Discussion of
Inflation and the distribution of real income

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The paper: inflation bites low-education workers through hours, not wages

Two channels, 1967–2024:

- **Income composition:** inflation raises the asset-income share, lowers the wage share $\Rightarrow$ top 5% gain, middle/bottom lose (gap + $\sim$2% for a 6% burst).
- **Labor income (the focus here):** a 6% inflation burst $\Rightarrow$ real hourly wage -3% for *all* education groups, but annual *hours* fall $\sim$8% for HS dropouts vs $\sim$0 for college $\Rightarrow$ labor income -11% vs -3%.

Mechanism (model): sticky wages + higher low-skill labor-supply elasticity + labor supply mattering for equilibrium employment.

The adjustment margin is hours (quantities), not wages (prices). I focus my discussion on this micro labor-income result.

My read in one slide: a robust gradient, a harder-to-identify level, a constructive model reading

1. **The distributional result — the education gradient — is solid.** The *interaction* terms (how much *more* inflation cuts low-education workers' *hours* than the college-educated) survive detailed occupation, region, worker fixed effects, demographics, wage level and the minimum wage.

2. **The level effect — the inflation main effect on the baseline group — is harder to identify.** It stays negative and (mostly) significant, but the identifying variation is a handful of oil years, so "inflation lowers income" can't be cleanly separated from the supply shock / recession that travel with it.

3. **The model invites an energy/markup reading.** Taking the oil link seriously, a cost-push micro-foundation of the shock identifies it and reproduces all the facts — and turns the aggregate employment response into a test for markup widening.

Based on re-running the authors' PSID/CPS provided data.

Replication 1/2 — PSID (paper Table 3)

	g(lab. inc.)	g(wages)	g(hours)
Inflation shock	-1.45^{***} (0.27)	-0.53^{*} (0.27)	-0.92^{***} (0.22)
×HS+SC	0.74^{***} (0.27)	-0.03 (0.25)	0.77^{***} (0.17)
×C+	1.18^{***} (0.26)	0.29 (0.21)	0.89^{***} (0.29)
Agg. emp. growth	1.43^{***} (0.27)	0.46^{*} (0.24)	0.97^{***} (0.18)
×HS+SC	-0.59^{**} (0.27)	-0.12 (0.18)	-0.46^{**} (0.20)
×C+	-0.94^{***} (0.30)	-0.31 (0.24)	-0.63^{***} (0.20)
HS+SC	1.60^{**} (0.64)	0.09 (0.46)	1.51^{***} (0.51)
C+	3.31^{***} (0.73)	1.33^{**} (0.52)	1.99^{***} (0.56)
Age	0.43^{***} (0.09)	-0.37^{***} (0.09)	0.81^{***} (0.08)
Age^2	-0.01^{***}	0.00^{***}	-0.01^{***}
Gender (1=M,2=F)	2.28^{***} (0.34)	1.14^{***} (0.25)	1.14^{***} (0.21)
N	171,994	171,994	171,994

SEs clustered on year, in parentheses; */**/***: $p < 0.10/0.05/0.01$. Education/age/gender rows in % (×100); shock and emp-growth rows are coefficients.

Replication 2/2 — CPS (paper Table 4)

	g(lab. inc.)	g(wages)	g(hours)
Inflation shock	-1.15^{***} (0.35)	-0.70^{**} (0.32)	-0.45^{**} (0.20)
×HS+SC	0.44 (0.30)	−0.07 (0.30)	0.51^{***} (0.16)
×C+	0.60 (0.37)	0.11 (0.39)	0.49^{**} (0.19)
Agg. emp. growth	1.30^{***} (0.23)	0.33^{*} (0.19)	0.97^{***} (0.12)
×HS+SC	-0.47^{**} (0.19)	−0.16 (0.18)	-0.32^{***} (0.11)
×C+	-0.83^{***} (0.28)	−0.15 (0.27)	-0.67^{***} (0.13)
HS+SC	1.66^{***} (0.48)	0.53 (0.40)	1.14^{***} (0.30)
C+	3.97^{***} (0.69)	1.94^{***} (0.62)	2.03^{***} (0.33)
Age	0.04 (0.09)	-0.43^{***} (0.07)	0.47^{***} (0.04)
Age^2	-0.00^{***}	0.00^{***}	-0.01^{***}
Gender (1=M,2=F)	1.14^{***} (0.24)	0.32^{**} (0.16)	0.82^{***} (0.14)
N	769,115	769,115	769,115

SEs clustered on year, in parentheses; */**/***: $p < 0.10/0.05/0.01$. Education/age/gender rows in % (×100); shock and emp-growth rows are coefficients.

The interactions survive worker fixed effects

A natural worry is that the gradient just reflects *permanent* worker heterogeneity (low-education might be correlated with who volatile hours). **Worker FE** removes that heterogeneity: the main effects and the college income gradient survive.

	Labor income			Hours		
PSID (cluster year)	Sur π	$\times$HS+SC	$\times$C+	Sur π	$\times$HS+SC	$\times$C+
Pooled OLS (baseline)	-1.45^{***}	0.74^{***}	1.18^{***}	-0.92^{***}	0.77^{***}	0.89^{***}
+ worker FE	-1.24^{***}	0.37	0.82^{**}	-0.69^{**}	0.50^{*}	0.46

Notes about worker FE: (i) *infeasible in CPS* (2-year panel $\Rightarrow$ one obs/person); (ii) it absorbs the education *main effects* they report; (iii) for a *macro* shock person FE buys little (the surprise is orthogonal to fixed traits). The point: the gradient survives FE $\Rightarrow$ demographics suffice. (N=167,950; two-way SE.)

The interaction is within-occupation — not sectoral composition (CPS)

If low-education workers were simply concentrated in cyclical, less-indexed sectors, ∼380 occupation dummies + region would absorb the gradient. **They barely move it.**

	Labor income			Hours		
CPS (cluster year)	Sur π	×HS+SC	×C+	Sur π	×HS+SC	×C+
Baseline (sex, age, age^2)	-1.15^{***}	0.44	0.60	-0.45^{**}	0.51^{***}	0.49^{**}
+ occupation (∼380)	-1.19^{***}	0.48	0.66	-0.39^{*}	0.48^{***}	0.45^{**}
+ occupation + region	-1.17^{***}	0.46	0.64	-0.39^{*}	0.47^{***}	0.44^{**}

- **The interactions barely budge** (hours 0.51 → 0.47, income 0.60 → 0.64) ⇒ the gradient is within-occupation, not sectoral composition.
- The significant **hours** gradient is the robust one; the income gradient keeps its sign and size but is imprecise under year-clustering.

Dynamics: the loss is persistent — and the static table understates it

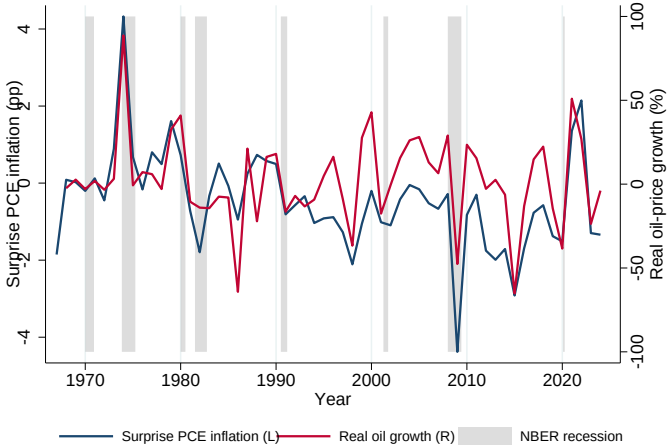
Cumulative effect of a 1% surprise by horizon (2 lags of the shock; cluster year):

Cumulative effect	Impact (h_0)	+1 lag	+2 lags
Labor income			
PSID — HS dropout	-1.44^{***}	-1.92^{***}	-1.56^{***}
PSID — College+	-0.20	-0.56^{**}	-0.57^{**}
CPS — HS dropout	-0.66^{*}	-1.56^{***}	-1.86^{***}
CPS — College+	-0.53^{**}	-0.61^{**}	-0.78^{**}
Wages			
PSID — HS dropout	-0.45	-0.74^{**}	-0.35
PSID — College+	-0.01	-0.19	-0.04
CPS — HS dropout	-0.47	-0.98^{**}	-0.95^{**}
CPS — College+	-0.64^{**}	-0.50	-0.77^{**}
Hours			
PSID — HS dropout	-0.98^{***}	-1.19^{***}	-1.20^{***}
PSID — College+	-0.19	-0.37^{*}	-0.53^{***}
CPS — HS dropout	-0.20	-0.58^{***}	-0.91^{***}
CPS — College+	$+0.11$	-0.11	-0.01

- **The effect builds over ∼2 years and is persistent** (no rebound) — in CPS mostly *delayed* (dropout hours −0.20 on impact → −0.91 cumulative): the static spec understates it; sticky-wage pass-through.
- **Gradient survives**: dropouts ∼2–3× the college loss; CPS college hours ≈ 0 at every horizon.
- **Wages fall ∼uniformly** across education (CPS college $-0.77^{**} \approx$ dropout -0.95^{**}) ⇒ the income gradient is a *hours* gradient, not a wage gradient.

Report cumulative (impact + lags) effects: larger, persistent, and they corroborate the mechanism.

Identification leans on a handful of oil-driven years



Annual 1967-2024. Real oil = nominal oil growth - PCE inflation. Correlation = 0.70.

Surprise PCE inflation tracks **real oil-price growth** (corr ≈ 0.7). The big surprises — **1974, 1979–80, 2008, 2021** — are oil/supply episodes, clustered around **NBER recessions**.

The identifying variation is a few oil-driven years: inflation is hard to separate from the supply shock and recession that travel with it.

The gradient survives oil/cycle controls where it is powered (CPS)

Building from the benchmark (cluster year); surprise×oil correlation 0.60. Oil as a *main* effect ≈ 0 (the cycle is already in g-emp), so the action is in the interactions:

	PSID			CPS (better powered)		
	Sur π	×HS+SC	×C+	Sur π	×HS+SC	×C+
Labor income						
Benchmark	-1.45^{***}	0.74^{***}	1.18^{***}	-1.15^{***}	0.44	0.60
+ oil × edu	-1.35^{***}	0.53	0.99^{**}	-1.45^{***}	0.88^{**}	1.39^{***}
+ all macro × edu	-1.39^{**}	0.43	0.99^{*}	-1.42^{***}	0.89^{**}	1.35^{***}
Hours						
Benchmark	-0.92^{***}	0.77^{***}	0.89^{***}	-0.45^{**}	0.51^{***}	0.49^{**}
+ oil × edu	-0.70^{***}	0.54^{**}	0.55^{*}	-0.59^{***}	0.58^{***}	0.60^{**}
+ all macro × edu	-0.20	0.35	0.26	-0.33^{*}	0.46^{**}	0.40

- **The level effect is partly confounded**: the surprise *main* effect shrinks once macro *main* effects enter (CPS hours $-0.45 \rightarrow -0.27$; PSID hours $-0.92 \rightarrow -0.61$) — partly oil recessions.
- **The gradient is robust where powered**: in CPS it survives / strengthens; in PSID the 8 macro×edu terms + oil collinearity (0.60) balloon the SEs $\Rightarrow$ imprecision, not a sign flip.

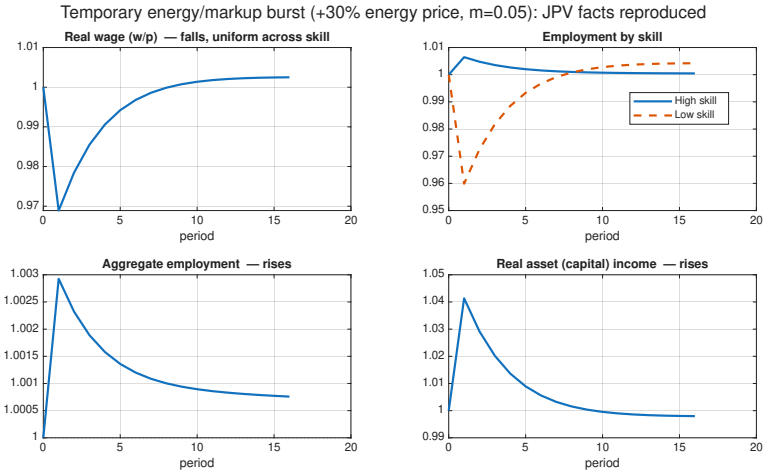
A constructive alternative: read the shock as energy / markup

Identification leans on oil years (above), and surprise inflation co-moves with oil. So **give the shock a cost-push micro-foundation**, keeping your labour block *unchanged*:

1. **Energy, complementary to labour** (MPL really falls): $Y = A[(1-s)L^{\rho} + sE^{\rho}]^{\alpha/\rho}$, $\sigma_E = \frac{1}{1-\rho} < 1$.
2. **Cost-push pricing** (inflation generated, not assumed): $p = \mu\,\mathrm{MC}(w, p_E)/A$, $\mu = \bar{\mu}\,(p_E/\bar{p}_E)^m$ ($m = 0$: pure cost-push; $m > 0$: markup widens).
3. **Rents stay domestic** (closed economy): $\Pi = pY - wL$, split by top-heavy $\lambda_i \Rightarrow$ asset income rises (Blocks A/B).

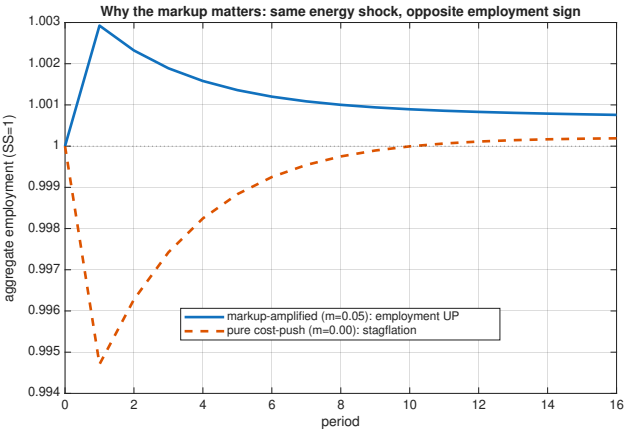
	JPV	This reading
Shock	exogenous price p_t	energy price (oil-instrumented)
Inflation	assumed	endogenous, cost-push
Asset income	firm profit	+ energy rents (domestic)
Households, wage eq., rationing, η	**identical to yours**	

. . . and it keeps all your facts (calibration: $s_E = 0.07$, $\sigma_E = 0.5$, your Table 5)



A temporary energy burst ⇒ real wage ↓ uniform (Fig. 6); low-skill emp. ↓, high-skill ↑ (Fig. 6); aggregate emp. ↑ (Fig. 8); asset income ↑ (Blocks A/B). Composition still rides on your differential labour-supply elasticity.

The markup is load-bearing — which makes Fig. 8 a test



A *pure* energy shock lowers MPL $\Rightarrow$ on its own mild stagflation ($m = 0$, emp. $\downarrow$). Employment rises only if price rises by **more than energy costs** — markup amplification:

$$\beta\left[\sigma_E s_E + \tfrac{m}{1-\alpha}\right] > (1-\beta)\tfrac{s_E+m}{\bar{\varphi}},$$

threshold $m^\star \approx 0.035$ at your parameters.

Markup ("sellers' inflation") estimates for 2021–22 sit above $m^\star$. So your **positive employment–inflation comovement is evidence of markup widening** — a **testable** restriction against profit-share data.

Constructive suggestions

1. **The level is less robust.** The education/hours gradient is the robust object; the average level effect is entangled with the oil cycle.
2. **Report worker-FE specifications.** Address permanent-heterogeneity concerns — and they strengthen the paper.
3. **Report cumulative (impact + lags) effects and the wage/hours split.** The loss builds over $\sim$2 years and persists; wages fall $\sim$uniformly, so the gradient is a *hours* gradient.
4. **Add decade FE / a time trend.** Absorbs the slow trend in expected inflation; the surprise result survives (even strengthens).
5. **Consider an energy/markup micro-foundation of the shock** (above): it identifies the shock via oil, keeps all your facts, and turns the aggregate employment response into a test for markup widening.

Bottom line

- A timely, data-rich paper with a clear and credible *distributional* message: inflation hits low-education workers' hours hardest, and this is robust.
- The *level* magnitude and the surprise-identification are the soft spots — both trace to the same root: identification rests on a few oil-driven inflation years.
- Most constructively: taking the oil link seriously, an **energy/markup reading of the shock** reproduces all the facts, keeps the surplus domestic (so the inequality channel survives), and turns the aggregate employment response into a test for markup widening.

Thank you.