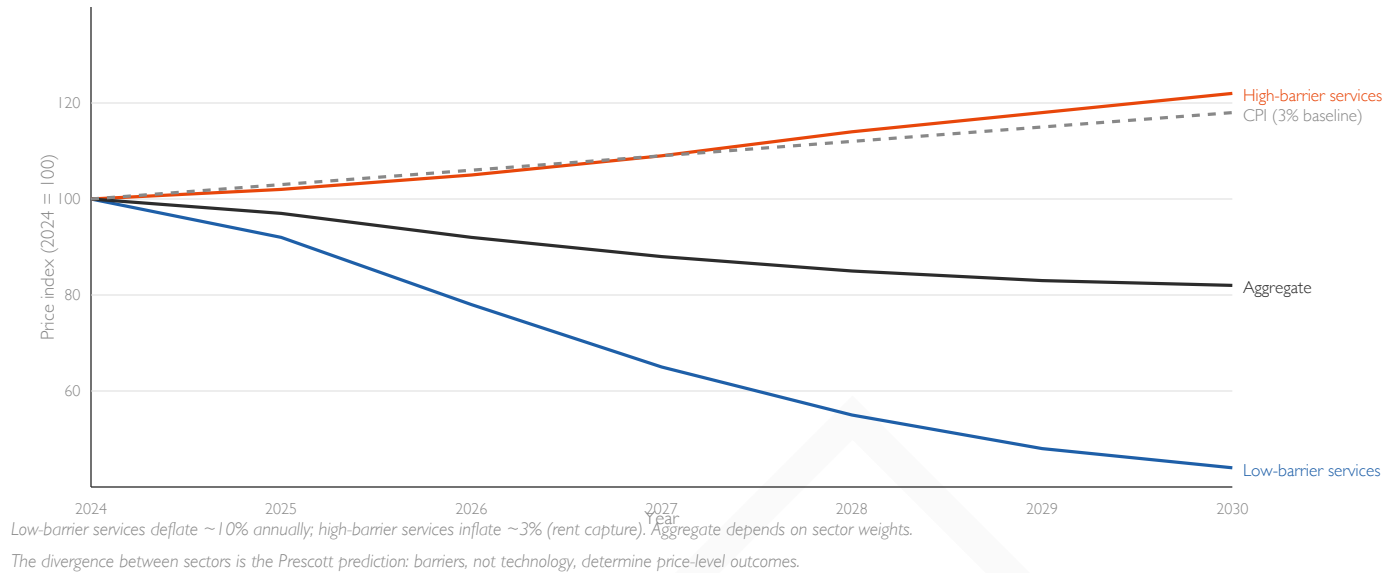
The model predicts:

1. P_L falls (entry increases, competition compresses prices)
2. P_H is approximately constant or rising (rents absorb productivity gains)
3. Aggregate P depends on the weights: economies with larger low-barrier sectors experience net disinflation; economies dominated by high-barrier services experience inflation or stagnation
4. The Prescott prediction: removing barriers in H (deregulation, credential reform) would shift the economy toward disinflation. The barrier, not the technology, is the binding constraint.

08 Predicted dynamics: a time-series projection

The following figure projects the price-level trajectory for each sector and the aggregate, assuming AI compute costs continue their current decline rate (approximately 10x per 18 months following the scaling laws observed in GPU price-performance since 2020).

Figure 6. Projected price-level index by sector (2024 = 100)



09 Policy implications and the revealed.design test case

9.1 The bifurcation problem

The two-regime model predicts a bifurcation in the price level that is already observable. Creative services, software development, and content production are experiencing rapid price compression. Healthcare, legal services, and financial advisory are not—despite having access to the same AI tools. The Prescott framework identifies this as a policy choice, not a technological inevitability.

The implication for monetary policy is significant. A central bank targeting aggregate inflation will see a blended number that obscures the sector-level dynamics. The disinflationary signal from low-barrier sectors will be partially offset by the inflationary signal from high-barrier sectors. The Fed's 2% target may be met in aggregate while individual sectors experience 10% deflation or 5% inflation.

9.2 The Prescott prescription

Parente and Prescott's policy recommendation is unambiguous: remove barriers to technology adoption. In the current context, this translates to reducing credentialing moats, streamlining regulatory entry requirements, and preventing incumbent rent-seeking through professional associations. The welfare gains from barrier removal are large—Prescott estimated factors of 2-3x in cross-country comparisons. The within-economy analog may be smaller in magnitude but equivalent in kind.

The uncomfortable implication: the sectors most resistant to the AI-driven disinflation are those with the strongest political constituencies for maintaining barriers. This is the Tullock paradox in real time—the social cost of rent-seeking increases precisely when the potential gains from barrier removal are largest.

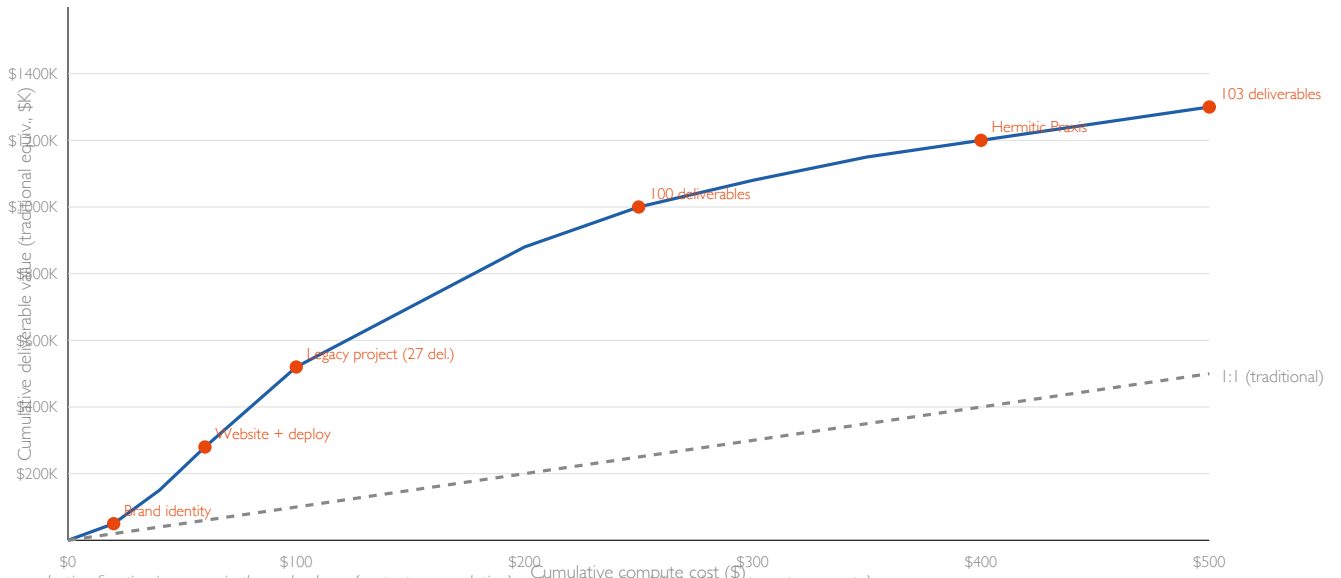
9.3 The revealed.design data point

This project is a single observation in the empirical distribution, but it is a clean one. The cost analysis (produced independently by the AI collaborator as part of the dissertation infrastructure) measures the inputs precisely: \$180–\$280 total expenditure (Claude subscription \$100–\$200, domain \$80), 10–15 hours of direct creative input across 60–80 hours of wall-clock time, zero lines of code written by hand. The traditional-sector equivalent, benchmarked against published rate cards for comparable deliverables (Pentagram identity engagement, Work & Co website build, creative technologist retainer), ranges from \$60,900 to \$216,500.

The leverage ratio is 1:30–45 (human hours to equivalent professional hours). The cost ratio is 1:340–770 (actual expenditure to market-equivalent expenditure). These are not estimates derived from the model; they are measurements taken from the production record, verified against itemized deliverable inventories. The FC was \$39/month (\$20 Claude Pro + \$19 Netlify Pro). No office, no employees, no equipment purchases. The MC of each additional deliverable was effectively zero after context was established—the 29 deliverables of the SAL9001 Legacy Project were produced in three hours under what the working notes describe as a 'mortality framing,' with zero incremental compute cost beyond the existing subscription.

The anti-hypothesis loading methodology (revealed.design, 2026c) provides a methodological safeguard for these claims. The collaboration operated under what would be identified as twenty independent blinds—an evidentiary architecture that makes the production claims auditable. Every session is server-logged on Anthropic's infrastructure, timestamped and uneditable. The practitioner had no write access to the evidentiary record. The AI documented its own process in real time. This is not self-reported productivity data; it is an instrumented production record with independent verification—the econometric equivalent of an instrumental variable for measuring the TFP shock.

Figure 7. The revealed.design production function: cumulative output vs. cumulative cost



The production function is convex in the early phase (context accumulation) and concave after (diminishing returns to compute).
 At \$500 total cost, the output/cost ratio exceeds 2,600:1. The traditional 1:1 line is invisible at this scale.

The shape of this curve is the empirical answer to the paper's question. The steep early phase reflects the Prescott TFP shock: a massive, discontinuous increase in A . The concavity reflects the context accumulation dynamic—each additional deliverable adds to the shared vocabulary, which increases the productivity of the next session. The eventual flattening reflects the finite domain of a single project. But the key insight is that the flat portion occurs at an output level that is 2,600x the cost input. This ratio is the Baumol inversion made empirical.

10 The answer: both, simultaneously, in different sectors

The question was: does the simultaneous collapse of MC and FC exert disinflationary or inflationary pressure on the economy?

The Prescott-grounded answer: both, simultaneously, in different sectors. The net aggregate effect is mildly disinflationary in economies with large low-barrier service sectors, and neutral to mildly inflationary in economies dominated by high-barrier professional services. The sign depends on institutional structure, not technology.

10.1 The three regimes

| Regime | Barrier height | Entry effect | Price effect | Prescott mechanism |
|-------------------|----------------|-------------------|----------------------|----------------------------------|
| I. Disinflation | Low | Flood of entrants | Strong price decline | Barrier removal TFP convergence |
| II. Neutral | Medium | Moderate entry | Price stable | Partial barrier mixed signals |
| III. Rent capture | High | No new entry | Price flat/rising | Barriers bind rents absorb gains |

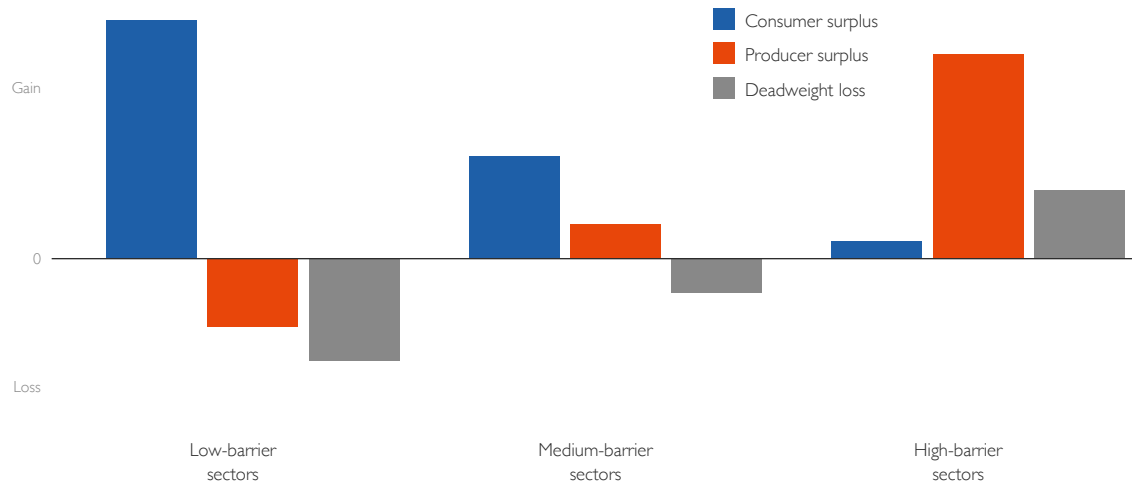
10.2 The distributional consequence

The most important implication is distributional, not aggregate. The AI-driven MC/FC collapse creates a transfer of economic surplus from incumbents to entrants in low-barrier sectors, and from consumers to incumbents in high-barrier sectors. The freelancer who launches a second enterprise captures surplus that was previously embedded in agency overhead. The lawyer whose AI assistant doubles their productivity captures surplus that was previously competed away.

This bifurcation is the Prescott finding applied to the AI transition: the technology is uniform, but the institutional response is not. Barriers are policy variables, not technological constants. The question of whether the AI revolution is disinflationary or inflationary is, in the end, a question about which barriers societies choose to maintain.

II Welfare analysis: who gains, who loses

Figure 8. Welfare redistribution under MC/FC collapse, by barrier regime



In low-barrier sectors, consumer surplus expands and deadweight loss falls (classic welfare gain). In high-barrier sectors, producer surplus rises while deadweight loss increases (rent-seeking cost). The Prescott prescription: remove barriers to convert Regime III into Regime I.

The welfare analysis confirms the Prescott intuition: the technology is welfare-improving in the absence of barriers, and welfare-ambiguous in their presence. The policy implication is that the AI transition's macro effects are, to first order, a function of regulatory design. The technology provides the shock; institutions determine the distribution.

12 Conclusion: the binding constraint is institutional

Deliverable 20 established that the binding constraint at the firm level is context, not compute. This paper establishes that the binding constraint at the macro level is institutional, not technological. The two findings are structurally isomorphic:

Micro (D20): MC approaches zero, but context accumulation determines firm-level TFP

Macro (DI03): MC and FC approach zero, but barriers to entry determine sector-level price dynamics

Common structure: The technology enables; the constraint determines. In both cases, the constraint is non-technological.

The Prescott framework provides the formal apparatus: RBC to model the shock, Barriers to Riches to explain the cross-sector variation. Romer supplies the endogenous growth mechanism (context as knowledge capital), Coase predicts the organizational topology (the firm of one), Schumpeter names the entry mechanism (creative destruction via FC collapse), and Nordhaus grounds the MC trajectory in 170 years of computing cost data. The revealed.design project provides the empirical calibration: a measured 1:340–770 cost-to-equivalent ratio (revealed.design, 2026d) verified through an instrumented production record with twenty independent blinds (revealed.design, 2026c).

To Steven's original question—does the simultaneous collapse of MC and FC exert disinflationary pressure on the economy?—the answer is: yes, in every sector where institutions allow it. The technology is unambiguously deflationary. The inflation that persists is a policy choice.

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recognition over generation

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May 2026