Why Do Workers Dislike Inflation? Wage Erosion and Conflict Costs

Supplemental Appendix (For Online Publication)

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This document contains additional material for the article "Why Do Workers Dislike Inflation? Wage Erosion and Conflict Costs." Any references to equations or sections that are not preceded by a capitalized letter refer to the main article.

A Proofs

In the theoretical appendices, to improve exposition, we define $\underline{x}_t = -\mathbb{T}_t$. When conflict is costly ($\kappa_{i,t} = \kappa$), the worker's optimal conflict choice is to engage in conflict ($\mathscr{I}_{i,t} = 1$) if $x^d_{i,t} \leq \underline{x}_t$, and not to engage ($\mathscr{I}_{i,t} = 0$) if $x^d_{i,t} > \underline{x}_t$. We use $\underline{x}^{ss} = -\mathbb{T}$ to denote the steady-state value of $\underline{x}_t$.

Proof of Proposition 1

At $t = 0$, wage gaps implied by the employer's default wage offer $\left\{x^d_{i,0}\right\}_{i\in[0,1]}$ are distributed with cumulative distribution function

$$G^d_0\left(x^d_{i,0};\boldsymbol{\pi}_\infty\right) = G^{d,ss}\left(x^d_{i,0} + \left(1-\gamma\right)\hat{\pi}_0\right), \tag{A.1}$$

where $G^{d,ss}$ is the steady-state stationary cumulative distribution function of the wage gap implied by employer's default wage offer, and where we define $\boldsymbol{\pi}_\infty = \{\pi_t\}^\infty_{t=0}$. As further explained in the proof of Theorem 1, the worker's optimal conflict decision at $t = 0$ can be characterized as follows. When conflict is costly ($\kappa_{i,0} = \kappa$), the worker chooses to engage in conflict if $x^d_{i,0} \leq \underline{x}_0(\boldsymbol{\pi}_{1:\infty})$ and not if $x^d_{i,0} > \underline{x}_0(\boldsymbol{\pi}_{1:\infty})$, where $\underline{x}_0(\boldsymbol{\pi}_{1:\infty})$ is a threshold as a function of $\boldsymbol{\pi}_{1:\infty} = \{\pi_\tau\}^\infty_{\tau=1}$. When conflict is costless ($\kappa_{i,0} = 0$), the worker chooses to engage in conflict if $x^d_{i,0} \leq 0$ and not if $x^d_{i,0} > 0$. Then the fraction of workers that conflict at 0 is

$$\begin{aligned}\text{frac}_0 &= (1-\lambda)\, G^d_0\left(\underline{x}_0(\boldsymbol{\pi}_{1:\infty});\boldsymbol{\pi}_\infty\right) + \lambda G^d_0(0;\boldsymbol{\pi}_\infty)\\ &= (1-\lambda)\, G^{d,ss}\left(\underline{x}_0(\boldsymbol{\pi}_{1:\infty}) + \left(1-\gamma\right)\hat{\pi}_0\right) + \lambda G^{d,ss}\left(\left(1-\gamma\right)\hat{\pi}_0\right),\end{aligned}$$

where the first term in the first line captures workers whose conflict is costly and whose conflict choice can then be characterized by the threshold $\underline{x}_0(\boldsymbol{\pi}_{1:\infty})$, and the second term in the first line captures workers whose conflict is costless and whose conflict choice can then be characterized by the threshold of 0. The second line substitutes in (A.1). Because the cumulative distribution function $G^{d,ss}(\cdot)$ is an increasing function, the fraction of workers engaging in conflict at $t = 0$, frac_0, increases with $\hat{\pi}_0$.

Proof of Theorem 1 and Proposition 2.

Worker's problem. We first define $\chi_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)$, which captures worker i's wage gap at time t for a given path of inflation $\boldsymbol{\pi_t} = \{\pi_\tau\}_{\tau=0}^t$, conflict choices $\mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right) = \left\{\mathscr{I}_{i,\tau}\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right\}_{\tau=0}^t$, and history of idiosyncratic conditions $h_{i,t} \equiv \left(\left\{z_{i,\tau}, \kappa_{i,\tau}\right\}_{\tau=0}^t, x_{i,-1}\right)$.[1] This object is connected to worker i's real wage $\omega_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)$ as defined in the main text by

$$\chi_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right) = \log\omega_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right) - \log w_{i,t}^*,$$

where $w_{i,t}^*$ is invariant to conflict decisions and the path of inflation. One can hence write wage erosion and wage catch up defined in (8) and (9) as

$$\hat{w}_t^{\text{erosion}} \equiv \int_0^1 \chi_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi^{ss}}\right), h_{i,t}\right) di - \int_0^1 \chi_t\left(\boldsymbol{\pi^{ss}}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi^{ss}}\right), h_{i,t}\right) di, \tag{A.2}$$

and

$$\hat{w}_t^{\text{catch-up}} \equiv \int_0^1 \chi_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right) di - \int_0^1 \chi_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi^{ss}}\right), h_{i,t}\right) di, \tag{A.3}$$

where $\boldsymbol{\pi^{ss}} = \left\{\pi^{ss}\right\}_{\tau=0}^\infty$, and $\mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi^{ss}}\right)$ captures what the conflict decisions would have been, given steady-state inflation, as well as the same history of idiosyncratic shocks (i.e., $\mathscr{I}_{\boldsymbol{i,t}}^{\boldsymbol{ss}}$ in the main text). From (4) and (6), the impact of inflation on aggregate worker welfare can be written as

$$\hat{\mathscr{W}} = \int_0^1 \mathbb{E}\left[\sum_{t=0}^\infty \beta^t\left[\chi_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right) - \chi_t\left(\boldsymbol{\pi^{ss}}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi^{ss}}\right), h_{i,t}\right)\right]\right] di - \hat{\varkappa}, \tag{A.4}$$

where $\hat{\varkappa}$ defined in (11) captures the aggregate costs of inflation due to conflict.

One useful property is that, for all $\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)$,

$$\frac{\partial\chi_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)}{\partial\pi_s} = \begin{cases} 0 & \text{if } t < s \\ -\left(1-\gamma\right)\prod_{\tau=s}^t\left(1-\mathscr{I}_{i,\tau}\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right) & \text{if } t \geq s \end{cases}. \tag{A.5}$$

That is, if $t \geq s$, a one-unit increase in inflation at s lowers wage gap at t by $1-\gamma$ if the worker does not

[1] With slight abuse of notation, the history of the idiosyncratic condition here is slightly different (but a function of) $h_{i,t} \equiv \left(\left\{z_{i,\tau}, \kappa_{i,\tau}\right\}_{\tau=0}^t, w_{i,-1}, w_{i,-1}^*\right)$ as defined in the main text. This is motivated by the fact that the worker's problem (A.6) only depends on the initial wage gap $x_{i,-1} = \log w_{i,-1} - \log w_{i,-1}^*$.

engage in conflict during $\{s, \cdots, t\}$.

The worker i's problem as a function of the inflation path $\boldsymbol{\pi}_\infty$ and initial wage gap $x_{i,-1}$ can be written as:

$$\mathscr{U}\left(\boldsymbol{\pi}_\infty, x_{i,-1}\right) = \max_{\{\mathscr{I}_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty)\}_{t=0}^\infty} \mathbb{E}\left[\sum_{t=0}^\infty \beta^t \left[\chi_t\left(\boldsymbol{\pi}_t, \boldsymbol{\mathscr{I}_{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right) - \kappa_{i,t}\mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right]\right] \quad \text{s.t. (5)}, \tag{A.6}$$

where $\mathbb{E}$ averages over the realization of idiosyncratic shocks $\{z_{i,t}, \kappa_{i,t}\}_{t=0}^\infty$. Let $\left\{\mathscr{I}_{i,t}^*\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right\}_{t=0}^\infty$ denote the optimally chosen conflict decision for each individual history as a function of the inflation path π_∞ that solves (A.6) and $\mathscr{I}_{\boldsymbol{i,t}}^*\left(h_{i,t};\boldsymbol{\pi}_\infty\right) = \left\{\mathscr{I}_{i,\tau}^*\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right\}_{\tau=0}^t$ denote the corresponding history of conflict decisions up to t.

Our goal is to apply the envelope theorem (Theorem 2) of Milgrom and Segal (2002), which allows the application of the theorem to settings with infinite discrete choices $\left\{\mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right\}_{t=0}^\infty$. The sufficient condition to apply the Envelope Theorem in Milgrom and Segal (2002) is, for each s,

$$\mathbb{E}\left[\sum_{t=0}^\infty \beta^t \frac{\partial \chi_t\left(\boldsymbol{\pi}_t, \boldsymbol{\mathscr{I}_{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)}{\partial \pi_s}\right]$$

exists and is uniformly upper bounded by a Lebesgue integrable function. This is indeed true given (A.5), which means that

$$\left|\mathbb{E}\left[\sum_{t=0}^\infty \beta^t \frac{\partial \chi_t\left(\boldsymbol{\pi}_t, \boldsymbol{\mathscr{I}_{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)}{\partial \pi_s}\right]\right| \leq \frac{1-\gamma}{1-\beta},$$

because each conflict decision $\mathscr{I}_{i,\tau}$ takes the value of either zero or one. Applying the Envelope Theorem and using (A.5), we have, for all $s \geq 0$,

$$\begin{aligned}\frac{\partial \mathscr{U}\left(\boldsymbol{\pi}_\infty, x_{i,-1}\right)}{\partial \pi_s} &= \sum_{t=s}^\infty \beta^t \mathbb{E}\left[\frac{\partial \chi_t\left(\boldsymbol{\pi}_t, \mathscr{I}_{\boldsymbol{i,t}}^*\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)}{\partial \pi_s}\right] \quad \text{a.e.} \\ &= -\left(1-\gamma\right)\sum_{t=s}^\infty \beta^t \mathbb{E}\left[\prod_{\tau=s}^t \left(1-\mathscr{I}_{i,\tau}^*\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right)\right] \quad \text{a.e.,}\end{aligned} \tag{A.7}$$

where a.e. means almost everywhere in π_s.

We now further characterize the worker's optimal conflict decision. First, consider the $t=0$ conflict decision. After the realization of idiosyncratic shock $\left(z_{i,0}, \kappa_{i,0}\right)$, the worker's optimal conflict decision at $t=0$ solves

$$\mathscr{V}\left(x_{i,0}^d, \kappa_{i,0}, \boldsymbol{\pi}_{1:\infty}\right) \equiv \max_{\mathscr{I}_{i,0}} \left(1-\mathscr{I}_{i,0}\right)\left(x_{i,0}^d + \beta\mathscr{U}\left(\boldsymbol{\pi}_{1:\infty}, x_{i,0}^d\right)\right) + \mathscr{I}_{i,0}\left(0 + \beta\mathscr{U}\left(\boldsymbol{\pi}_{1:\infty}, 0\right) - \kappa_{i,0}\right), \tag{A.8}$$

where $\boldsymbol{\pi}_{\mathbf{1:\infty}} = \{\pi_\tau\}_{\tau=1}^{\infty}$ and $x_{i,0}^d = x_{i,-1} - \left(\mu + z_{i,0}\right) - \left(1-\gamma\right)\hat{\pi}_0$, the wage gap implied by the employer's default wage offer, summarizes the impact of $x_{i,-1}$, $z_{i,0}$, and $\hat{\pi}_0$ on the worker's problem. Moreover, we can apply the Envelope Theorem similarly to show that $\frac{\partial \mathcal{V}\left(x_{i,0}^d, \kappa_{i,0}, \boldsymbol{\pi}_{\mathbf{1:\infty}}\right)}{\partial x_{i,0}^d}$ exists almost everywhere and its absolute value is bounded by $\frac{1}{1-\beta}$. That is, similar to (A.7),

$$\frac{\partial \mathcal{V}\left(x_{i,0}^d, \kappa_{i,0}, \boldsymbol{\pi}_{\mathbf{1:\infty}}\right)}{\partial x_{i,0}^d} = \sum_{t=0}^{\infty} \beta^t \mathbb{E}_0 \left[\prod_{\tau=0}^{t} \left(1 - \mathscr{I}_{i,\tau}^{*}\left(h_{i,\tau}; \boldsymbol{\pi}_{\infty}\right)\right)\right] \geq 0 \quad \text{a.e.,} \tag{A.9}$$

where a.e. means almost everywhere in $x_{i,0}^d$ and $\mathbb{E}_0$ averages over the realization of idiosyncratic shocks $\left\{z_{i,t}, \kappa_{i,t}\right\}_{t=1}^{\infty}$ starting from $t=1$. Note that

$$\begin{aligned} \mathscr{U}\left(\boldsymbol{\pi}_{\infty}, x_{i,-1}\right) = (1-\lambda) &\int_{\underline{z}}^{\infty} \mathcal{V}\left(x_{i,-1} - \mu - \left(1-\gamma\right)\hat{\pi}_0 - z_{i,0}, \kappa, \boldsymbol{\pi}_{\mathbf{1:\infty}}\right) f\left(z_{i,0}\right) dz_{i,0} \\ &+ \lambda \int_{\underline{z}}^{\infty} \mathcal{V}\left(x_{i,-1} - \mu - \left(1-\gamma\right)\hat{\pi}_0 - z_{i,0}, 0, \boldsymbol{\pi}_{\mathbf{1:\infty}}\right) f\left(z_{i,0}\right) dz_{i,0}. \end{aligned}$$

We know that

$$\begin{aligned} \frac{\partial \mathscr{U}\left(\boldsymbol{\pi}_{\infty}, x_{i,-1}\right)}{\partial x_{i,-1}} = (1-\lambda) &\int_{\underline{z}}^{\infty} \frac{\partial \mathcal{V}\left(x_{i,-1} - \mu - \left(1-\gamma\right)\hat{\pi}_0 - z_{i,0}, \kappa, \boldsymbol{\pi}_{\mathbf{1:\infty}}\right)}{\partial x_{i,0}^d} f\left(z_{i,0}\right) dz_{i,0} \\ &+ \lambda \int_{\underline{z}}^{\infty} \frac{\partial \mathcal{V}\left(x_{i,-1} - \mu - \left(1-\gamma\right)\hat{\pi}_0 - z_{i,0}, 0, \boldsymbol{\pi}_{\mathbf{1:\infty}}\right)}{\partial x_{i,0}^d} f\left(z_{i,0}\right) dz_{i,0} \geq 0. \end{aligned} \tag{A.10}$$

In other words, $\mathscr{U}\left(\boldsymbol{\pi}_{\infty}, x_{i,-1}\right)$ is weakly increasing and differentiable in $x_{i,-1}$.

First consider the case that conflict is costly ($\kappa_{i,0} = \kappa$). Because $\mathscr{U}\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}, x_{i,0}^d\right)$ is weakly increasing in $x_{i,0}^d$, the value of not conflicting, $x_{i,0}^d + \beta \mathscr{U}\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}, x_{i,0}^d\right)$, strictly increases in $x_{i,0}^d$. The value of conflicting $\beta \mathscr{U}\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}, 0\right) - \kappa_{i,0}$ is instead independent of $x_{i,0}^d$. The worker's optimal conflict choice can then be characterized by a threshold $\underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right)$,[2] which satisfies

$$-\kappa + \beta \mathscr{U}\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}, 0\right) = \underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right) + \beta \mathscr{U}\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}, \underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right)\right). \tag{A.11}$$

The worker chooses to engage in conflict if $x_{i,0}^d \leq \underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right)$ and not if $x_{i,0}^d > \underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right)$.[3] Second consider the case that conflict is costless $\left(\kappa_{i,0} = 0\right)$. In this case, the worker chooses to engage in conflict

[2] Such a threshold always exists and is unique because $x + \beta \mathscr{U}\left(\boldsymbol{\pi}_{\infty}, x\right)$ strictly increases in x, $\lim_{x\to-\infty} x + \beta \mathscr{U}\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}, x\right) = -\infty$, and $\lim_{x\to+\infty} x + \beta \mathscr{U}\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}, x\right) = +\infty$,

[3] There is a measure-zero set of workers who are indifferent between conflict and non-conflict. In our paper, we let these indifferent workers engage in conflict. Our results, e.g., Theorem 1, remain true if these indifferent workers do not engage in conflict.

if $x^d_{i,0} \le 0$ and not if $x^d_{i,0} > 0$.[4]

Now we use the implicit Function Theorem for Lipschitz Functions (e.g., Clarke, 1990, p. 269) to prove that $\underline{x}_0(\boldsymbol{\pi}_{\mathbf{1:\infty}})$ is Lipschitz continuous in $\boldsymbol{\pi}_{\mathbf{1:\infty}}$ around $\boldsymbol{\pi}^{\boldsymbol{ss}}$. To apply this theorem, define $H(\boldsymbol{\pi}_{\mathbf{1:\infty}}, x) \equiv -\kappa + \beta \mathscr{U}(\boldsymbol{\pi}_{\mathbf{1:\infty}}, 0) - x - \beta \mathscr{U}(\boldsymbol{\pi}_{\mathbf{1:\infty}}, x)$. One needs two conditions. First, $H(\boldsymbol{\pi}_{\mathbf{1:\infty}}, x)$ is Lipschitz continuous in $\boldsymbol{\pi}_{\mathbf{1:\infty}}$ around $\boldsymbol{\pi}^{\boldsymbol{ss}}$ and $\underline{x}^{ss} \equiv \underline{x}_0(\boldsymbol{\pi}^{\boldsymbol{ss}})$. This is true because of (A.7), (A.9), (A.10), and the fact that the absolute value of the partial derivatives is bounded above by $\frac{1}{1-\beta}$. Second, $\frac{\partial H(\boldsymbol{\pi}^{\boldsymbol{ss}}, \underline{x}^{ss})}{\partial x} \neq 0$. This is true because $\frac{\partial H(\boldsymbol{\pi}^{\boldsymbol{ss}}, \underline{x}^{ss})}{\partial x} = -1 - \beta \frac{\partial \mathscr{U}(\boldsymbol{\pi}^{\boldsymbol{ss}}, \underline{x}^{ss})}{\partial x_{i,-1}} \le -1$. As a result, $\underline{x}_0(\boldsymbol{\pi}_{\mathbf{1:\infty}})$ is Lipschitz continuous in $\boldsymbol{\pi}_{\mathbf{1:\infty}}$ around $\boldsymbol{\pi}^{\boldsymbol{ss}}$.

Finally, consider the conflict decision for an arbitrary period t. It can be written as the same problem as (A.8),

$$\mathscr{V}\left(x^d_{i,t}, \kappa_{i,t}, \boldsymbol{\pi}_{\boldsymbol{t+1:\infty}}\right) \equiv \max_{\mathscr{I}_{i,t}} \left(1 - \mathscr{I}_{i,t}\right)\left(x^d_{i,t} + \beta \mathscr{U}\left(\boldsymbol{\pi}_{\boldsymbol{t+1:\infty}}, x^d_{i,t}\right)\right) + \mathscr{I}_{i,t}\left(0 + \beta \mathscr{U}\left(\boldsymbol{\pi}_{\boldsymbol{t+1:\infty}}, 0\right) - \kappa_{i,t}\right),$$

where $\boldsymbol{\pi}_{\boldsymbol{t+1:\infty}} = \{\pi_\tau\}_{\tau=t+1}^{\infty}$ and $x^d_{i,t} = x_{i,t-1} - \left(\mu + z_{i,t}\right) - \left(1-\gamma\right)\hat{\pi}_t$, the wage gap implied by the employer's default wage offer at t. The optimal conflict decision at t can be characterized the same way as at 0, and the conflict threshold $\underline{x}_t(\boldsymbol{\pi}_{\boldsymbol{t+1:\infty}})$ is the same function as $\underline{x}_0(\boldsymbol{\pi}_{\mathbf{1:\infty}})$ and is Lipschitz continuous in $\boldsymbol{\pi}_{\boldsymbol{t+1:\infty}}$ around $\boldsymbol{\pi}^{\boldsymbol{ss}}$.

Aggregate worker welfare. We now study the impact of inflation shocks on aggregate worker welfare. We define $\mathscr{W}(\boldsymbol{\pi}_\infty) \equiv \int_0^1 \mathscr{U}\left(\boldsymbol{\pi}_\infty, x_{i,-1}\right) di$. From (4) and (6), the impact of inflation on aggregate worker welfare can then be written as $\hat{\mathscr{W}} = \mathscr{W}(\boldsymbol{\pi}_\infty) - \mathscr{W}(\boldsymbol{\pi}^{\boldsymbol{ss}})$. From (A.7),

$$\begin{aligned}
\frac{\partial \mathscr{W}(\boldsymbol{\pi}_\infty)}{\partial \pi_s} &= -\left(1-\gamma\right)\sum_{t=s}^{\infty}\beta^t \int_0^1 \mathbb{E}\left[\prod_{\tau=s}^{t}\left(1 - \mathscr{I}^*_{i,\tau}\left(h_{i,\tau}; \boldsymbol{\pi}_\infty\right)\right)\right] di, \quad \text{a.e.} \\
&= -\left(1-\gamma\right)\sum_{t=s}^{\infty}\beta^t \Phi_{s,t}(\boldsymbol{\pi}_\infty) \quad \text{a.e.}
\end{aligned}$$

where $\Phi_{s,t}(\boldsymbol{\pi}_\infty) \equiv \mathbb{E}\left[\int_0^1 \left(\Pi_{\tau=s}^t \left(1 - \mathscr{I}^*_{i,\tau}\left(h_{i,\tau}; \boldsymbol{\pi}_\infty\right)\right)\right) di\right]$ captures the "survival" probability between period s and $t \ge s$, i.e., the fraction of workers who never engage in conflict during the period s, $s+$

[4] In our model, as discussed in the main text, the stationary distribution of wage gaps implied by the employer's default wage offer, $G^{d,ss}\left(x^d_{i,-1}\right)$ has a non-positive support. As a result, at steady-state inflation, the worker always prefers to conflict and set the wage gap to zero if it is costless to do so. With positive inflation shocks ($\hat{\pi}_t \ge 0$ for all t), the distribution of wage gaps implied by the employer's default wage offer, $G^d_t\left(x^d_{i,t}\right)$, further studied below, also has a non-positive support for all t. So the worker again always prefers to conflict and set the wage gap to zero if it is costless to do so. The characterization here is more general, allowing negative inflation shocks and the possibility of positive wage gaps implied by the employer's default wage offer. Therefore, the worker could choose not to conflict even if it is costless to do so.

$1, \cdots, t$. Define $\tilde{\mathcal{W}}(\varepsilon) = \mathcal{W}(\varepsilon \boldsymbol{\pi}_\infty + (1-\varepsilon)\boldsymbol{\pi}^{ss})$. We have

$$\tilde{\mathcal{W}}'(\varepsilon) = -\left(1-\gamma\right)\sum_{s=0}^{\infty}\sum_{t=s}^{\infty}\beta^t \Phi_{s,t}\left(\varepsilon\boldsymbol{\pi}_\infty + (1-\varepsilon)\boldsymbol{\pi}^{ss}\right)\hat{\pi}_s \quad \text{a.e.}$$

As a result, for all $\boldsymbol{\pi}_\infty$,

$$\hat{\mathcal{W}} = \mathcal{W}(\boldsymbol{\pi}_\infty) - \mathcal{W}\left(\boldsymbol{\pi}^{ss}\right) = -\left(1-\gamma\right)\sum_{s=0}^{\infty}\sum_{t=s}^{\infty}\beta^t\left(\int_0^1 \Phi_{s,t}\left(\varepsilon\boldsymbol{\pi}_\infty + (1-\varepsilon)\boldsymbol{\pi}^{ss}\right)d\varepsilon\right)\hat{\pi}_s. \tag{A.12}$$

From the formula for wage erosion in (8) and using (A.5), we know that

$$\begin{aligned}\hat{w}_t^{\text{erosion}} &= -\left(1-\gamma\right)\sum_{s=0}^{t}\left(\int_0^1 \mathbb{E}\left[\prod_{\tau=s}^{t}\left(1-\mathscr{I}_{i,\tau}^*\left(h_{i,\tau};\boldsymbol{\pi}^{ss}\right)\right)\right]di\right)\cdot\hat{\pi}_s,\\ &= -\left(1-\gamma\right)\sum_{s=0}^{t}\Phi_{s,t}\left(\boldsymbol{\pi}^{ss}\right)\cdot\hat{\pi}_s.\end{aligned} \tag{A.13}$$

Note that $\Phi_{s,t}(\boldsymbol{\pi}^{ss})$ is equal to Φ_{t-s}^{ss} defined in the main text, i.e., the “survival” probability at steady-state inflation. It only depends on $t-s$ because the distribution of wage gaps in each period is the same, given by the stationary distribution. This proves Proposition 2.

We now prove the key part of Theorem 1. That is, to first order, $\hat{\mathcal{W}} \approx \sum_{t=0}^{\infty}\beta^t\hat{w}_t^{\text{erosion}}$. From (A.13), we know that

$$\sum_{t=0}^{\infty}\beta^t\hat{w}_t^{\text{erosion}} = -\left(1-\gamma\right)\sum_{s=0}^{\infty}\sum_{t=s}^{\infty}\beta^t\Phi_{s,t}\left(\boldsymbol{\pi}^{ss}\right)\hat{\pi}_s.$$

Together with (A.12), we only need to prove that $\Phi_{s,t}(\boldsymbol{\pi}_\infty)$ is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$ for all $t \geq s$. As proved formally below, this follows naturally from the Lipschitz continuity of $\underline{x}_t(\boldsymbol{\pi}_{t+1:\infty})$ in $\boldsymbol{\pi}_{t+1:\infty}$ around $\boldsymbol{\pi}^{ss}$ for each $t \geq 0$.

Formally, we first prove by induction that, for each $t \geq 0$, $G_t^d\left(x_{i,t}^d;\boldsymbol{\pi}_\infty\right)$ is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$ and is continuous in $x_{i,t}^d$, where $G_t^d\left(x_{i,t}^d;\boldsymbol{\pi}_\infty\right)$ is the cumulative distribution function of the wage gaps implied by the employer's default wage offer at t. From the proof of Proposition 1, we know that, at $t=0$, $G_0^d\left(x_{i,0}^d;\boldsymbol{\pi}_\infty\right) = G^{d,ss}\left(x_{i,0}^d + \left(1-\gamma\right)\hat{\pi}_0\right)$ is continuous in $\hat{\pi}_0$ (hence $\boldsymbol{\pi}_\infty$) and $x_{i,0}^d$. For all $t \geq 0$, given $G_t^d\left(x_{i,t}^d;\boldsymbol{\pi}_\infty\right)$, we can find, $G_t\left(x_{i,t};\boldsymbol{\pi}_\infty\right)$, the cumulative distribution function of the wage gaps at the end of period t (after conflict decisions):

$$\begin{aligned}G_t\left(x_{i,t};\boldsymbol{\pi}_\infty\right) &= (1-\lambda)\left(\max\left\{G_t^d\left(x_{i,t};\boldsymbol{\pi}_\infty\right) - G_t^d\left(\underline{x}_t\left(\boldsymbol{\pi}_{t+1:\infty}\right);\boldsymbol{\pi}_\infty\right),0\right\} + G_t^d\left(\underline{x}_t\left(\boldsymbol{\pi}_{t+1:\infty}\right);\boldsymbol{\pi}_\infty\right)\mathbb{1}_{x_{i,t}\geq 0}\right)\\ &\quad + \lambda\left(\max\left\{G_t^d\left(x_{i,t};\boldsymbol{\pi}_\infty\right) - G_t^d\left(0;\boldsymbol{\pi}_\infty\right),0\right\} + G_t^d\left(0;\boldsymbol{\pi}_\infty\right)\mathbb{1}_{x_{i,t}\geq 0}\right),\end{aligned} \tag{A.14}$$

where the first line captures workers whose conflict is costly and whose conflict choice can then be characterized by the threshold $\underline{x}_t(\boldsymbol{\pi}_{t+1:\infty})$, and the second line captures workers whose conflict is costless and whose conflict choice can then be characterized by the threshold 0. Recall that $\underline{x}_t(\boldsymbol{\pi}_{t+1:\infty})$ is Lipschitz continuous in $\boldsymbol{\pi}_{t+1:\infty}$ around $\boldsymbol{\pi}^{ss}$. If $G_t^d\left(x_{i,t}^d;\boldsymbol{\pi}_\infty\right)$ is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$ and is continuous in $x_{i,t}^d$, $G_t\left(x_{i,t};\boldsymbol{\pi}_\infty\right)$ is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$ and is continuous in $x_{i,t}$ outside the point $x_{i,t}=0$.

One can then find

$$G_{t+1}^d\left(x_{i,t+1}^d;\boldsymbol{\pi}_\infty\right)=\int_{\underline{z}}^{\infty}G_t\left(\mu+(1-\gamma)\hat{\pi}_{t+1}+z_{i,t+1}+x_{i,t+1}^d;\boldsymbol{\pi}_\infty\right)f\left(z_{i,t+1}\right)dz_{i,t+1},$$

where $f(\cdot)$ is the probability density function for $z_{i,t+1}$. If $G_t\left(x_{i,t};\boldsymbol{\pi}_\infty\right)$ is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$ and is continuous in $x_{i,t}$ outside the point $x_{i,t}=0$ (so a.e. in $x_{i,t}$), $G_{t+1}^d\left(x_{i,t+1}^d;\boldsymbol{\pi}_\infty\right)$ is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$ and is continuous in $x_{i,t+1}^d$.[5] This finishes the proof by induction that, for each $t\geq 0$, $G_t^d\left(x_{i,t}^d;\boldsymbol{\pi}_\infty\right)$ is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$.

Now we prove that $\Phi_{s,t}(\boldsymbol{\pi}_\infty)$ is continuous around $\boldsymbol{\pi}^{ss}$ for all $t\geq s$. To do so, we introduce $G_{s,t}\left(x_{i,t};\boldsymbol{\pi}_\infty\right)$, the distribution of wage gap $x_{i,t}$ conditioning that the employer's default wage offer "survives" between s and t, i.e., $\prod_{\tau=s}^{t}\left(1-\mathscr{I}_{i,\tau}^*\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right)=1$. First, for all $s\geq 0$,

$$\Phi_{s,s}(\boldsymbol{\pi}_\infty)=(1-\lambda)\left(1-G_s^d\left(\underline{x}_s(\boldsymbol{\pi}_{s+1:\infty});\boldsymbol{\pi}_\infty\right)\right)+\lambda\left(1-G_s^d(0;\boldsymbol{\pi}_\infty)\right)$$

is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$. And

$$G_{s,s}\left(x_{i,s};\boldsymbol{\pi}_\infty\right)=\max\left\{\frac{(1-\lambda)\left(G_s^d\left(x_{i,s};\boldsymbol{\pi}_\infty\right)-G_s^d\left(\underline{x}_s(\boldsymbol{\pi}_{s+1:\infty});\boldsymbol{\pi}_\infty\right)\right)}{\Phi_{s,s}(\boldsymbol{\pi}_\infty)},0\right\}+\max\left\{\frac{\lambda\left(G_s^d\left(x_{i,s};\boldsymbol{\pi}_\infty\right)-G_s^d(0;\boldsymbol{\pi}_\infty)\right)}{\Phi_{s,s}(\boldsymbol{\pi}_\infty)},0\right\}$$

is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$ and in $x_{i,s}$. Moreover, for any $t\geq s$, define $G_{s,t+1}^d\left(x_{i,t+1}^d;\boldsymbol{\pi}_\infty\right)$, as the distribution of $x_{i,t+1}^d$ conditioning that the employer's default wage offer "survives" between s and t.

[5] This follows from Lebesgue dominated convergence theorem and the fact that $\left|G_t\left(\mu+(1-\gamma)\hat{\pi}_{t+1}+z_{i,t+1}+x_{i,t+1}^d;\boldsymbol{\pi}_\infty\right)\right|\leq 1$ and $\int 1\cdot f\left(z_{i,t+1}\right)dz_{i,t+1}<\infty$.

We have, for any $t \geq s$,

$$G^d_{s,t+1}\left(x^d_{i,t+1};\boldsymbol{\pi}_\infty\right) = \int_{\underline{z}}^{\infty} G_{s,t}\left(\mu + \left(1-\gamma\right)\hat{\pi}_{t+1} + z_{i,t+1} + x^d_{i,t+1};\boldsymbol{\pi}_\infty\right) f\left(z_{i,t+1}\right) dz_{i,t+1}$$

$$\Phi_{s,t+1}\left(\boldsymbol{\pi}_\infty\right) = \Phi_{s,t}\left(\boldsymbol{\pi}_\infty\right)\left((1-\lambda)\left(1 - G^d_{s,t+1}\left(\underline{x}_{t+1}\left(\boldsymbol{\pi}_{t+2:\infty}\right);\boldsymbol{\pi}_\infty\right)\right) + \lambda\left(1 - G^d_{s,t+1}\left(0;\boldsymbol{\pi}_\infty\right)\right)\right)$$

$$G_{s,t+1}\left(x_{i,t+1};\boldsymbol{\pi}_\infty\right) = \max\left\{\frac{(1-\lambda)\left(G^d_{s,t+1}\left(x_{i,t+1};\boldsymbol{\pi}_\infty\right) - G^d_{s,t+1}\left(\underline{x}_{t+1}\left(\boldsymbol{\pi}_{t+2:\infty}\right);\boldsymbol{\pi}_\infty\right)\right)}{\Phi_{s,t+1}\left(\boldsymbol{\pi}_\infty\right)/\Phi_{s,t}\left(\boldsymbol{\pi}_\infty\right)}, 0\right\}$$
$$+ \max\left\{\frac{\lambda\left(G^d_{s,t+1}\left(x_{i,t+1};\boldsymbol{\pi}_\infty\right) - G^d_{s,t+1}\left(0;\boldsymbol{\pi}_\infty\right)\right)}{\Phi_{s,t+1}\left(\boldsymbol{\pi}_\infty\right)/\Phi_{s,t}\left(\boldsymbol{\pi}_\infty\right)}, 0\right\}.$$

By induction, for all $t \geq s$, $\Phi_{s,t}\left(\boldsymbol{\pi}_\infty\right)$ is continuous in $\boldsymbol{\pi}_\infty$ and $G_{s,t}\left(x_{i,t};\boldsymbol{\pi}_\infty\right)$ is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$ and in $x_{i,t}$. This finishes the proof that $\Phi_{s,t}\left(\boldsymbol{\pi}_\infty\right)$ is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$ for all $t \geq s$. As a result, to first order, $\hat{\mathscr{W}} \approx \sum_{t=0}^{\infty} \beta^t \hat{w}_t^{\text{erosion}}$. The rest of Theorem 1 follows directly from the fact that $\hat{\mathscr{W}} = \sum_{t=0}^{\infty} \beta^t \hat{w}_t - \hat{\varkappa}$ and $\hat{w}_t = \hat{w}_t^{\text{erosion}} + \hat{w}_t^{\text{catch-up}}$.

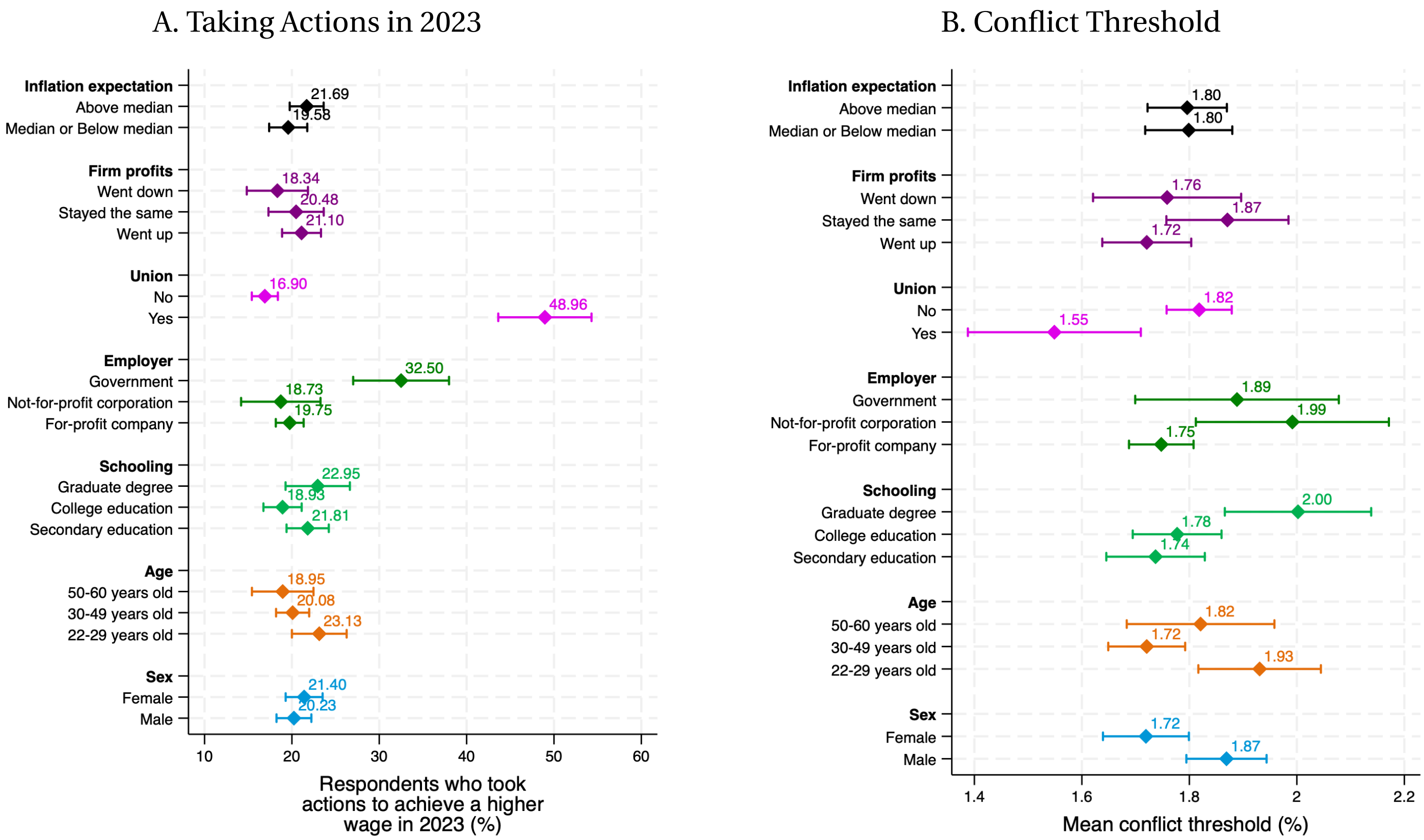
Proof of Proposition 3.

The workers' problem (7) depends on the degree of indexation γ and inflation shocks $\{\hat{\pi}_t\}_{t=0}^{\infty}$ only through *inflation shocks net-of-indexation* $\left(1-\gamma\right)\hat{\pi}_t$. To first order, $\hat{\mathscr{W}}$ and $\hat{\varkappa}$ will all be linear functions of $\left\{\left(1-\gamma\right)\hat{\pi}_t\right\}_{t=0}^{\infty}$. The degree of indexation simply scales both $\hat{\mathscr{W}}$ and $\hat{\varkappa}$ by a factor of $1-\gamma$, but does not affect $-\frac{\hat{\varkappa}}{\hat{\mathscr{W}}}$. This proves Proposition 3.

B Appendix Figures and Tables

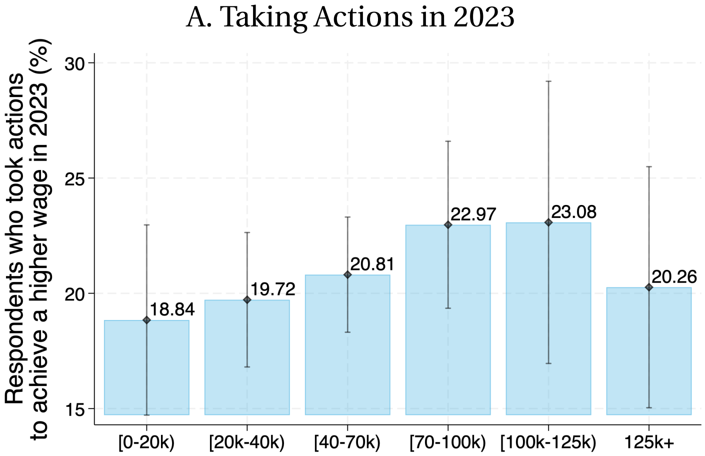
B.1 Appendix Figures

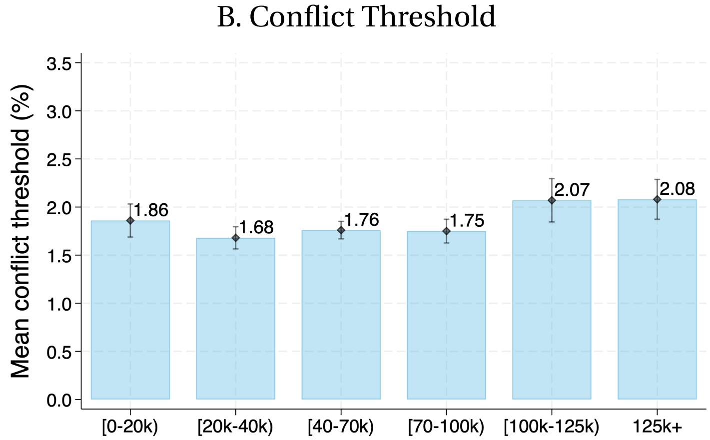
Figure B.1: Heterogeneity in Conflict: Demographics



Note: Panel A displays the percentage of participants who took actions to achieve a higher wage growth in 2023, with 95% confidence intervals shown for each demographic category. Panel B illustrates the mean of the elicited conflict threshold $\mathbb{T}$, based on the hypotheticals in Figure 5, along with 95% confidence intervals displayed for each demographic category. In Panel B, we include respondents with $\mathbb{T} > 4\%$, assigning them a value of 4.25%; we exclude respondents who give non-monotonic responses in the elicitation of $\mathbb{T}$. The categories depicted include inflation expectations, firm profits, union membership, employer type, education level, age, and gender.

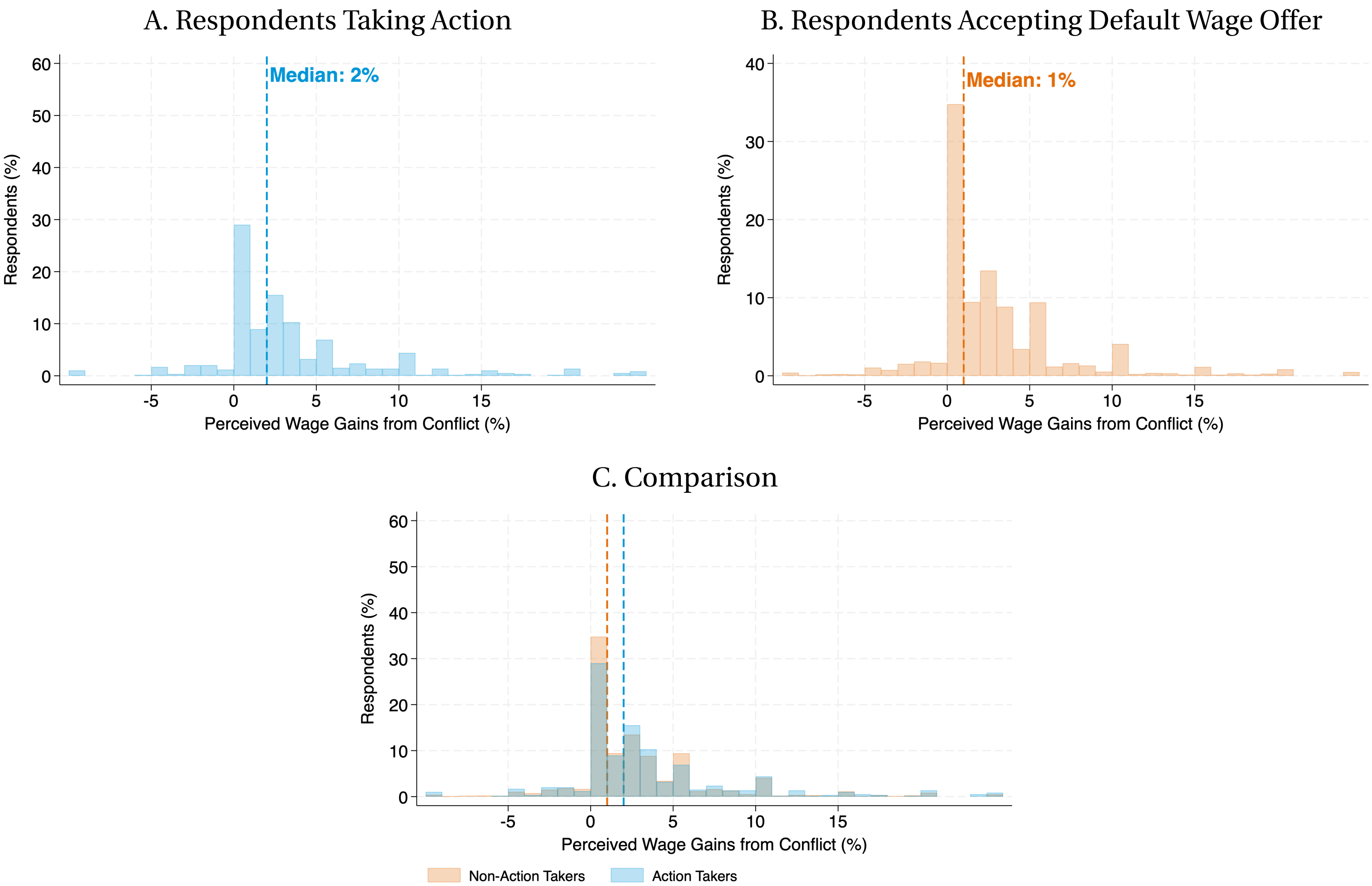
Figure B.2: Heterogeneity in Conflict: Income





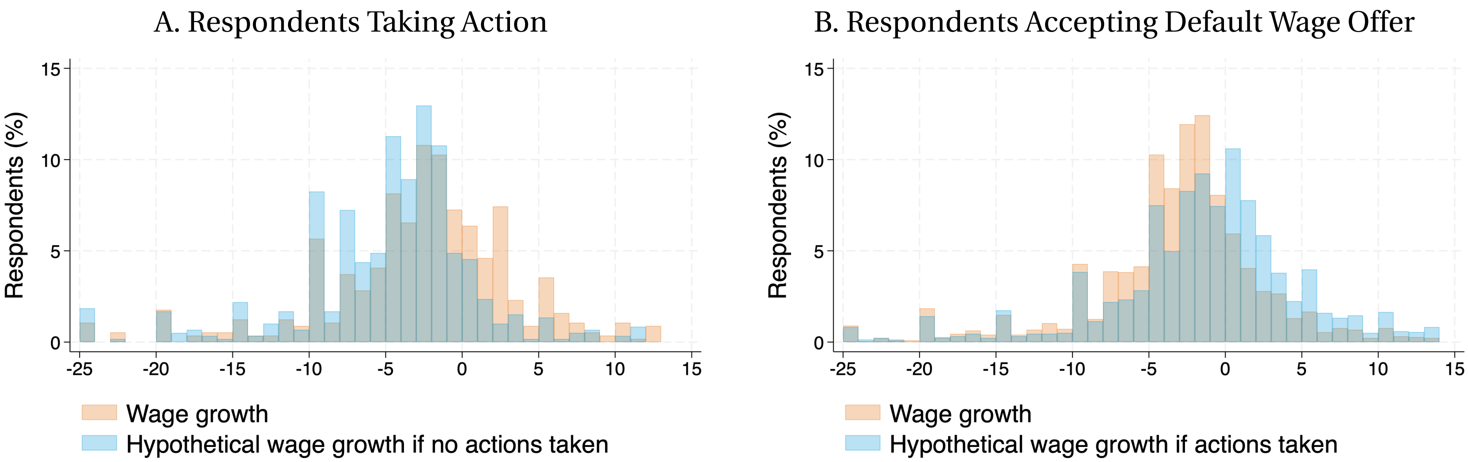
Note: Panel A shows the percentage of participants who took actions to achieve a higher wage growth in 2023, with 95% confidence intervals displayed for each income category. Panel B illustrates the mean of the elicited conflict threshold $\mathbb{T}$, based on the hypotheticals in Figure 5, along with 95% confidence intervals displayed for each income category. In Panel B, we include respondents with $\mathbb{T} > 4\%$, assigning them a value of 4.25%, and exclude respondents who give non-monotonic responses in the elicitation of $\mathbb{T}$.

Figure B.3: The Effectiveness of Conflict: Within-individual Distributions



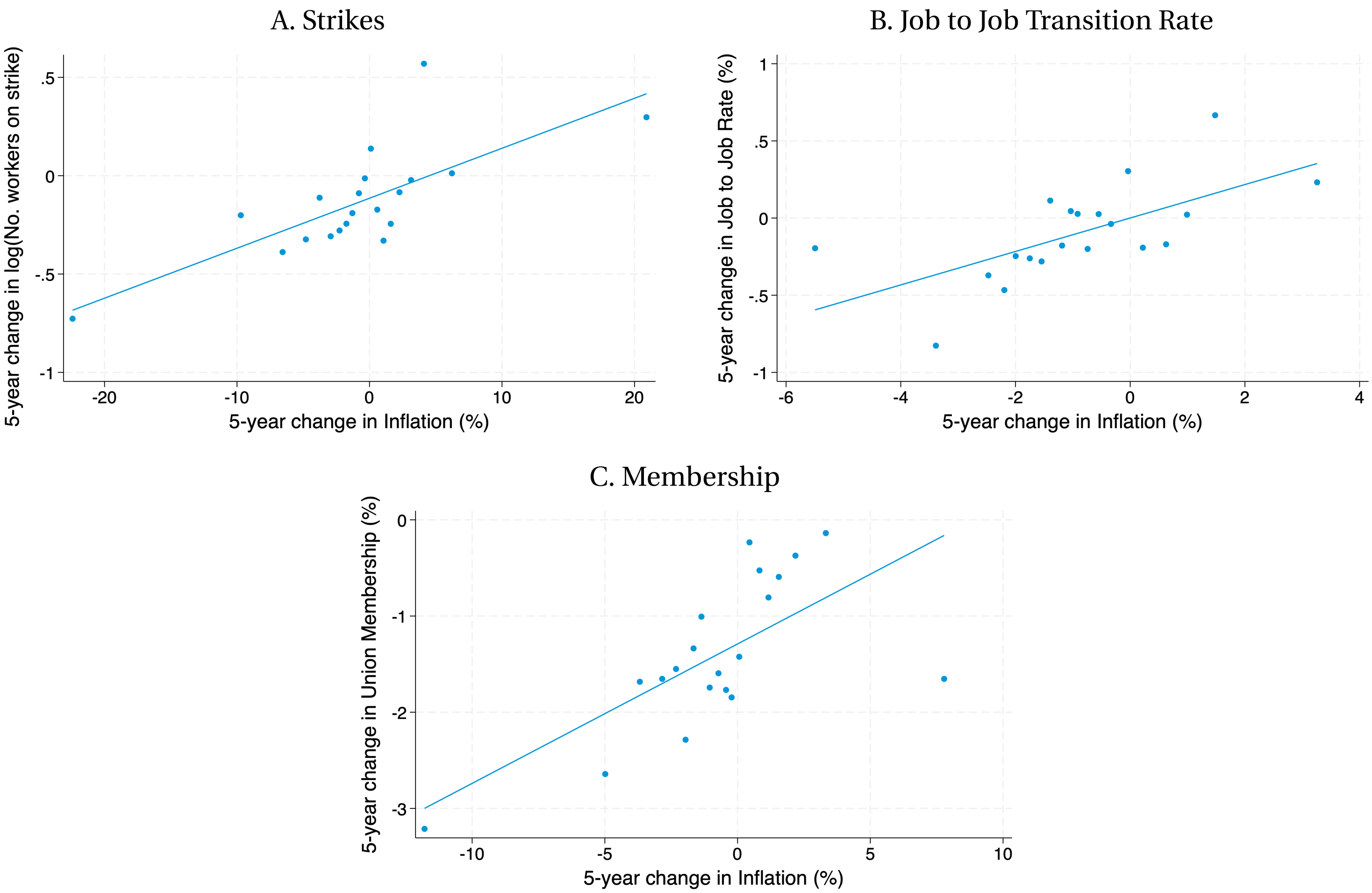
Note: In Panel A, we plot the perceived wage gains from conflict in 2023 for respondents who reported taking action to achieve that wage growth, which we define as the difference between the actual nominal wage growth and the hypothetical default nominal wage growth respondents reported they would have received if no actions had been taken. In Panel B, we plot the perceived wage gains from conflict in 2023 for respondents who did not take action to receive that wage growth, which is the hypothetical nominal wage growth respondents reported they would have received if they took actions minus their actual default nominal wage growth. In Panel C, we plot the distributions from Panels A and B on top of each other. In all panels, the unit of observation is the respondent. In all cases, the data range has been truncated, with values ranging from a minimum of -10% to a maximum of 25%. The data have been restricted to respondents who indicated that they took actions to achieve a higher wage growth in 2023 in Panel A and to respondents who accepted their employers' default wage offer in 2023 in Panel B.

Figure B.4: The Effectiveness of Conflict: Perceived Real Wage Growth



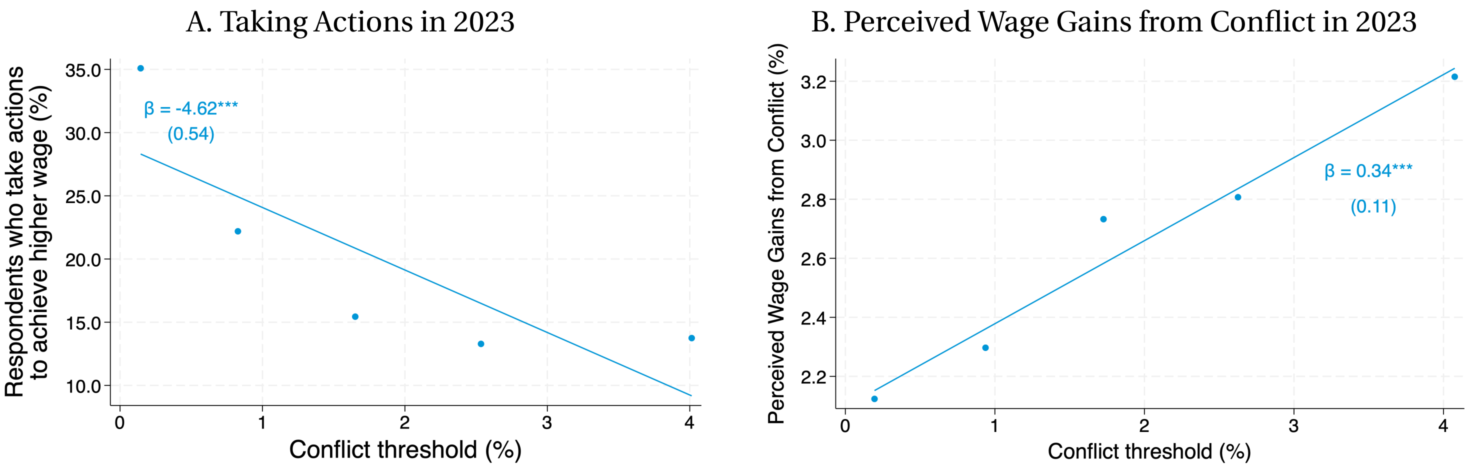
Note: Panels A and B depict the distribution of perceived real wage growth in 2023 and the hypothetical perceived real wage growth respondents reported they would have received if no actions had been taken or if actions had been taken to achieve a higher wage growth, respectively. The perceived real wage growth is defined as the worker's nominal wage growth in 2023 minus their perceived rate of inflation in 2023. The data range has been truncated, with values ranging from a minimum of -25% to a maximum of 15%. Panel A restricts to respondents who took actions in 2023, asking the question "Above, you indicated that you got a pay raise by either initiating a difficult conversation with your employer about your pay, searching for a higher paying job with other employers or switching employers in order to get a raise. If you, or possibly your union, had not implemented any of these strategies, what pay growth do you think your employer would have offered you in 2023?" Panel B restricts to respondents who accepted their employers' default wage offer in 2023, asking the question "[w]hat pay growth do you think you could have attained this past year if you had taken actions such as initiating a difficult conversation with your employer to ask for a raise, searching for higher paying jobs with other employers, or switching employers in order to get a raise?".

Figure B.5: Cross-country correlation between labor market conflict action and inflation: Binned scatterplots



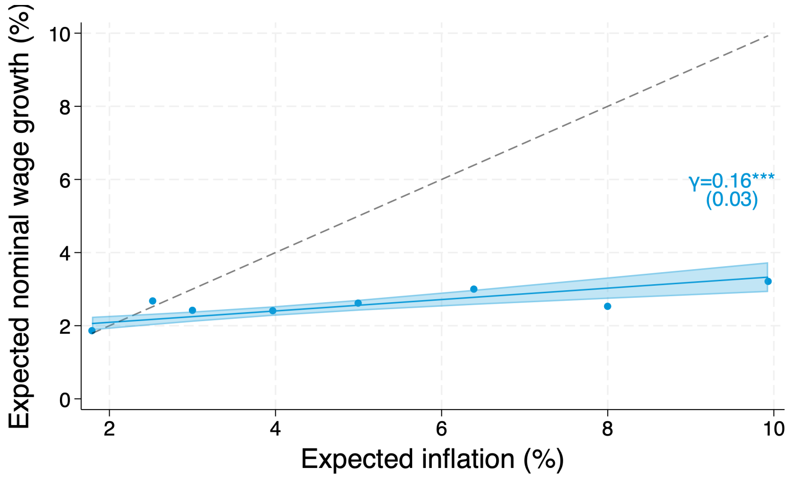
Note: Each panel presents a 20-bin scatterplot relating five-year changes in headline inflation (in percentage points) to labor market outcomes. Panel A shows the relationship with the five-year log difference of workers involved in strikes and lockouts (80 countries from 1969-2022, sourced from the International Labour Organization); Panel B plots the five-year change in the job-to-job transition rate (in percentage points, 30 countries from 1997-2021, sourced from Donovan et al., 2023); and Panel C depicts the five-year change in union membership, defined as the percent of workers in a union (in percentage points, 37 countries from 1960-2022, sourced from the International Labour Organization). The inflation data are sourced from the World Bank. In each panel, both the outcome variable and inflation are residualized on country and year fixed effects, and inflation is trimmed in the World Bank dataset to exclude the top 2% most extreme observations. Observations are unweighted.

Figure B.6: Validating Elicited Conflict Thresholds: Controlling for Conflict-Induced Nominal Wage Growth



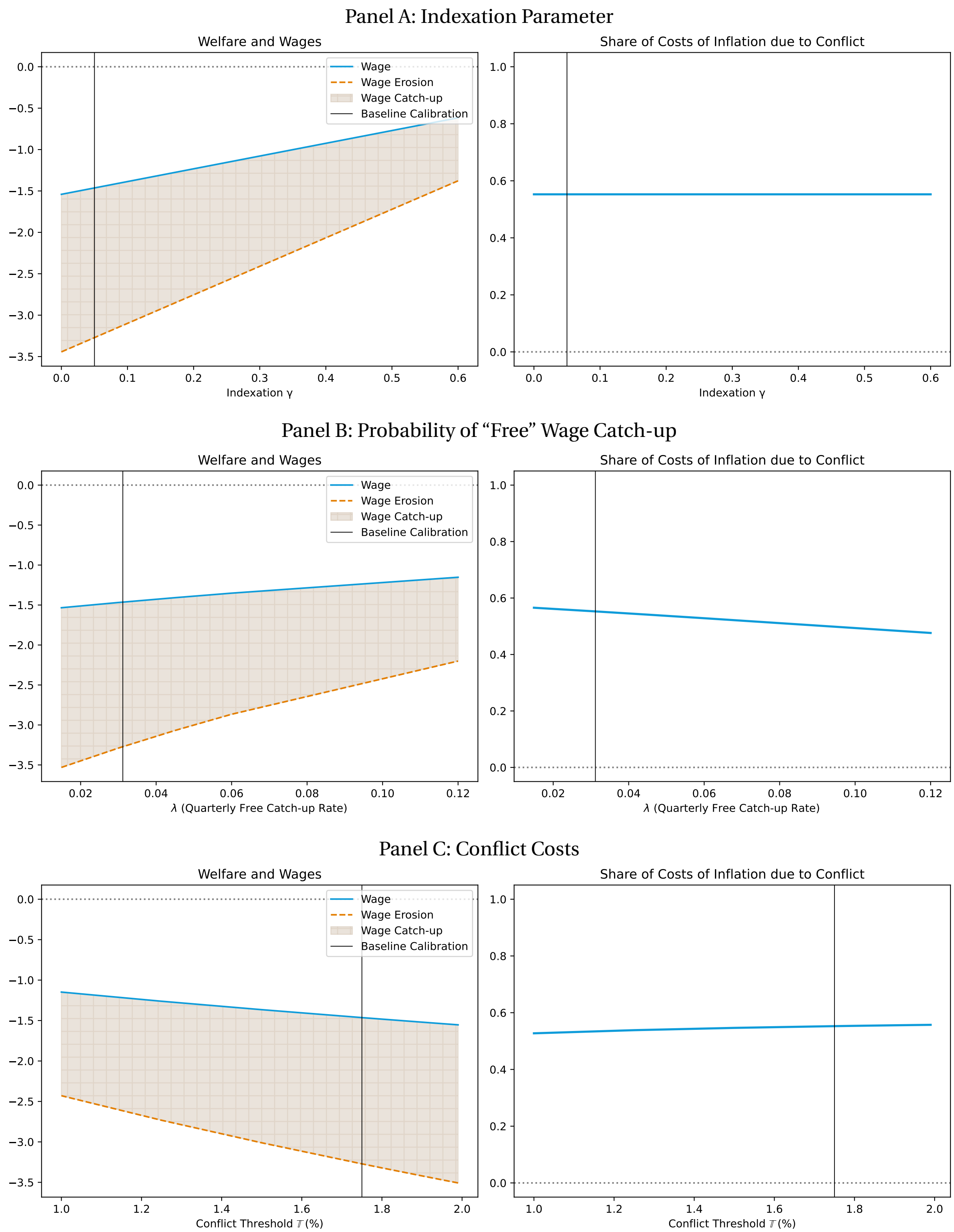
Note: Panel A shows the relationship between the elicited conflict threshold ($\mathbb{T}$), based on the hypotheticals in Figure 5, and an indicator for whether the respondent took actions to achieve higher wage growth in 2023, adding a control for the conflict-induced nominal wage growth (ΔW^*). Panel B is restricted to respondents who accepted their employer's default wage offer in 2023 and shows the relationship between their elicited conflict threshold ($\mathbb{T}$) and perceived wage gains from conflict (defined as the difference between their perceived conflict-induced nominal wage growth had they taken costly actions in 2023 and the nominal wage growth of the employer's default wage offer they accepted in 2023), adding a control for the conflict-induced nominal wage growth (ΔW^*). In both panels, we include those respondents with $\mathbb{T} > 4\%$, assigning them a value of 4.25%, and exclude respondents who give non-monotonic responses in the elicitation of $\mathbb{T}$. In Panel B, the perceived wage gains are trimmed at the 1st and 99th percentile. The coefficients of this relationship are displayed, with the standard errors enclosed in parentheses. Stars denote levels of statistical significance: 1% (***), 5% (**), and 10% (*).

Figure B.7: Wage Indexation: Variation from Inflation Expectations



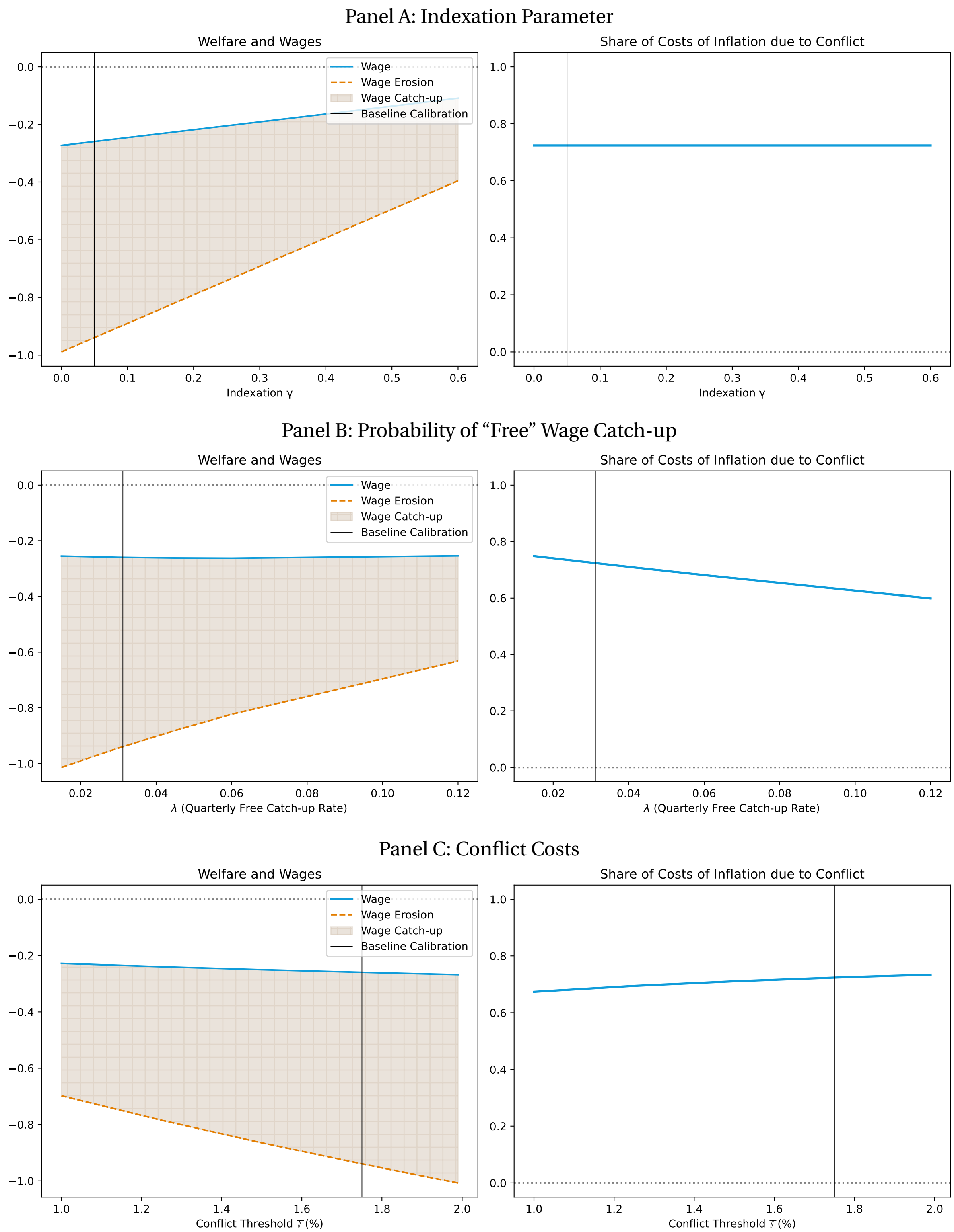
Note: This binned scatterplot depicts the relationship between the default nominal wage growth over the next 12 months that workers expect their employers to offer and the inflation they expect over the next 12 months, along with the 95% confidence interval of the predicted relationship. This figure restricts the sample to respondents who expect inflation between 0% and 10% next year. Among the full sample, 72% fall in this range, because 24% are excluded because they expect inflation above 10% and about 4% are excluded because they expect prices to fall. The gray dashed line serves as a reference 45-degree line. The coefficient of this relationship is displayed, with the standard errors enclosed in parentheses. The stars indicate levels of statistical significance: 1% (***), 5% (**), and 10% (*).

Figure B.8: Aggregate Costs of Conflict due to Inflation as a Function of Key Parameters (the Persistent Inflation Shock)



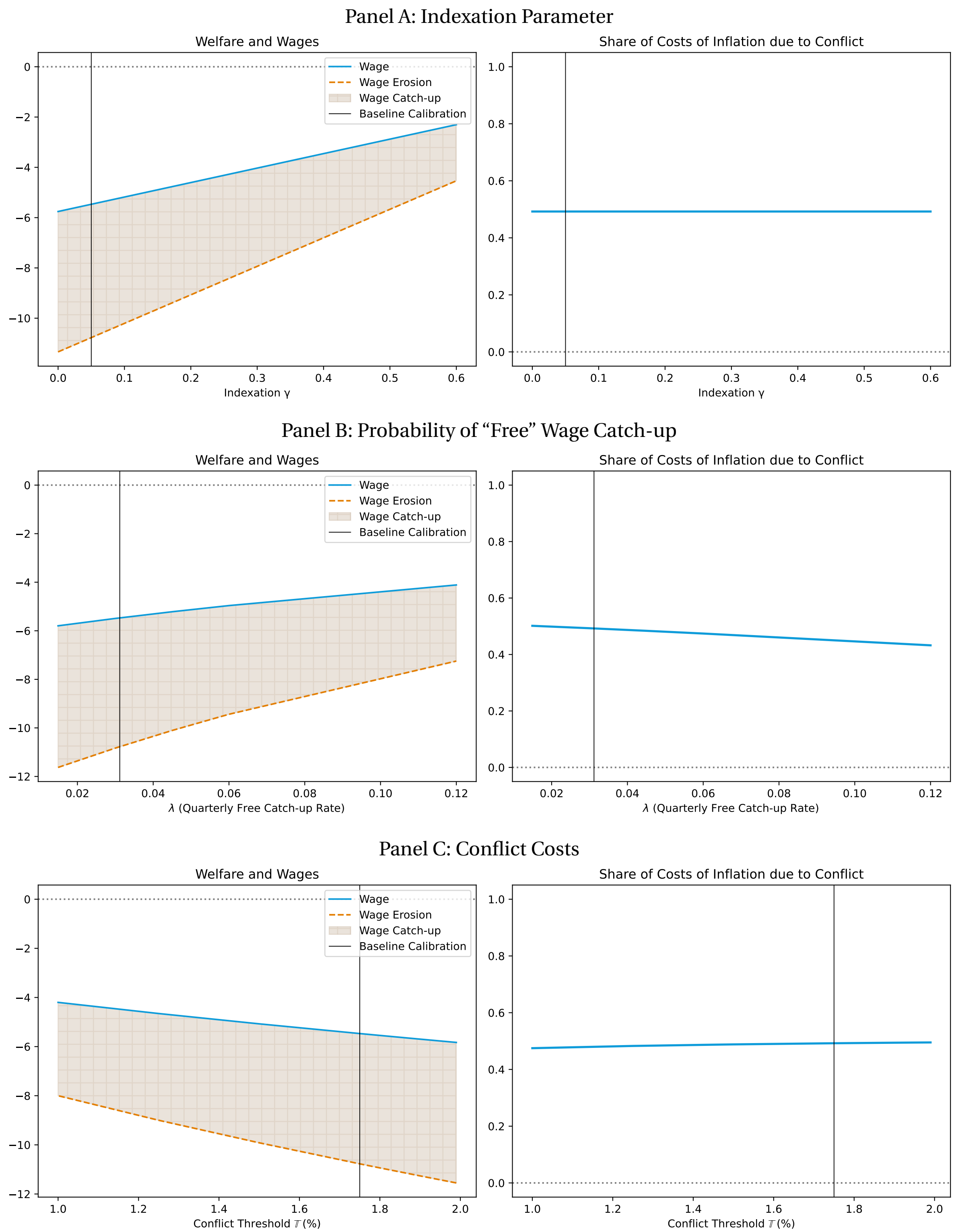
Notes: these figures summarize the impact of the persistent inflation shock on wages and worker welfare under different model parameterizations. The left figure of each panel plots the decline in the present value of real wages (blue solid line), and the present value of welfare-relevant wage erosion (dashed orange line) after the inflation shock, both as a percentage of annual consumption as in Table 3. The gap between the two lines, shaded in gray, represents the present value of wage catch-up achieved through more frequent conflict. The right figure of each panel plots the ratio of these two terms as the parameter varies. Panel A varies the indexation parameter γ between 0 and 0.6. Panel B varies probability of free wage catch-up λ such that the annual share of free wage catch-up, $1-(1-\lambda)^4$, is between 0 and 40%. Panel C varies the conflict cost κ such that the conflict threshold $\mathbb{T}$ varies between 1% and 2%.

Figure B.9: Aggregate Costs of Conflict due to Inflation as a Function of Key Parameters (the Transitory Inflation Shock)



Notes: these figures summarize the impact of the transitory inflation shock on wages and worker welfare under different model parameterizations. The left figure of each panel plots the decline in the present value of real wages (blue solid line), and the present value of welfare-relevant wage erosion (dashed orange line) after the inflation shock, both as a percentage of annual consumption as in Table 3. The gap between the two lines, shaded in gray, represents the present value of wage catch-up achieved through more frequent conflict. The right figure of each panel plots the ratio of these two terms as the parameter varies. Panel A varies the indexation parameter γ between 0 and 0.6. Panel B varies probability of free wage catch-up λ such that the annual share of free wage catch-up, $1-(1-\lambda)^4$, is between 0 and 40%. Panel C varies the conflict cost κ such that the conflict threshold $\mathbb{T}$ varies between 1% and 2%.

Figure B.10: Aggregate Costs of Conflict due to Inflation as a Function of Key Parameters (2021-23 Inflation)



Notes: these figures summarize the impact of the post-Pandemic inflation shock on wages and worker welfare under different model parameterizations. The inflation shock is given by the path of annualized headline PCE inflation over 2021–2023, after subtracting the steady-state inflation based on the historical mean inflation. The left figure of each panel plots the decline in the present value of real wages (blue solid line), and the present value of welfare-relevant wage erosion (dashed orange line) after the inflation shock, both as a percentage of annual consumption as in Table 3. The gap between the two lines, shaded in gray, represents the present value of wage catch-up achieved through more frequent conflict. The right figure of each panel plots the ratio of these two terms as the parameter varies. Panel A varies the indexation parameter γ between 0 and 0.6. Panel B varies probability of free wage catch-up λ such that the annual share of free wage catch-up, $1-(1-\lambda)^4$, is between 0 and 40%. Panel C varies the conflict cost κ such that the conflict threshold $\mathbb{T}$ varies between 1% and 2%.

B.2 Appendix Tables

Table B.1: Distributions in Survey Sample vs. Population

	Survey	US population
Male	0.52	0.52
Female	0.48	0.48
Secondary education (e.g., GED/GCSE)	0.02	0.02
High school diploma/A-levels	0.37	0.39
Technical/community college	0.12	0.11
Undergraduate degree (BA/BSc/other)	0.32	0.30
Graduate degree (MA/MSc/MPhil/other)	0.14	0.13
Doctorate degree (PhD/other)	0.04	0.04
Democrat	0.29	0.28
Republican	0.25	0.26
Independent	0.33	0.33
None	0.06	0.07
Other party	0.06	0.06
22-29 years old	0.24	0.20
30-39 years old	0.38	0.29
40-49 years old	0.21	0.26
50-60 years old	0.17	0.26
Full-Time	0.83	0.83
Part-Time	0.17	0.17
For-profit company	0.80	0.77
Not-for-profit corporation	0.10	0.07
State government	0.03	0.06
Federal government	0.02	0.03
Local government	0.04	0.07
Other employer	0.01	
White	0.68	0.75
Black	0.12	0.14
Asian	0.08	0.07
Mixed	0.08	0.02
Other	0.04	0.02
No reported ethnicity	0.00	

Covered by a	0.11	0.13
Not part of a	0.81	0.87
No reported	0.07	
Income		
$0-$19,999	0.11	0.12
$20,000-$39,999	0.24	0.22
$40,000-$69,999	0.34	0.31
$70,000-$99,999	0.17	0.16
$100,000-$124,999	0.06	0.08
$125,000+	0.07	0.11

Note: The table displays statistics for the overall U.S. population, as compared to the sample of respondents in our survey. We pre-screen so that our respondents are at least 22 years old but no older than 60, full-time or part-time employed, and not self-employed. The statistics for the U.S. population were also limited by these criteria before taking the summary statistics, which are constructed using IPUMS-CPS-ASEC data for March 2023, and Gallup data for 2024.

Table B.2: Wage Growth for Action Takers vs. Non-Action Takers

	Nominal wage growth		Real wage growth	
	(1)	(2)	(3)	(4)
Action taker in 2023	1.840***	1.797***	1.594***	1.704***
	(0.346)	(0.371)	(0.421)	(0.450)
Controls		X		X
Observations	2933	2786	2930	2782

Notes: The dependent variable in columns 1 and 2 is reported nominal wage growth in 2023 (in percent) and the dependent variable in columns 3 and 4 is the perceived real wage growth (in percent), defined as the nominal wage growth in 2023 minus the worker's perceived inflation in 2023. "Action taker in 2023" is an indicator equal to one if the respondent reported taking action to achieve a higher wage growth in 2023. All regressions trim nominal and real wage growth at the 1st and 99th percentiles. Columns 1 and 3 report the bivariate association between being an action taker and wage growth, while columns 2 and 4 add controls for union membership, tenure with the current employer, age, annual pre-tax income category, sex, and highest education level completed. Robust standard errors are reported in parentheses.

Table B.3: Inflation and Labor Market Outcomes—Robustness Table

	5-Year Difference					2-Year Difference	Level
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel (a): Job-to-Job Flows							
$\Delta_{t,t-5}$ Inflation rate	4.628*	8.405**	10.017***	16.469***	8.275**		
	(2.526)	(3.378)	(3.435)	(4.691)	(3.259)		
$\Delta_{t,t-5}$ log(GDP per capita)					1.926		
					(1.331)		
$\Delta_{t,t-2}$ Inflation rate						3.486	
						(2.496)	
Inflation rate							3.249
							(2.736)
Observations	285	283	282	265	282	381	456
Panel (b): Union Membership							
$\Delta_{t,t-5}$ Inflation rate	19.575***	14.638**	11.150**	5.696	12.516**		
	(6.429)	(7.065)	(5.187)	(8.554)	(5.890)		
$\Delta_{t,t-5}$ log(GDP per capita)					-3.167		
					(2.933)		
$\Delta_{t,t-2}$ Inflation rate						7.468**	
						(3.093)	
Inflation rate							16.772*
							(9.245)
Observations	1,308	1,308	1,308	1,178	1,232	1,419	1,566
Panel (c): Strike Activity							
$\Delta_{t,t-5}$ Inflation rate	2.831***	2.431***	2.361***	1.948	2.338***		
	(0.431)	(0.474)	(0.478)	(1.628)	(0.484)		
$\Delta_{t,t-5}$ log(GDP per capita)					0.923		
					(0.599)		
$\Delta_{t,t-2}$ Inflation rate						0.929**	
						(0.400)	
Inflation rate							2.261***
							(0.553)
Observations	1,962	1,963	1,962	1,763	1,853	2,196	2,554
Country FE	✓		✓	✓	✓	✓	✓
Year FE		✓	✓	✓	✓	✓	✓
5% tails trimmed				✓			

Notes: This table shows the relationship between inflation and three labor market outcomes: Panel (a) job-to-job transitions (in percentage points, 30 countries from 1997-2021, sourced from Donovan et al., 2023), Panel (b) union membership defined as the fraction of workers who are in a union (in percentage points, 37 countries from 1960-2022, sourced from the International Labour Organization), panel (c) log of the number of workers involved in strikes and lockouts (80 countries from 1969-2022, sourced from the International Labour Organization, excluding observations with zero strikes). We use headline inflation (expressed in decimal form, e.g., 0.02 for 2%), sourced from the World Bank. In all cases, inflation is trimmed at the top 2% across all years and countries within the World Bank dataset. In columns 1-5, the variables are differenced over 5 years, in column 6 we use the 2-year difference, and in column 7 we use levels. In all panels, Column 1 includes country fixed effects only. Column 2 introduces year fixed effects, and column 3 includes both country and year fixed effects. Column 4 trims 5% of the tails for 5-year inflation growth within each sample. Column 5 adds a control for the 5-year change in log GDP per capita. In all specifications, standard errors are clustered at the country level. Statistical significance is denoted as follows: $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

Table B.4: Predicting Whether Workers Took Action in 2023

	(1)	(2)	(3)	(4)	(5)
Perceived Wage Gap	-0.556***	-0.591***	-0.624***		-0.666***
	(0.144)	(0.144)	(0.154)		(0.147)
Perceived Inflation			0.081	0.316**	
			(0.154)	(0.153)	
Wage Growth without Action				-1.400***	-1.188***
				(0.177)	(0.170)
Observations	2,926	2,781	2,644	2,659	2,754
Controls		X	X	X	X

Notes: The dependent variable is an indicator equal to 1 if the respondent reported taking any action in 2023 to achieve a higher wage growth. The key independent variable is "Perceived wage gap" implied by the employer's default wage offer in 2023, defined as the difference between the nominal wage growth of their employer's default wage offer and their conflict-induced nominal wage growth. "Perceived inflation" is based on reported perceptions of price changes in 2023. "Wage growth without action" is the default nominal wage growth offered (or believed would have been offered) by the employer. All continuous regressors are expressed as percentages. To reduce the influence of outliers, the perceived wage gap and wage growth without action are trimmed at the 1st and 99th percentiles and perceived inflation is trimmed at the 1st and 95th percentile. Controls include union membership, tenure with the current employer, age, pre-tax income category, sex, and highest education level completed. Statistical significance is denoted as follows: $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

Table B.5: Predicting Whether Workers Took Action in 2023 Using the Elicited Conflict Threshold

	(1)	(2)	(3)
Perceived Wage Gap	-0.786***	-0.821***	-0.889***
	(0.147)	(0.148)	(0.156)
Conflict Threshold	-5.004***	-4.742***	-4.703***
	(0.522)	(0.522)	(0.538)
Perceived Inflation			0.050
			(0.158)
Observations	2,727	2,593	2,484
Controls		X	X

Notes: The dependent variable is an indicator equal to 1 if the respondent reported taking any action in 2023 to achieve a higher wage growth. The key independent variable is "Perceived wage gap" implied by the employer's default wage offer in 2023, defined as the difference between the nominal wage growth of their employer's default wage offer and their conflict-induced nominal wage growth. "Perceived inflation" is based on reported perceptions of price changes in 2023. "Conflict threshold" is the elicited conflict threshold ($\mathbb{T}$), based on the hypotheticals in Figure 5. We include those respondents with $\mathbb{T} > 4\%$, assigning them a value of 4.25%, and exclude respondents who give non-monotonic responses in the elicitation of $\mathbb{T}$. All continuous regressors are expressed as percentages. To reduce the influence of outliers, the perceived wage gap is trimmed at the 1st and 99th percentiles and perceived inflation is trimmed at the 1st and 95th percentile. Controls include union membership, tenure with the current employer, age, pre-tax income category, sex, and highest education level completed. Statistical significance is denoted as follows: $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

C Additional Model Analysis

In the theoretical appendices, to improve exposition, we define $\underline{x}_t = -\mathbb{T}_t$. When conflict is costly ($\kappa_{i,t} = \kappa$), the worker's optimal conflict choice is to engage in conflict ($\mathcal{I}_{i,t} = 1$) if $x^d_{i,t} \leq \underline{x}_t$, and not to engage ($\mathcal{I}_{i,t} = 0$) if $x^d_{i,t} > \underline{x}_t$. We use $\underline{x}^{ss} = -\mathbb{T}$ to denote the steady-state value of $\underline{x}_t$.

C.1 Theoretical Extensions

More general distribution of conflict costs. Our main result, Theorem 1, does not depend on the "Calvo-plus" form and holds for a more general distribution of conflict costs with non-negative supports, because the application of the envelope theorem in Milgrom and Segal (2002) does not require specific restrictions on the distribution of conflict costs. Formally, we consider the general case that the conflict cost $\kappa_{i,t}$ is i.i.d. over time and across workers, independent of $z_{i,t}$, and drawn based on the cumulative distribution function $H(\kappa_{i,t})$ with a support of $[0, \infty)$. The worker problem part of the Proof in Theorem 1 continues to hold, with the only modification being that the conflict threshold $\underline{x}_t(\boldsymbol{\pi}_{t+1:\infty}; \kappa_{i,t})$ now also depends on $\kappa_{i,t}$, given by

$$-\kappa_{i,t} + \beta\mathcal{U}(\boldsymbol{\pi}_{t+1:\infty}, 0) = \underline{x}_t(\boldsymbol{\pi}_{t+1:\infty}; \kappa_{i,t}) + \beta\mathcal{U}\left(\boldsymbol{\pi}_{t+1:\infty}, \underline{x}_t(\boldsymbol{\pi}_{t+1:\infty}; \kappa_{i,t})\right).$$

That is, worker with a conflict cost $\kappa_{i,t}$ at t chooses to engage in conflict if $x^d_{i,t} \leq \underline{x}_t(\boldsymbol{\pi}_{t+1:\infty}; \kappa_{i,t})$ and not if $x^d_{i,t} > \underline{x}_t(\boldsymbol{\pi}_{t+1:\infty}; \kappa_{i,t})$. Similar to the Proof in Theorem 1, $\underline{x}_t(\boldsymbol{\pi}_{t+1:\infty}; \kappa_{i,t})$ is is Lipschitz continuous in $\boldsymbol{\pi}_{t+1:\infty}$ around $\boldsymbol{\pi}^{ss}$ for each $\kappa_{i,t} \geq 0$.

The aggregate worker welfare part in Theorem 1 also continues to hold, with minor modifications about how we go from $G^d_t\left(x^d_{i,t}; \boldsymbol{\pi}_\infty\right)$ to $G_t(x_{i,t}; \boldsymbol{\pi}_\infty)$,

$$G_t(x_{i,t}; \boldsymbol{\pi}_\infty) = \int_0^\infty \left[\max\left\{G^d_t(x_{i,t}; \boldsymbol{\pi}_\infty) - G^d_t(\underline{x}_t(\boldsymbol{\pi}_{t+1:\infty}; \kappa_{i,t}); \boldsymbol{\pi}_\infty), 0\right\} + G^d_t(\underline{x}_t(\boldsymbol{\pi}_{t+1:\infty}; \kappa_{i,t}); \boldsymbol{\pi}_\infty)\mathbb{1}_{x_{i,t} \geq 0}\right] dH(\kappa_{i,t}),$$

how we construct $\Phi_{s,s}(\boldsymbol{\pi}_\infty)$ and $G_{s,s}(x_{i,s}; \boldsymbol{\pi}_\infty)$,

$$\Phi_{s,s}(\boldsymbol{\pi}_\infty) = \int_0^\infty \left(1 - G^d_s(\underline{x}_s(\boldsymbol{\pi}_{s+1:\infty}; \kappa_{i,s}); \boldsymbol{\pi}_\infty)\right) dH(\kappa_{i,s}),$$

$$G_{s,s}(x_{i,s}; \boldsymbol{\pi}_\infty) = \int_0^\infty \max\left\{\frac{G^d_s(x_{i,s}; \boldsymbol{\pi}_\infty) - G^d_s(\underline{x}_s(\boldsymbol{\pi}_{s+1:\infty}; \kappa_{i,s}); \boldsymbol{\pi}_\infty)}{\Phi_{s,s}(\boldsymbol{\pi}_\infty)}, 0\right\} dH(\kappa_{i,s}),$$

and how we construct $\Phi_{s,t+1}(\boldsymbol{\pi}_\infty)$ and $G_{s,t+1}\left(x_{i,t+1};\boldsymbol{\pi}_\infty\right)$ for any $t \geq s$,

$$\Phi_{s,t+1}(\boldsymbol{\pi}_\infty) = \Phi_{s,t}(\boldsymbol{\pi}_\infty)\int_0^\infty \left(1 - G^d_{s,t+1}\left(\underline{x}_{t+1}\left(\boldsymbol{\pi}_{\boldsymbol{t+2:\infty}};\kappa_{i,t+1}\right);\boldsymbol{\pi}_\infty\right)\right) dH\left(\kappa_{i,t+1}\right),$$

$$G_{s,t+1}\left(x_{i,t+1};\boldsymbol{\pi}_\infty\right) = \int_0^\infty \max\left\{\frac{G^d_{s,t+1}\left(x_{i,t+1};\boldsymbol{\pi}_\infty\right) - G^d_{s,t+1}\left(\underline{x}_{t+1}\left(\boldsymbol{\pi}_{\boldsymbol{t+2:\infty}};\kappa_{i,t+1}\right);\boldsymbol{\pi}_\infty\right)}{\Phi_{s,t+1}(\boldsymbol{\pi}_\infty)/\Phi_{s,t}(\boldsymbol{\pi}_\infty)}, 0\right\} dH\left(\kappa_{i,t+1}\right).$$

The intensive margin of conflict—allowing conflict costs to scale with wage gains from conflict. In our baseline analysis, conflict costs are fixed and do not depend on the wage gains from conflict (the gap between conflict-induced wage $w^*_{i,t}$ and the default wage $w^d_{i,t}$). Moreover, after engaging in conflict to raise their pay, the worker's (real) wage is given exogenously by the conflict-induced (real) wage $w^*_{i,t}$ and is not chosen by the worker. Here, we consider an alternative setup that captures the intensive margin of conflict. Workers choose the conflict-induced wage, and conflict costs increase with wage gains—akin to Rotemberg costs in price setting. Specifically, when engaging in conflict to raise their wages beyond the default offer, the worker chooses their (real) wage $w_{i,t}$ but incurs a period-t utility cost of $\frac{\kappa}{2}\left(\log w_{i,t} - \log w^d_{i,t}\right)^2$. In this case, our main result remains true: the impact of inflation shocks on aggregate worker welfare is still given by $\hat{\mathscr{W}} \approx \sum_{t=0}^\infty \beta^t \hat{w}^{\text{erosion}}_t$. Wage erosion is still defined as how inflation shocks would impact workers' real wages if their conflict decisions (defined now in terms of the intensity of the conflict $\log w_{i,t} - \log w^d_{i,t}$) were held at steady-state level.

Specifically, the worker i's problem is given by

$$\max_{\{w_{i,t}\}_{t=0}^\infty} \mathbb{E}\left[\sum_{t=0}^\infty \beta^t \left(\log w_{i,t} - \frac{\kappa}{2}\left(\log w_{i,t} - \log w^d_{i,t}\right)^2\right)\right],$$

where $w^d_{i,t} = w_{i,t-1}e^{\alpha-\pi^{ss}-(1-\gamma)(\pi_t-\pi^{ss})}$ captures the default real wage offered by the employer as in the main analysis. We can again summarize it terms of "wage gap," $x_{i,t} \equiv \log w_{i,t} - \log w^*_{i,t}$, defined as the difference between the actual wage and the frictionless wage $w^*_{i,t}$ given by (3):

$$\mathscr{U}\left(\boldsymbol{\pi}_\infty, x_{i,-1}\right) = \max_{\{x_{i,t}\}_{t=0}^\infty} \mathbb{E}\left[\sum_{t=0}^\infty \beta^t \left\{x_{i,t} - \frac{\kappa}{2}\left(x_{i,t} - \left[\overbrace{x_{i,t-1} - \left(\mu + z_{i,t}\right) - (1-\gamma)\hat{\pi}_t}^{x^d_{i,t}}\right]\right)^2\right\}\right].$$

Worker's optimal choice of $x_{i,t}$ implies, for all $t \geq 0$,

$$1 - \kappa\left(x_{i,t} - x^d_{i,t}\right) + \beta\mathbb{E}_t\left[\kappa\left(x_{i,t+1} - x^d_{i,t+1}\right)\right] = 0,$$

where $\mathbb{E}_t$ averages over the realization of idiosyncratic shocks $\{z_{i,s}\}_{s=t+1}^\infty$ starting from $t+1$. Iterating forward, we have, for all $t \geq 0$,

$$x_{i,t} = x_{i,t}^d + \frac{1}{\kappa\left(1-\beta\right)}.$$

Applying the envelope theorem similar to the proof of Theorem 1, for all $s \geq 0$,

$$\frac{\partial \mathcal{U}\left(\boldsymbol{\pi}_\infty, x_{i,-1}\right)}{\partial \pi_s} = -\beta^s \kappa \left(x_{i,s} - x_{i,s}^d\right)\left(1-\gamma\right) = -\frac{\beta^s}{1-\beta}\left(1-\gamma\right) \quad \text{a.e.},$$

Similar to the proof of Theorem 1, the impact of inflation on aggregate worker welfare is

$$\begin{aligned} \hat{\mathcal{W}} &= \int_0^1 \mathcal{U}\left(\boldsymbol{\pi}_\infty, x_{i,-1}\right) di - \int_0^1 \mathcal{U}\left(\boldsymbol{\pi}^{\boldsymbol{ss}}, x_{i,-1}\right) di. \\ &= -\left(1-\gamma\right)\sum_{s=0}^{\infty}\beta^s \sum_{k=0}^{\infty}\beta^k \hat{\pi}_s = \sum_{t=0}^{\infty}\beta^t \hat{w}_t^{\text{erosion}}, \end{aligned}$$

where

$$\hat{w}_t^{\text{erosion}} = -\left(1-\gamma\right)\sum_{s=0}^{t}\hat{\pi}_s \tag{C.1}$$

is now defined as how inflation shocks would impact workers' real wages if their conflict decisions (defined in terms of the intensity of the conflict $x_{i,t} - x_{i,t}^d$) are held at steady-state level. The formula in (C.1) is as if $\Phi_k^{ss} = 1$ for all k in the formula of wage erosion (14) in Proposition 2. This is because the inflation shock $\hat{\pi}_s$ would lower workers' real wage at $t \geq s$ by $\left(1-\gamma\right)\hat{\pi}_s$ if the intensity of their conflict decisions were held at steady-state level.

Intensive-margin of labor supply adjustment. Here, we consider an alternative setting where workers adjust labor supply along a continuous intensive margin. This maps directly to the hard-work option in Panel B of Figure 1. In this case, the impact of inflation shocks on aggregate worker welfare is given by "pay erosion," defined as the effect of inflation shocks on workers' total real pay if their labor supply is held at the steady-state level.

The worker i's problem is given by

$$\max_{\{\ell_{i,t}\}_{t=0}^{\infty}} \mathbb{E}\left[\sum_{t=0}^{\infty}\beta^t u\left(c_{i,t}, \ell_{i,t}\right)\right] \quad \text{s.t.} \quad (\text{C.2}),$$

where $\ell_{i,t}$ denotes worker i's labor supply. The worker's consumption is given by $c_{i,t} = w_{i,t} = w_{i,t}^h \ell_{i,t}$, where $w_{i,t}$ the worker's total real pay and $w_{i,t}^h$ is the worker's hourly real wage. We assume that $u(c,\ell)$ is strictly increasing in c, strictly decreasing in ℓ, jointly concave, continuously differentiable and belongs to the balanced growth path preferences of the form in King, Plosser, and Rebelo (1988).[6]

[6] Alternatively, we could allow a time-varying utility function $u_t(c,\ell)$ to guarantee the existence of a balanced growth path.

This ensures that a balanced growth path is possible since real wages grow over time in our model. The hourly wage evolves similarly to the analysis (but we abstract from wage gains due to costly conflicts, as we focus on the intensive margin of wage adjustment):

$$w_{i,t}^h = \begin{cases} w_{i,t-1}^h e^{\alpha - \pi^{ss} - (1-\gamma)(\pi_t - \pi^{ss})} & \text{w. prob. } 1-\lambda \\ w_{i,t}^* & \text{w. prob. } \lambda, \end{cases} \tag{C.2}$$

where $w_{i,t}^*$ follows its process in the main analysis. We define the function

$$v\left(w_{i,t}^h\right) = \max_{\ell} u\left(w_{i,t}^h \ell, \ell\right).$$

We assume that the maximizer $\ell^*\left(w_{i,t}^h\right)$ exists and is unique and continuously differentiable. It follows that

$$v'\left(w_{i,t}^h\right) w_{i,t}^h = u_c\left(w_{i,t}, \ell^*\left(w_{i,t}^h\right)\right) w_{i,t}.$$

The aggregate worker welfare can be written as

$$\mathscr{W} = \int_0^1 \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t v\left(w_{i,t}^h\right) di\right].$$

Let $\hat{w}_{i,t}^h = \log w_{i,t}^h(\boldsymbol{\pi}_t, h_{i,t}) - \log w_{i,t}^h(\boldsymbol{\pi}^{ss}, h_{i,t})$ denote the effect of inflation on the worker's log hourly wage given their idiosyncratic history. Similar to the proof of the case with general utility in (C.11), to first order, the impact of inflation shocks on worker welfare is given by

$$\hat{\mathscr{W}} \approx \int \sum_{t=0}^{\infty} \beta^t v'\left(w_{i,t}^{h,ss}\right) w_{i,t}^{h,ss} \hat{w}_{i,t}^h di = \int \sum_{t=0}^{\infty} \beta^t u_c\left(w_{i,t}^{ss}, \ell_{i,t}^{ss}\right) w_{i,t}^{ss} \hat{w}_{i,t}^h di.$$

We now define "pay erosion" as the effect of inflation shocks on workers' total real pay when their labor supply is held at the steady-state level, and note that it equals the effect of inflation shocks on the worker's log hourly wage $\hat{w}_{i,t}^h$:

$$\hat{w}_{i,t}^{\text{erosion}} \equiv \log\left(w_{i,t}^h(\boldsymbol{\pi_t}, h_{i,t}) \ell_{i,t}^{ss}\right) - \log\left(w_{i,t}^h(\boldsymbol{\pi}^{ss}, h_{i,t}) \ell_{i,t}^{ss}\right) = \hat{w}_{i,t}^h.$$

We can then express the impact of inflation shocks on worker welfare as

$$\hat{\mathscr{W}} \approx \int \sum_{t=0}^{\infty} \beta^t u_c\left(w_{i,t}^{ss}, \ell_{i,t}^{ss}\right) w_{i,t}^{ss} \hat{w}_{i,t}^{\text{erosion}} di$$
$$= \sum_{t=0}^{\infty} \beta^t \left[\int_0^1 u_c\left(w_{i,t}^{ss}, \ell_{i,t}^{ss}\right) w_{i,t}^{ss} di\right] \int_0^1 \frac{u_c\left(w_{i,t}^{ss}, \ell_{i,t}^{ss}\right) w_{i,t}^{ss}}{\int_0^1 u_c\left(w_{i,t}^{ss}, \ell_{i,t}^{ss}\right) w_{i,t}^{ss} di} \hat{w}_{i,t}^{\text{erosion}} di. \tag{C.3}$$

Compared to (12), there are two main differences. First, as in the extension beyond log utility and hand-to-mouth workers, each worker's pay erosion must be weighted appropriately, reflecting differences in marginal utility and steady-state pay. Second, total pay erosion now plays the role of wage erosion. In our main analysis, because a worker's total real pay equals their real wage, pay erosion and wage erosion are equivalent.

Finally, we could allow workers to achieve wage gains through costly conflicts, as in the main analysis, while also allowing them to make the intensive-margin labor supply adjustments studied here. In this further extension, the impact of inflation shocks on worker welfare would still be summarized by (C.3). That is, the impact is still given by "pay erosion," defined as the effect of inflation shocks on workers' total real pay when both conflict decisions and labor supply are held at their steady-state levels.

Beyond log utility and hand-to-mouth consumers. In the main analysis, we study the case in which the worker has log utility and is hand-to-mouth. Our main result, Theorem 1, can be extended to the case where the worker faces a standard borrowing constraint or does not have log utility. Here, we allow the worker's utility $u(\cdot)$ to be an arbitrary twice-differentiable, strictly increasing, and strictly concave function. The worker's budget constraint is given by

$$c_{i,t} + a_{i,t} = w_{i,t} + (1+r)\, a_{i,t-1} \quad \text{s.t.} \quad a_{i,t} \geq \underline{a}, \tag{C.4}$$

where $a_{i,t}$ is the net savings, r is the real rate of return on savings (treated as exogenous as in the main analysis), and $a_{i,-1}$ is given. The worker is subject to the standard borrowing constraint $a_{i,t} \geq \underline{a}$.

The worker i's problem as a function of the inflation path $\boldsymbol{\pi}_\infty$ and initial conditions $\left(w_{i,-1}, w_{i,-1}^*, a_{i,-1}\right)$ can be written as:

$$\mathscr{U}\left(\boldsymbol{\pi}_\infty, w_{i,-1}, w_{i,-1}^*, a_{i,-1}\right) = \max_{\{a_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty), c_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty), \mathscr{I}_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty) \in \{0,1\}\}_{t=0}^{\infty}} \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t u\left(c_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right) - \kappa_{i,t} \mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right] \tag{C.5}$$

subject to (C.4) and

$$w_{i,t} = \begin{cases} w_{i,t-1} e^{\alpha - \pi^{ss} - (1-\gamma)(\pi_t - \pi^{ss})} & \text{if } \mathscr{I}_{i,t} = 0, \\ w^*_{i,t} & \text{if } \mathscr{I}_{i,t} = 1. \end{cases} \tag{C.6}$$

Note that the wage gaps are no longer sufficient statistics for workers' problems when the worker faces a standard borrowing constraint or does not have log utility. Let $\left\{\mathscr{I}^*_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right\}_{t=0}^{\infty}$ denote the optimally chosen conflict decision and $\mathscr{I}^*_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right) = \left\{\mathscr{I}^*_{i,\tau}\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right\}_{\tau=0}^{t}$ the corresponding history of conflict decisions up to t. Also let $\left\{a^*_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), c^*_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right\}_{t=0}^{\infty}$ denote the optimally chosen net savings and the corresponding consumption given the optimally chosen conflict and net savings decisions.

The key challenge is that the envelope theorem we use for Theorem 1 (Theorem 2 of Milgrom and Segal (2002)) only applies to unconstrained problems. To apply the envelope theorem suitable for constrained problems (Corollary 5 of Milgrom and Segal (2002)), the choice set must be a convex compact set. We henceforth consider an alternative problem where workers choose the *probability* of conflict with their employer to increase pay, $\mathscr{I}_{i,t} \in [0,1]$. In this case, workers' choices $\left\{\mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right\}_{t=0}^{\infty}$ reside in a convex compact set.[7] The dynamics of the worker i's real wage is given by:

$$w_{i,t} = \begin{cases} w_{i,t-1} e^{\alpha - \pi^{ss} - (1-\gamma)(\pi_t - \pi^{ss})} & \text{with prob. } 1 - \mathscr{I}_{i,t} \\ w^*_{i,t} & \text{with prob. } \mathscr{I}_{i,t} \end{cases}. \tag{C.7}$$

The worker's alternative problem is then given by

$$\tilde{\mathscr{U}}\left(\boldsymbol{\pi}_\infty, w_{i,-1}, w^*_{i,-1}, a_{i,-1}\right) = \max_{\left\{a_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), c_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), \mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right) \in [0,1]\right\}_{t=0}^{\infty}} \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t u\left(c_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right) - \kappa_{i,t}\mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right] \quad \text{s.t. (C.4) and (C.7).} \tag{C.8}$$

In fact, the worker's value $\tilde{\mathscr{U}}\left(\boldsymbol{\pi}_\infty, w_{i,-1}, w^*_{i,-1}, a_{i,-1}\right)$, allowing them to choose the probability of conflict $\mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right) \in [0,1]$, is the same as the worker's value $\mathscr{U}\left(\boldsymbol{\pi}_\infty, w_{i,-1}, w^*_{i,-1}, a_{i,-1}\right)$, when they make a discrete choice of whether to conflict or not $\mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right) \in \{0,1\}$. This is because a worker will choose an interior probability of conflict $\mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right) \in (0,1)$ if and only if they are indifferent between conflict and non-conflict. By the same token, the optimally chosen conflict decision $\left\{\mathscr{I}^*_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right\}_{t=0}^{\infty}$ for the problem (C.5) also maximizes the alternative problem (C.8).

We can then apply the envelope theorem in Corollary 5 of Milgrom and Segal (2002) to the alter-

[7] We use the fact that the infinite product of compact sets $[0,1]$ remains compact under the product topology.

native problem (C.8). Similar to (A.7),

$$\frac{\partial \log \omega_t\left(\boldsymbol{\pi}_{\boldsymbol{t}}, \mathscr{I}^*_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)}{\partial \pi_s} = \begin{cases} 0 & \text{if } t < s \\ -(1-\gamma)\prod_{\tau=s}^{t}\left(1-\mathscr{I}^*_{i,\tau}\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right) & \text{if } t \geq s \end{cases}. \tag{C.9}$$

As a result,

$$\begin{aligned} \frac{\partial \mathscr{U}\left(\boldsymbol{\pi}_\infty, w_{i,-1}, w^*_{i,-1}, a_{i,-1}\right)}{\partial \pi_s} &= \sum_{t=s}^{\infty} \beta^t \mathbb{E}\left[\lambda_{i,t} w_{i,t} \frac{\partial \log \omega_t\left(\boldsymbol{\pi}_{\boldsymbol{t}}, \mathscr{I}^*_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)}{\partial \pi_s}\right] \quad \text{a.e.} \\ &= -(1-\gamma)\sum_{t=s}^{\infty}\beta^t \mathbb{E}\left[u'\left(c_{i,t}\right) w_{i,t} \prod_{\tau=s}^{t}\left(1-\mathscr{I}^*_{i,\tau}\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right)\right] \quad \text{a.e.,} \end{aligned} \tag{C.10}$$

where $w_{i,t} = \omega_t\left(\boldsymbol{\pi}_{\boldsymbol{t}}, \mathscr{I}^*_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)$ and $\lambda_{i,t} = u'\left(c_{i,t}\right) = u'\left(c^*_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right)$ capture the Lagrange multiplier of the budget constraint at history $h_{i,t}$ given the aggregate shock $\boldsymbol{\pi}_\infty$. Aggregating (C.10),

$$\frac{\partial \mathscr{W}\left(\boldsymbol{\pi}_\infty\right)}{\partial \pi_s} = -(1-\gamma)\sum_{t=s}^{\infty}\beta^t \int_0^1 \mathbb{E}\left[u'\left(c_{i,t}\right) w_{i,t}\prod_{\tau=s}^{t}\left(1-\mathscr{I}^*_{i,\tau}\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right)\right] di, \quad \text{a.e.}$$

Similar to the proof of Theorem 1, we know that, to first order,

$$\hat{\mathscr{W}} \approx \sum_{t=0}^{\infty}\beta^t \int_0^1 u'\left(c^{ss}_{i,t}\right) w^{ss}_{i,t}\hat{w}^{\text{erosion}}_{i,t} di,$$

where $c^{ss}_{i,t} = c^*_{i,t}\left(h_{i,t};\boldsymbol{\pi}^{\boldsymbol{ss}}\right)$, $w^{ss}_{i,t} = \omega_t\left(\boldsymbol{\pi}^{\boldsymbol{ss}}, \mathscr{I}^*_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}^{\boldsymbol{ss}}\right), h_{i,t}\right)$, and

$$\begin{aligned} \hat{w}^{\text{erosion}}_{i,t} &\equiv \log\left(\omega_t\left(\boldsymbol{\pi}_{\boldsymbol{t}}, \mathscr{I}^*_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}^{\boldsymbol{ss}}\right), h_{i,t}\right)\right) - \log\left(\omega_t\left(\boldsymbol{\pi}^{\boldsymbol{ss}}, \mathscr{I}^*_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}^{\boldsymbol{ss}}\right), h_{i,t}\right)\right) \\ &= -(1-\gamma)\sum_{s=0}^{t}\prod_{\tau=s}^{t}\left(1-\mathscr{I}^*_{i,\tau}\left(h_{i,\tau};\boldsymbol{\pi}^{\boldsymbol{ss}}\right)\right)\cdot \hat{\pi}_s. \end{aligned}$$

Together, the impact of inflation $\{\hat{\pi}_t\}_{t=0}^{\infty}$ on aggregate worker welfare can be written as

$$\hat{\mathscr{W}} \approx \sum_{t=0}^{\infty}\beta^t\left[\int_0^1 u'\left(c^{ss}_{i,t}\right) w^{ss}_{i,t} di\right]\int_0^1 \frac{u'\left(c^{ss}_{i,t}\right) w^{ss}_{i,t}}{\int_0^1 u'\left(c^{ss}_{i,t}\right) w^{ss}_{i,t} di}\hat{w}^{\text{erosion}}_{i,t} di. \tag{C.11}$$

Compared to (12), different workers' wage erosion may receive different weights $\frac{u'\left(c^{ss}_{i,t}\right) w^{ss}_{i,t}}{\int_0^1 u'\left(c^{ss}_{i,t}\right) w^{ss}_{i,t} di}$: workers with lower levels of consumption have a higher marginal utility of consumption, so they receive a relatively higher weight conditional on their wage.

Conflict-induced real wages co-move with inflation. In our baseline model, the conflict-induced (real) wage $w_{i,t}^*$ is exogenous and invariant to inflation shocks. Theorem 1 also extends to the case where $w_{i,t}^*$ co-moves with inflation, for example, because $w_{i,t}^*$ depends on the state of the labor market, which itself may be influenced by inflation (as further explored in Appendices C.3 and C.4). In this case, the first-order impact of inflation shocks on aggregate worker welfare is still given by $\hat{\mathscr{W}} \approx \sum_{t=0}^{\infty} \beta^t \hat{w}_t^{\text{erosion}}$, where wage erosion—how aggregate shocks would impact the workers' real wages if their conflict decisions did not respond to aggregate shocks—is given by (15), restated here:

$$\hat{w}_t^{\text{erosion}} = -\left(1-\gamma\right) \sum_{s=0}^{t} \Phi_{t-s}^{ss} \hat{\pi}_s + \sum_{s=0}^{t} \left(1 - \Phi_{t-s}^{ss}\right) \hat{g}_{w,s},$$

where $g_{w,s} \equiv \log\left(w_s^* / w_{s-1}^*\right)$ is the growth rate of aggregate conflict-induced (real) wages $\log w_s^* \equiv \int_0^1 \log\left(w_{i,s}^*\right) di$ and deviations from their steady-state values are still denoted by hats. The first term is exactly the same as in (14), and the second term captures how inflation shocks affect workers' real wages through the growth of conflict-induced real wages when conflict decisions are fixed at their steady-state value.

Specifically, the conflict-induced real wage $w_{i,t}^*$ now generalizes (3) and follows

$$\log w_{i,t}^* = \log w_{i,t-1}^* + g_{w,t} + z_{i,t}, \tag{C.12}$$

where $g_{w,t} \equiv \log\left(w_t^* / w_{t-1}^*\right)$ is the growth rate of the aggregate conflict-induced (real) wage, which can depend on inflation shocks, and $\log w_t^* = \int \log w_{i,t}^* di$. In this case, the worker's problem can then be summarized by:

$$\max_{\{\mathscr{I}_{i,t}\}_{t=0}^{\infty}} \mathbb{E}\left[\sum_{t\geq 0} \beta^t \left[x_{i,t} - \kappa_{i,t} \mathscr{I}_{i,t}\right]\right],$$

subject to the dynamics of the wage gap

$$x_{i,t} = \begin{cases} x_{i,t-1} - \left(\mu + z_{i,t}\right) - \hat{g}_{w,t} - \left(1-\gamma\right)\hat{\pi}_t & \text{if } \mathscr{I}_{i,t} = 0 \\ 0 & \text{if } \mathscr{I}_{i,t} = 1 \end{cases},$$

where deviations from their steady-state values are still denoted by hats. This is the same problem as (7) with relevant aggregate shocks replaced from $\left\{\left(1-\gamma\right)\hat{\pi}_t\right\}_{t=0}^{\infty}$ to $\left\{\hat{g}_{w,t} + \left(1-\gamma\right)\hat{\pi}_t\right\}^{\infty}$. So, the Proof in Theorem 1, which focuses on the problem in (7) based on wage gaps, continues to hold:

$$\hat{\mathscr{W}}^x \approx \sum_{t=0}^{\infty} \beta^t \hat{x}_t^{\text{erosion}},$$

where $\hat{x}_t^{\text{erosion}}$ is defined as in (A.2), which captures the impact of aggregate shocks on aggregate wage gaps while holding each worker's conflict decision at the steady-state level, and is given by

$$\hat{x}_t^{\text{erosion}} = -\left(1-\gamma\right)\sum_{s=0}^{t}\Phi_{t-s}^{ss}\hat{\pi}_s - \sum_{s=0}^{t}\Phi_{t-s}^{ss}\hat{g}_{w,s} \quad \forall t \geq 0,$$

and $\hat{\mathcal{W}}^x$ is now defined as in (A.4), which captures the impact of aggregate shocks on worker welfare sans the exogenous component in (6):

$$\hat{\mathcal{W}}^x = \hat{\mathcal{W}} - \sum_{t=0}^{\infty}\beta^t \hat{w}_t^*.$$

From the definition of wage gap, $x_{i,t} \equiv \log w_{i,t} - \log w_{i,t}^*$, we know that wage erosion, which captures the aggregate shocks on aggregate real wages while holding each worker's conflict decision as if inflation and productivity growth are at the steady-state level, is connected with $\hat{x}_t^{\text{erosion}}$ by:

$$\hat{w}_t^{\text{erosion}} = \hat{x}_t^{\text{erosion}} + \hat{w}_t^*,$$

where $\hat{w}_t^* = \sum_{s=0}^{t}\hat{g}_{w,s}$. Together, we arrive at (15).

C.2 Additional Materials on Quantification

C.2.1 Mapping survey elicitation to the model

Conflict threshold. In our survey, we first ask respondents to think 12 months ahead and report their conflict-induced nominal wage growth relative to their current wage. We denote this growth by $\Delta W^* \equiv \log\frac{W^*}{W_-}$, where W^* denotes the nominal wage 12 months ahead induced by a single instance of conflict and W_- denotes the current nominal wage. The growth rate of the employer's default wage offer is given by $\Delta W^d \equiv \log\frac{W^d}{W_-}$, where W^d denotes the default nominal wage 12 months ahead absent any instance of conflict.

By definition, the wage gap implied by the employer's default wage offer is given by:

$$\begin{aligned} x^d \equiv \log w^d - \log w^* &= \log\frac{W^d}{P} - \log\frac{W^*}{P} \\ &= \log W^d - \log W^* = \log\frac{W^d}{W_-} - \log\frac{W^*}{W_-} \\ &= \Delta W^d - \Delta W^*, \end{aligned}$$

where P denotes the price level. In words, the wage gap of the default wage offer is the difference between default nominal wage growth and conflict-induced wage growth.

Let $v^{ss}(x)$ denote the worker's value given its end-of-period wage gap in (7) at steady state. That is, $v^{ss}(x) \equiv x + \max_{\{\mathscr{I}_{i,t}\}_{t=1}^{\infty}} \mathbb{E}\left[\sum_{t\geq 1} \beta^t \left(x_{i,t} - \kappa_{i,t}\mathscr{I}_{i,t}\right) | x_{i,0} = x\right]$, subject to (5) and $\pi_t = \pi^{ss}$ for all t. If workers engage in conflict and obtain nominal wage growth ΔW^*, they receive the value $v^{ss}(0) - \kappa$. If instead they accept the default wage offer ΔW^d, they receive the value $v^{ss}\left(\Delta W^d - \Delta W^*\right)$.

As explained in the paper, we elicit ΔW^{indiff}, the default nominal wage growth at which workers are indifferent between accepting their employer's default wage offer versus choosing to take costly action. Formally, ΔW^{indiff} solves

$$v^{ss}\left(\Delta W^{\text{indiff}} - \Delta W^*\right) = v^{ss}(0) - \kappa.$$

Note that because the conflict threshold $\mathbb{T}$ solves precisely

$$v^{ss}(-\mathbb{T}) = v^{ss}(0) - \kappa,$$

it follows that $\mathbb{T} = \Delta W^* - \Delta W^{\text{indiff}}$.

Default nominal wage growth. In the model, the default wage is given by $W^d = W_- e^{\alpha + \gamma(\pi - \pi^{ss})}$. It follows that the default nominal wage growth is a function of inflation:

$$\Delta W^d(\pi) = \log\left(\frac{W^d}{W_-}\right) = \alpha + \gamma\left(\pi - \pi^{ss}\right).$$

In our survey, we elicit people's perceived default nominal wage growth under different inflation scenarios. We can then recover α and γ directly from the OLS regression in Figure 8.

C.2.2 Computation methods

To solve the model, we discretize the wage gaps on an equally-spaced grid ranging from -6% to 0%. We approximate the distribution of idiosyncratic shocks $z_{i,t}$ using a finite-support discretization method. To ensure a smooth solution, we slightly modify the baseline worker problem by introducing an arbitrarily small taste shock. Specifically, if the worker does not receive a free wage catch-up opportunity, then they choose to conflict if

$$v_t(0) - \kappa + \xi^{\text{conflict}} \geq v_t(x) + \xi^{\text{no-conflict}},$$

where ξ^{conflict} and $\xi^{\text{no-conflict}}$ denote i.i.d. Type-I Extreme-Value random variables with scale parameter $1/s$ and $v_t(x)$ denotes the worker's value given the end-of-period wage gap in (7) in the taste-shock-augmented model, as given by (C.14). This assumption implies that the probability that a worker with default wage gap x engages in conflict to increase their wage is given by

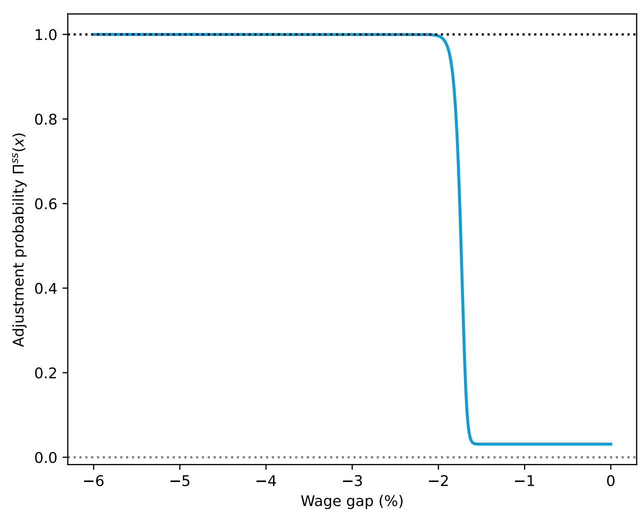
$$\lambda + (1-\lambda)\frac{e^{s(v_t(0)-\kappa)}}{e^{s(v_t(0)-\kappa)} + e^{s v_t(x)}}, \tag{C.13}$$

where

$$v_t(x) = x + \beta\mathbb{E}\left[\lambda v_{t+1}(0) + (1-\lambda)\left(\frac{\log\left\{e^{s(v_{t+1}(0)-\kappa)} + e^{s v_{t+1}\left(x^d_{i,t+1}\right)}\right\}}{s} + \frac{\gamma_{EM}}{s}\right)|x_{i,t} = x\right] \quad \text{s.t.} \quad (5), \tag{C.14}$$

where γ_{EM} is the Euler-Mascheroni constant. As $s \to \infty$, the solution with taste shocks converges to the baseline model. That is, the probability that a worker with wage gap x engages in conflict to increase their wage in (C.13) is λ if $v_t(0) - \kappa < v_t(x)$, and 1 if $v_t(0) - \kappa \geq v_t(x)$. In our numerical implementation, we set the shape parameter to a large value, $s = \frac{1}{0.0005}$. The resulting steady-state adjustment probabilities are shown in Figure C.1.

Figure C.1: The Probability that a Worker with Wage Gap x Engages in Conflict



Notes: this figure plots the steady-state probability that a worker engages in conflict in (C.13) under the baseline calibration with an additional Type-I EV–distributed taste shock, with location parameter 0 and shape parameter $s = 1/0.0005$.

C.3 General-Equilibrium Determination of Inflation

In the main analysis, we study the case in which inflation shocks are exogenous. Here, we study a general equilibrium model in which inflation is determined endogenously. In this model, inflation can be driven by either positive aggregate demand shocks (monetary easing shocks) or negative aggregate supply shocks (productivity shocks).

Workers. There is a continuum of labor types $i \in [0,1]$. For each type i, workers belong to a type-specific large family that provides insurance against idiosyncratic employment risk. Each worker of type i supplies one unit of labor inelastically. We use $n_{i,t}$ to denote the total number of employed workers of type i. The consumption of i's large family is given by $C_{i,t} = n_{i,t} w_{i,t} e^{-\kappa_{i,t}\mathscr{I}_{i,t}}$, where $w_{i,t}$ is the real wage of labor type i and $\kappa_{i,t}$ controls the fraction of wage loss by taking conflict decisions.[8] The conflict cost $\kappa_{i,t}$ follows the same process as in the main analysis and is equal for all members of the family.

The preferences of the large family of type i are given by:

$$\mathscr{U}_i = \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t \log C_{i,t}\right] = \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t \log n_{i,t}\right] + \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t \left(\log w_{i,t} - \kappa_{i,t}\mathscr{I}_{i,t}\right)\right].$$

Real wages are determined as in the baseline model: the default real wage is given by

$$w_{i,t}^d = w_{i,t-1} e^{\alpha - \pi^{ss} - (1-\gamma)(\pi_t - \pi^{ss})}$$

and the conflict-induced real wage is now given by:

$$\log w_{i,t}^* = \log w_t^* + \log \vartheta_{i,t} \quad \text{and} \quad \log \vartheta_{i,t} = \log \vartheta_{i,t-1} + g + z_{i,t},$$

where $\log w_t^*$ captures the aggregate component of the conflict-induced wage and $\vartheta_{i,t}$ captures the type-specific productivity level which is subject to type-specific productivity shocks $z_{i,t}$. These shocks satisfy $\int_0^1 z_{i,t} di = 0$ and $\int_0^1 \log \vartheta_{i,-1} di = 0$. Conflict decisions occur at the worker level, taking total labor demand for each type as given. So, the optimal conflict decision is exactly the same as in the main analysis, summarized by (7). The large-family framework follows the standard approach in the literature for incorporating labor markets into New Keynesian models, as Galí (2011), and ensures that the optimal conflict decision is perfectly aligned with the main analysis.

Firms. Competitive firms have a Cobb–Douglas production function using all labor inputs $i \in [0,1]$.

$$\log Y_t = a_t + \epsilon \int_0^1 \log\left(\vartheta_{i,t} n_{i,t}\right) di$$

where $\epsilon \in (0,1)$ captures the return to scale and a_t is an aggregate supply (productivity) shock. The firms maximize real profits:

$$\Pi_t = Y_t - \int_0^1 w_{i,t} n_{i,t} di.$$

Wages. We use a simple wage rule to capture how a tighter labor market leads to higher wages in

[8] Note that specifying the conflict cost as a fraction of the wage, rather than in utility units, simplifies the analysis in this extension; moreover, the main analysis can be interpreted similarly in this way.

general equilibrium. Specifically, we assume that the aggregate component of the conflict-induced real wage is given by:

$$\hat{w}_t^* = \psi_N \hat{N}_t, \tag{C.15}$$

where $\log N_t = \int_0^1 \log n_{i,t} di$ captures aggregate employment, $\hat{w}_t^* = \log w_t^* - \log w^{*,ss}$, and $\hat{N}_t = \log N_t - \log N^{ss}$. Gertler et al. (2020) and Hazell and Taska (2025) show that this process approximates well the behavior of the real wages. Christiano, Eichenbaum, and Trabandt (2016) also find that simple wage rules of this sort approximate well the dynamics of more complex bargaining models.

Capitalists. Capitalists own the firms and earn dividends from their profits Π_t. They solve a standard intertemporal problem, choosing consumption, C_t^c, and savings, A_{t+1}^c, to maximize

$$\sum_{t=0}^{\infty} \beta^t \log C_t^c$$

subject to the budget constraint

$$C_t^c + A_{t+1}^c = e^{r_{t-1}} A_t^c + \Pi_t.$$

Their Euler condition for optimality is:

$$u'\left(C_t^c\right) = \beta e^{r_t} u'\left(C_{t+1}^c\right),$$

where

$$r_t = i_t - \pi_{t+1}$$

is real interest rate.

Monetary policy. The monetary authority controls the path of nominal interest rates $\{i_t\}_{t\geq 0}$, following a Taylor rule:

$$i_t = i^{ss} + \phi_\pi \hat{\pi}_t - \hat{\iota}_t$$

where $i^{ss} = -\log\beta + \pi^{ss}$ is the steady-state nominal interest rate, and $\hat{\iota}_t$ is an aggregate demand (monetary) shock with mean zero. A positive $\hat{\iota}_t$ corresponds to a monetary easing and a positive aggregate demand shock.

Market clearing. In equilibrium, the goods market clears according to $Y_t = \int_0^1 E_{i,t} di + C_t^c$, and the asset market clears according to $A_t^c = 0$, where $E_{i,t} \equiv C_{i,t} e^{\kappa_{i,t}\mathscr{I}_{i,t}}$ captures the total expenditure of workers of type i inclusive of the resource cost of conflict $n_{i,t} w_{i,t}\left(1 - e^{-\kappa_{i,t}\mathscr{I}_{i,t}}\right)$. Because assets are in zero net supply, the equilibrium is such that $C_t^c = \Pi_t = (1-\epsilon)\, Y_t$.

Calibration. We calibrate the model at a quarterly frequency. For consistency, the parameters that relate to the optimal conflict decision in (7) are the same as in the main analysis. We set $\epsilon = 0.85$

to target a 15% profit share (Karabarbounis and Neiman, 2019). We choose steady-state productivity a^{ss} to normalize steady-state output to one, $Y^{ss} = 1$. We set the steady-state real wage such that $N^{ss} = 0.945$, implying a steady-state unemployment rate of 5.5%. For the wage rule in (C.15), we set $\psi_N = 1$, as estimated by Gertler et al. (2020) and Hazell and Taska (2025). Finally, we set $\phi_\pi = 1.5$, the standard Taylor rule parameter.

The impact of aggregate shocks on worker welfare. The economy starts from a steady state. As in the main analysis, unexpected aggregate shocks to $\left\{\hat{a}_t \equiv a_t - a^{ss}, \hat{\imath}_t\right\}_{t=0}^{\infty}$ are realized at the beginning of period 0 and there is perfect foresight afterwards. Inflation $\left\{\hat{\pi}_t \equiv \pi_t - \pi^{ss}\right\}$ in this model is endogenously determined, and can be driven both by negative supply shocks $\{\hat{a}_t\}_{t=0}^{\infty}$ and positive demand shocks $\{\hat{\imath}_t\}_{t=0}^{\infty}$. We study the impact of aggregate shocks on worker welfare $\hat{\mathscr{W}} = \mathscr{W} - \mathscr{W}^{ss}$ where $\mathscr{W} = \int \mathscr{U}_i di$. In this environment, this impact is given by

$$\hat{\mathscr{W}} \approx \sum_{t=0}^{\infty} \beta^t \hat{N}_t + \sum_{t=0}^{\infty} \beta^t \hat{w}_t^{\text{erosion}}. \tag{C.16}$$

Relative to (12), there is a new term, $\sum_{t=0}^{\infty} \beta^t \hat{N}_t$, which captures the impact of aggregate shocks on employment. The second term, the wage erosion term, $\sum_{t=0}^{\infty} \beta^t \hat{w}_t^{\text{erosion}}$, is still defined as how aggregate shocks would affect workers' real wages if their conflict decisions were held at steady state. The formula for wage erosion is given by (15), based on the extension allowing changes in the growth rate of aggregate conflict-induced (real) wages, $g_{w,s} \equiv \log\left(w_s^* / w_{s-1}^*\right)$, as aggregate shocks can affect them through (C.15). We restate it here:

$$\hat{w}_t^{\text{erosion}} = \underbrace{-\left(1-\gamma\right) \sum_{s=0}^{t} \Phi_{t-s}^{ss} \hat{\pi}_s}_{\equiv \hat{w}_t^{\text{erosion},\pi}} + \underbrace{\sum_{s=0}^{t} \left(1 - \Phi_{t-s}^{ss}\right) \hat{g}_{w,s}}_{\equiv \hat{w}_t^{\text{erosion},w^*}}, \tag{C.17}$$

where deviations from their steady-state values are still denoted by hats.

The first term, $\hat{w}_t^{\text{erosion},\pi}$, captures how much aggregate shocks erode real wages through inflation. This term is exactly the same as the formula for how inflation leads to wage erosion in Proposition 2 of our main analysis. In this sense, the underlying source of inflation (supply- vs. demand-driven) does not matter for how much inflation impacts worker welfare. The benefits from wage catch-ups due to more frequent conflict in response to inflation are always offset by the associated conflict costs.

The second term, $\hat{w}_t^{\text{erosion},w^*}$, captures how much aggregate shocks affect wage erosion through changes in the growth rate of conflict-induced (real) wages. That is, it captures how much aggregate shocks impact worker welfare beyond their effect through inflation. To understand this term, note that if workers' conflict decisions are held at the steady-state level, the growth $\hat{g}_{w,s}$ affects the real wage at time $t \geq s$ if workers engage in conflict between periods s and t at steady state, which occurs with probability $1-\Phi_{t-s}^{ss}$, i.e., the probability that the employer's default wage offer does not survive for $t-s$ periods at steady state. The sign of this term depends on the underlying shock that drives inflation (supply vs. demand-driven inflation). For example, in the general equilibrium model studied here, based on the wage rule in (C.15), negative supply-driven inflation (negative productivity shocks) can lower workers' conflict-induced real wages by lowering employment, thereby reducing their welfare beyond the shock's impact through inflation. On the other hand, positive demand-driven inflation (monetary easing shocks) can increase workers' conflict-induced real wages by increasing employment, raising their welfare beyond the shock's impact through inflation.

Similar to (10), we further decompose the impact of aggregate shocks on worker welfare (C.16) as

$$\hat{\mathcal{W}} \approx \sum_{t=0}^{\infty} \beta^t \hat{N}_t + \sum_{t=0}^{\infty} \beta^t \hat{w}_t - \hat{\varkappa} \tag{C.18}$$

$$= \sum_{t=0}^{\infty} \beta^t \hat{N}_t + \sum_{t=0}^{\infty} \beta^t \hat{w}_t - \hat{\varkappa}^{\pi} - \hat{\varkappa}^{w^*}, \tag{C.19}$$

where the first term captures aggregate employment responses and the second term captures aggregate real wage responses. The third term, aggregate costs due to conflict $\hat{\varkappa}$, are still given by (11). Similar to (C.17), it can be further decomposed into aggregates costs due to conflict driven by inflation (as if $\hat{g}_{w,t} = 0$ for all t) and aggregates costs due to conflict driven by changes in the growth rate of conflict-induced (real) wages (as if $\hat{\pi}_t = 0$ for all t) . As in (13), the welfare gains from wage catch-up due to more frequent conflict are offset by the associated conflict costs. This observation holds regardless of whether the changes in conflict decisions are driven by changes in inflation or changes in conflict-induced (real) wages:

$$\hat{\varkappa}^{\pi} \approx \sum_{t=0}^{\infty} \beta^t \hat{w}_t^{\text{catch-up},\pi} \quad \text{and} \quad \hat{\varkappa}^{w^*} \approx \sum_{t=0}^{\infty} \beta^t \hat{w}_t^{\text{catch-up},w^*}. \tag{C.20}$$

C.3.1 The Impact of Aggregate Demand Shocks on Worker Welfare

We now study the impact of aggregate demand shocks on worker welfare. We consider a sequence of monetary easing shocks $\{\hat{\imath}_t\}_{t=0}^{\infty}$ (while holding productivity constant, $\hat{a}_t = 0$) such that the induced inflation sequence $\{\hat{\pi}_t\}_{t=0}^{\infty}$ is exactly the same as the persistent inflation scenario we studied in Panel B of Figure 9. That is $\hat{\pi}_t = \rho^t \cdot 1\%$ with $\rho = 0.72$.

Panel A of Figure C.2 plots the underlying positive aggregate demand shocks ($\hat{\imath}_t$), Panel B of Figure C.2 plots the inflation impulse responses to these shocks ($\hat{\pi}_t$), which coincides with the persistent inflation scenario we studied in Panel B of Figure 9. Panel C of Figure C.2 plots the aggregate output impulse responses to these shocks ($\hat{Y}_t$). The black dash-dotted line in Panel A of Figure C.3 plots the aggregate employment impulse responses to these shocks ($\hat{N}_t$). The blue solid line plots aggregate real wage impulse responses to these shocks ($\hat{w}_t$). Positive aggregate demand shocks lead to positive inflation, aggregate output, aggregate employment responses. Real wage responses are slightly negative and close to zero, due to a combination of the direct negative impact of inflation on real wages and the positive impact of employment on conflict-induced real wages in (C.15) and hence real wages. In Appendix C.3.3, we show that the model's prediction of real wage insensitivity to demand disturbances aligns with empirical evidence on the effects of monetary policy shocks.

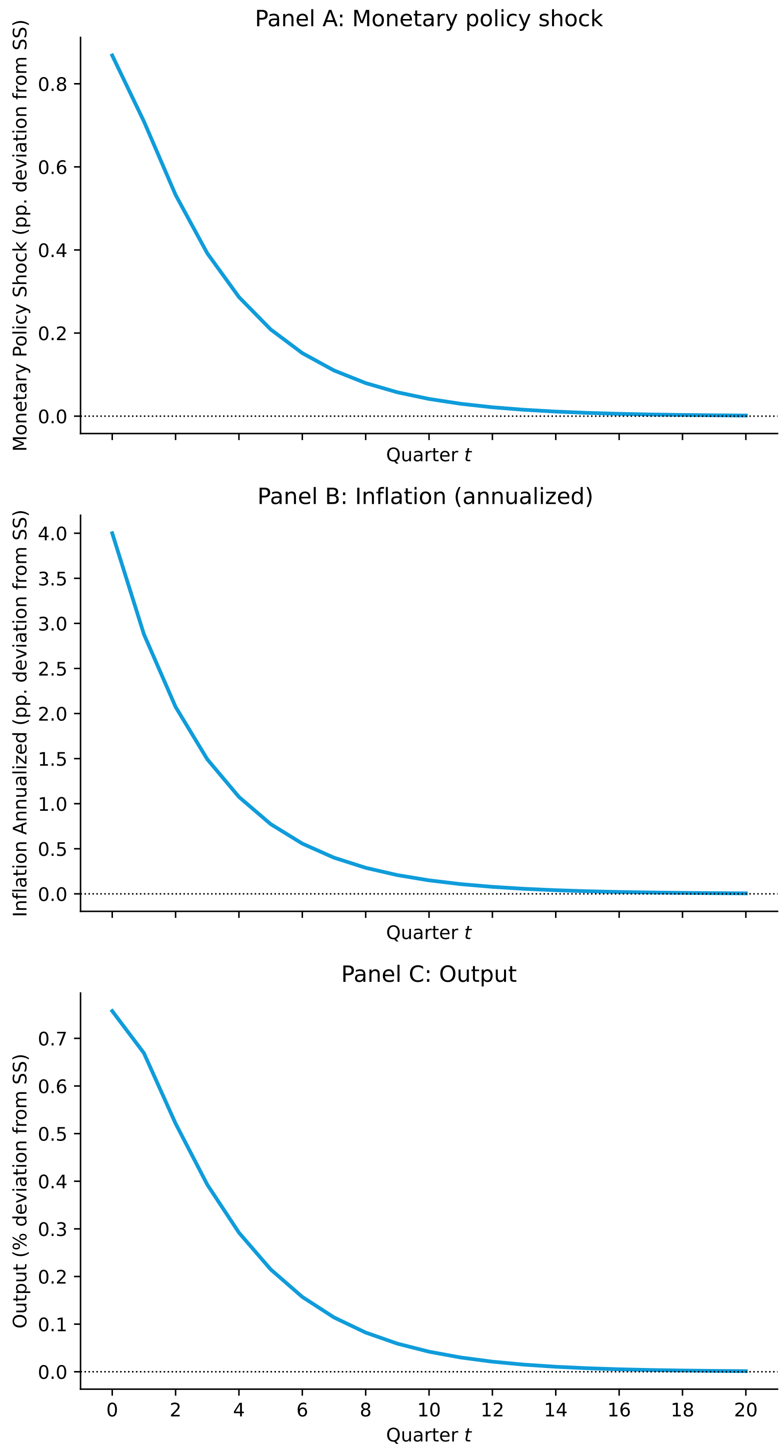
Based on (C.16), we know that the black dash-dot line ($\hat{N}_t$) and the orange dash line ($\hat{w}_t^{\text{erosion}}$) in Panel A of Figure C.3 fully characterize the impact of aggregate demand shocks on worker welfare. Negative wage erosion contributes to the aggregate costs to workers, and positive employment responses alleviate these costs. Furthermore, the gap between real wages and wage erosion is still substantial, meaning aggregate costs due to conflict ($\hat{\varkappa}$) remain an important part of aggregate costs to workers.

As in (C.19) , we can further decompose the impact of aggregate demand shocks to the impact driven by inflation and the impact driven by changes in the growth rate of conflict-induced (real) wages. Panel B of Figure C.3 zooms in the impact through inflation. Specifically, it plots inflation-driven wage erosion $\hat{w}_t^{\text{erosion},\pi}$ in (C.17) (as if $\hat{g}_{w,t} = 0$ for all t) and inflation-driven real wage changes $\hat{w}_t^{\pi}$ (as if $\hat{g}_{w,t} = 0$ for all t). The gap between those lines capture inflation-driven wage catch-up, which is equal to inflation-driven aggregate costs due to conflict $\hat{\varkappa}^{\pi}$ in (C.20) and is substantial. As discussed above, these terms are exactly the same as their counterparts for the impact of inflation in the main analysis. That is, Panel B of Figure C.3 is identical to Panel B of Figure 9, which studies the impact of the persistent inflation scenario on worker welfare.

Panel C of Figure C.3 zooms in the impact through changes in the growth rate of conflict-induced (real) wages. Specifically, it plots $\hat{w}_t^{\text{erosion},w^*}$ in (C.17) (as if $\hat{\pi}_t = 0$ for all t) and the corresponding $\hat{w}_t^{w^*}$ (as if $\hat{\pi}_t = 0$ for all t). The gap between those lines captures aggregate costs due to conflict through changes in the growth rate of conflict-induced real wages $\hat{\varkappa}^{w^*}$ in (C.20). Because conflict-induced real wages rises after positive aggregate demand shocks, workers engage in conflict more frequently to achieve them, so here are additional aggregate costs through conflict: $\hat{\varkappa}^{w^*}$ is positive, further increasing the total aggregate costs due to conflict $\hat{\varkappa}$.

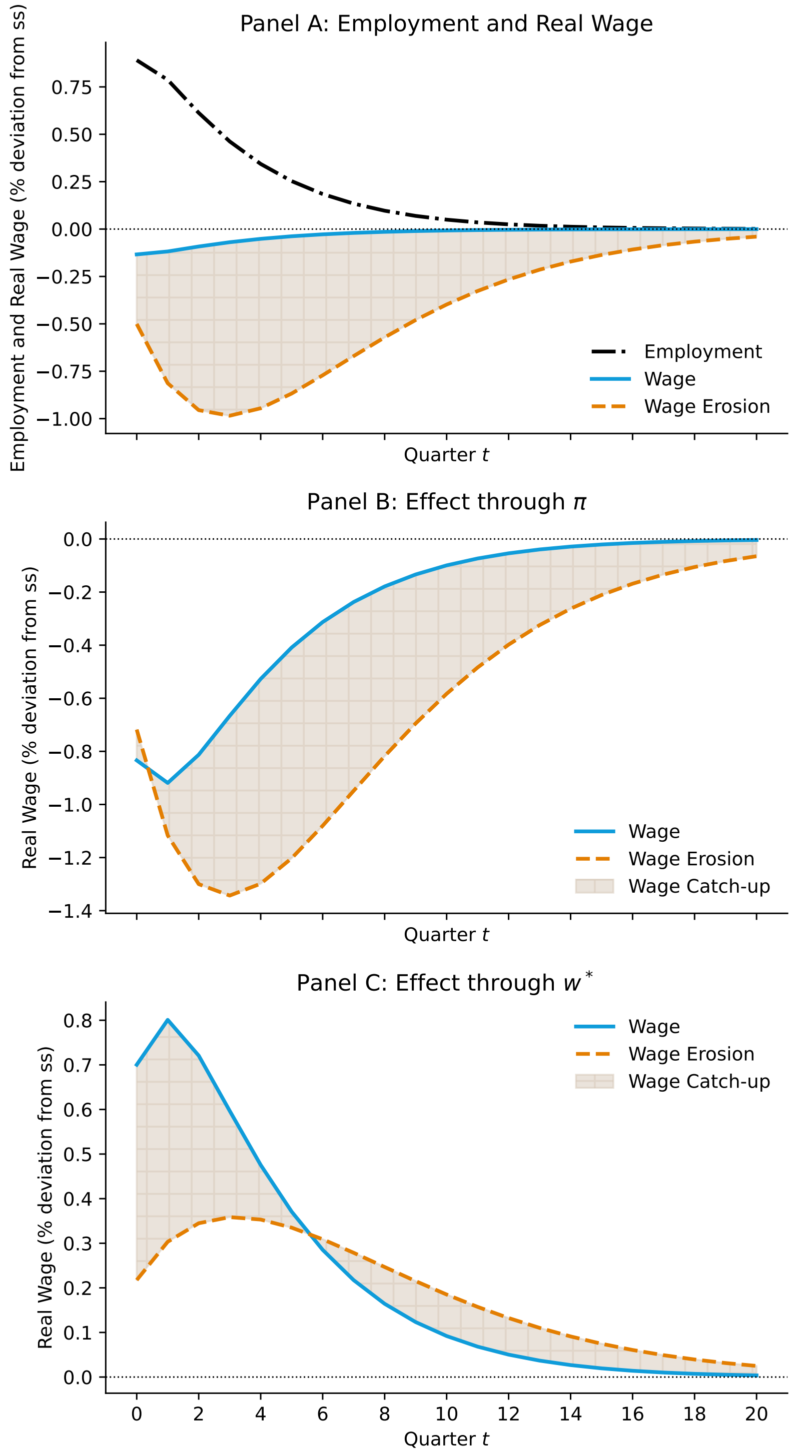
Note that, in this calibration, monetary policy shocks reduce worker welfare, despite leading to higher employment and exerting negligible effects on equilibrium real wages. This result underscores the importance of accounting for conflict costs when evaluating the welfare consequences of inflationary shocks.

Figure C.2: Impulse Responses to Aggregate Demand Shocks



Notes: Panel A plots the underlying aggregate demand shocks ($\hat{\imath}_t$), Panel B plots the deviation of inflation from the steady state ($\hat{\pi}_t$). Panel C plots the percent deviation of aggregate output from the steady state ($\hat{Y}_t$). The sequence of $\hat{\imath}_t$ is chosen such that the induced $\hat{\pi}_t$ is exactly the same as the persistent inflation scenario we studied in Panel B of Figure 9.

Figure C.3: Worker Welfare and its Decomposition—Aggregate Demand Shocks



Notes: Panel A plots the percentage deviation of employment from the steady state ($\hat{N}_t$, black dash-dotted), the percent deviation of the aggregate real wages from the steady state ($\hat{w}_t$, solid blue), and the wage erosion ($\hat{w}_t^{\text{erosion}}$, dashed orange). Panel B plots inflation-driven wage erosion $\hat{w}_t^{\text{erosion},\pi}$ in (C.17) (as if $\hat{g}_{w,t} = 0$ for all t) and inflation-driven real wage changes $\hat{w}_t^{\pi}$ (as if $\hat{g}_{w,t} = 0$ for all t). Panel C plots wage erosion driven by changes in the growth rate of conflict-induced real wages, $\hat{w}_t^{\text{erosion},w^*}$ in (C.17) (as if $\hat{\pi}_t = 0$ for all t), and the corresponding $\hat{w}_t^{w^*}$ (as if $\hat{\pi}_t = 0$ for all t). The sequence of $\hat{\imath}_t$ is chosen such that the induced $\hat{\pi}_t$ is exactly the same as the persistent inflation scenario we studied in Panel B of Figure 9.

C.3.2 The Impact of Aggregate Supply Shocks on Worker Welfare

We now study the impact of aggregate supply shocks on worker welfare. We consider a sequence of (negative) aggregate productivity shocks $\{\hat{a}_t\}_{t=0}^{\infty}$ (while holding monetary disturbances constant, $\hat{\imath}_t = 0$) such that the induced inflation sequence $\{\hat{\pi}_t\}_{t=0}^{\infty}$ is exactly the same as the persistent inflation scenario we studied in Panel B of Figure 9. That is $\hat{\pi}_t = \rho^t \cdot 1\%$ with $\rho = 0.72$.

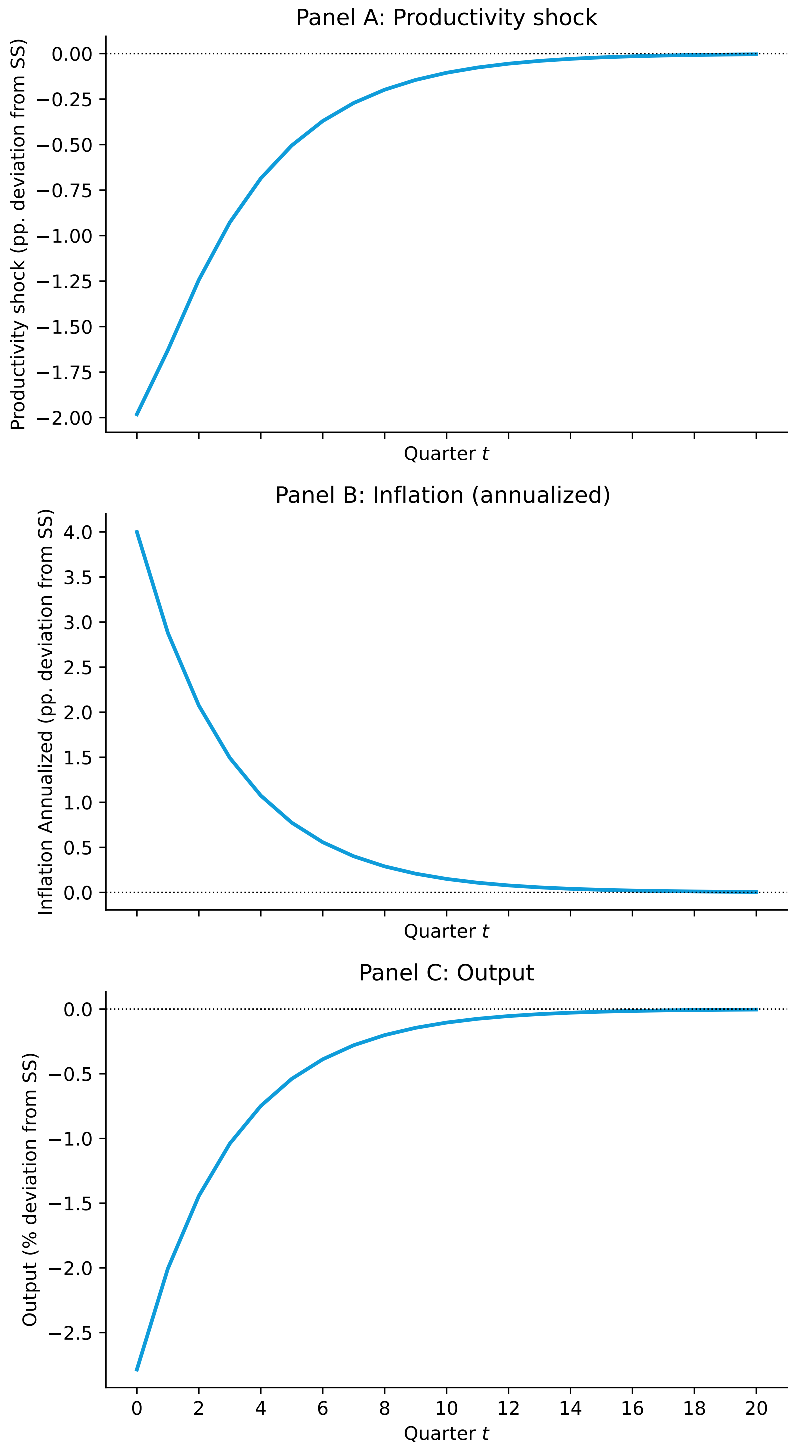
Panel A of Figure C.4 plots the underlying negative aggregate productivity shocks ($\hat{a}_t$), Panel B of Figure C.4 plots the inflation impulse responses to these shocks ($\hat{\pi}_t$), which coincides with the persistent inflation scenario we studied in Panel B of Figure 9. Panel C of Figure C.4 plots the aggregate output impulse responses to these shocks ($\hat{Y}_t$). The black dash-dotted line in Panel A of Figure C.5 plots the aggregate employment impulse responses to these shocks ($\hat{N}_t$). The blue solid line plots aggregate real wage impulse responses to these shocks ($\hat{w}_t$). Negative aggregate productivity shocks lead to positive inflation but negative aggregate output, real wage, and employment responses. In Appendix C.3.3, we show that the model's prediction of real wage declines to supply disturbances aligns with empirical evidence on the effects of oil shocks.

Based on (C.16), we know that the black dash-dotted line ($\hat{N}_t$) and the orange dash line ($\hat{w}_t^{\text{erosion}}$) in Panel A of Figure C.5 fully characterize the impact of aggregate productivity shocks on worker welfare. Both negative employment responses and negative wage erosion contribute to the aggregate costs to workers. Furthermore, the gap between real wages and wage erosion is still substantial, meaning aggregate costs due to conflict ($\hat{\varkappa}$) remain an important part of aggregate costs to workers.

As in (C.19), we can further decompose the impact of aggregate productivity shocks to the impact driven by inflation and the impact driven by changes in the growth rate of conflict-induced (real) wages. Panel B of Figure C.5 zooms in the impact through inflation. Specifically, it plots inflation-driven wage erosion $\hat{w}_t^{\text{erosion},\pi}$ in (C.17) (as if $\hat{g}_{w,t} = 0$ for all t) and inflation-driven real wage changes $\hat{w}_t^{\pi}$ (as if $\hat{g}_{w,t} = 0$ for all t). The gap between those lines capture inflation-driven wage catch-up, which is equal to inflation-driven aggregate costs due to conflict $\hat{\varkappa}^{\pi}$ by (C.20) and is substantial. As discussed above, these terms are exactly the same as the impact of inflation in the main analysis. That is, Panel B of Figure C.5 is identical to Panel B of Figure 9, which studies the impact of the persistent inflation scenario on worker welfare.

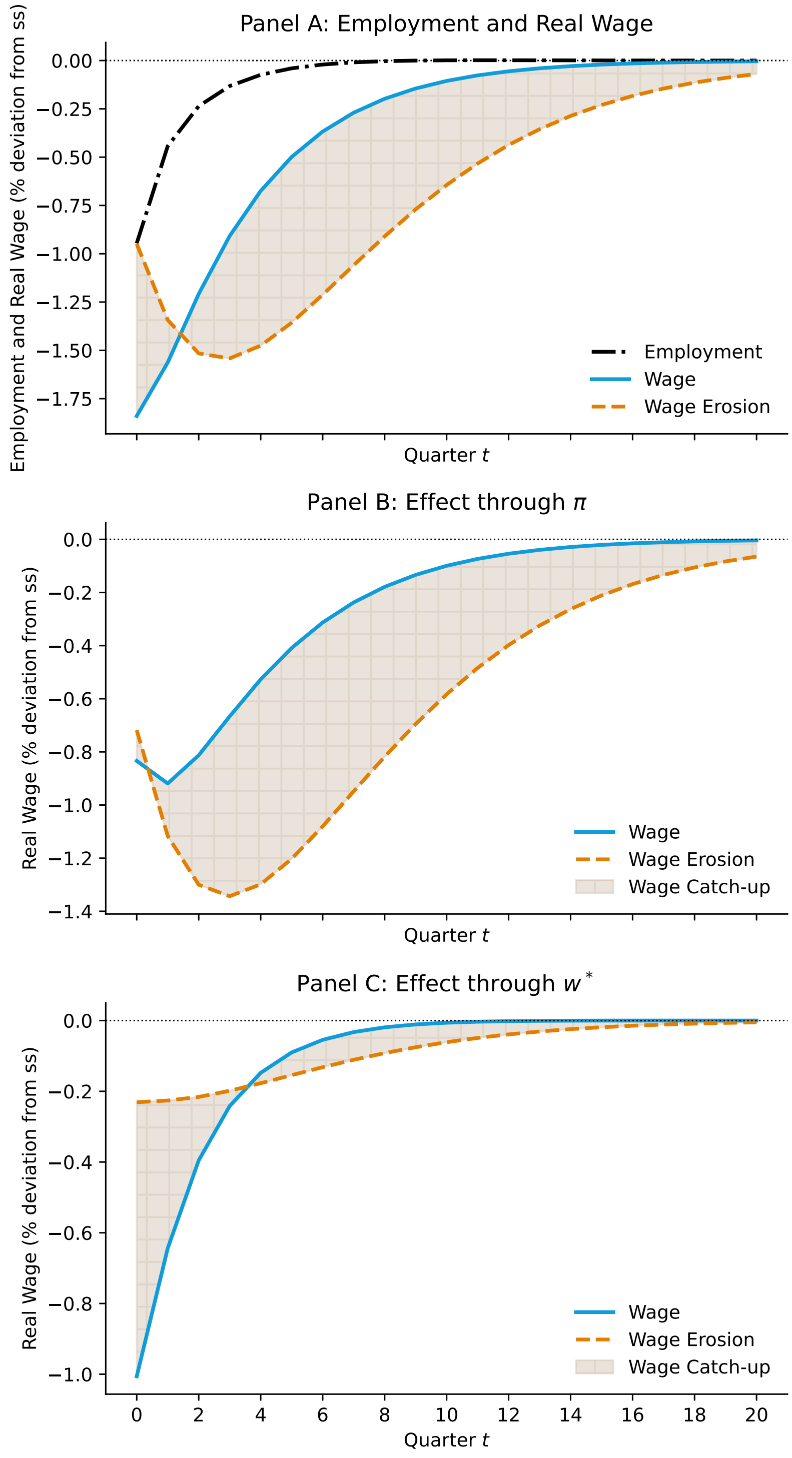
Panel C of Figure C.5 zooms in the impact through changes in the growth rate of conflict-induced (real) wages. Specifically, it plots $\hat{w}_t^{\text{erosion},w^*}$ in (C.17) (as if $\hat{\pi}_t = 0$ for all t) and the corresponding $\hat{w}_t^{w^*}$ (as if $\hat{\pi}_t = 0$ for all t). The gap between those lines captures aggregate costs due to conflict through changes in the growth rate of conflict-induced real wages $\hat{\varkappa}^{w^*}$ in (C.20). In this case, because conflict-induced real wages fall after negative productivity shocks, workers engage in conflict less frequently, and $\hat{\varkappa}^{w^*}$ is in fact negative. However, because inflation-driven aggregate costs due to conflict $\hat{\varkappa}^{\pi}$ remain large and positive, the total aggregate costs due to conflict $\hat{\varkappa}$ remain large and positive.

Figure C.4: Impulse Responses to Aggregate Supply Shocks



Notes: Panel A plots the underlying aggregate productivity shocks ($\hat{a}_t$), Panel B plots the deviation of inflation from the steady state ($\hat{\pi}_t$). Panel C plots the percent deviation of aggregate output from the steady state ($\hat{Y}_t$). The sequence of $\hat{a}_t$ is chosen such that the induced $\hat{\pi}_t$ is exactly the same as the persistent inflation scenario we studied in Panel B of Figure 9.

Figure C.5: Worker Welfare and its Decomposition—Aggregate Supply Shocks



Notes: Panel A plots the percentage deviation of employment from the steady state ($\hat{N}_t$, black dash-dotted), the percent deviation of the aggregate real wages from the steady state ($\hat{w}_t$, solid blue), and their wage erosion ($\hat{w}_t^{\text{erosion}}$, dashed orange). Panel B plots inflation-driven wage erosion $\hat{w}_t^{\text{erosion},\pi}$ in (C.17) (as if $\hat{g}_{w,t} = 0$ for all t) and inflation-driven real wage changes $\hat{w}_t^{\pi}$ (as if $\hat{g}_{w,t} = 0$ for all t). Panel C plots wage erosion driven by changes in the growth rate of conflict-induced real wages, $\hat{w}_t^{\text{erosion},w^*}$ in (C.17) (as if $\hat{\pi}_t = 0$ for all t), and the corresponding $\hat{w}_t^{w^*}$ (as if $\hat{\pi}_t = 0$ for all t). The sequence of $\hat{a}_t$ is chosen such that the induced $\hat{\pi}_t$ is exactly the same as the persistent inflation scenario we studied in Panel B of Figure 9.

C.3.3 Empirical Evidence on Response of Real Wages to Inflationary Shocks

In this section, we show that the model's implied real wage dynamics are consistent with those observed empirically in response to inflationary shocks. Similar to the model's predictions in Figures C.2 and C.4, we show that, empirically, real wages are essentially flat in response to aggregate demand shocks but fall in response to negative aggregate supply shocks. These results are consistent with the prior literature documenting the responses of real wages to, for example, technology shocks (Gali, 1999; Basu et al., 2006) and monetary policy shocks (Christiano et al., 2005; Altig et al., 2011). See also Angeletos et al. (2020), who show that real wages are flat in response to the "main business cycle shock."

Our analysis closely follows the recent work by Del Canto et al. (2025). To investigate the impact of aggregate demand shocks, we study the impact of the Gertler and Karadi (2015) monetary policy shocks on real wages. This series provides a monthly measure of monetary policy surprises between January 1990 and June 2019. Our supply shock series is the measure of oil shocks in Känzig (2021). This series provides a measure of oil supply shocks from January 1957 and December 2017. Our measure of the price level is the headline Consumer Price Index (CPI) and our measure of nominal wages is the mean weekly earnings, available at monthly frequency from the Outgoing Rotation Group of the Current Population Survey, calculated following Del Canto et al. (2025).

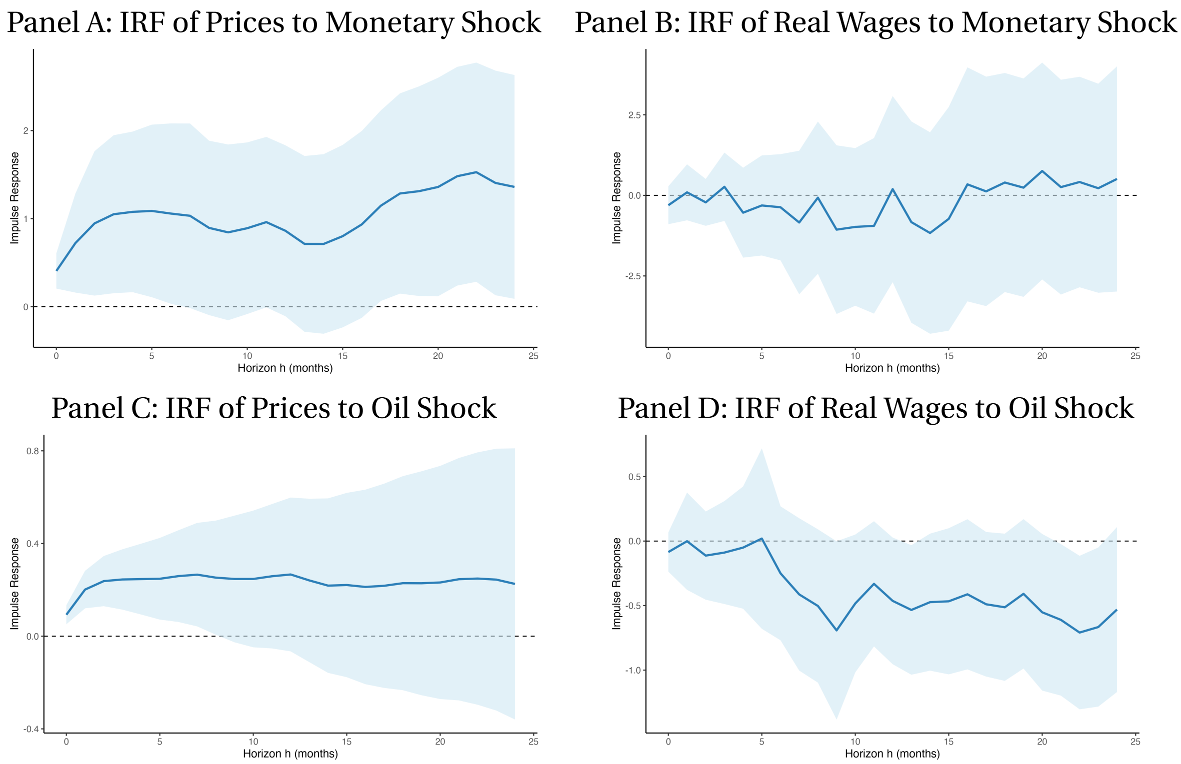
We estimate the impulse responses of prices and real wages using a standard local projection method. That is, we estimate the regression

$$y_{t+h} - y_{t-1} = \alpha_h + \beta_h \cdot \text{shock}_t + \epsilon_t,$$

where y_t is either the log CPI or the log real wage, and shock_t is one of the two shocks.

Figure C.6 presents the empirical impulse response functions across Panels A–D. Panel A (top left) displays the response of the price level to a monetary policy shock calibrated to induce a 25 basis point decline in the one-year Treasury yield. The shock leads to a persistent increase in prices, in line with existing empirical findings. Panel B illustrates that real wages exhibit no significant response following the monetary shock. Panel C (bottom left) reports the effects of an oil price shock, defined as a 10 percent increase in the real price of West Texas Intermediate (WTI) crude oil in the vicinity of OPEC-related announcements. In this case, as shown in Panel D (bottom right), inflation increases, while real wages decline.

Figure C.6: Impulse Response of Real Wage and Prices to Shocks



Notes: each panel reports monthly local-projection impulse responses. Responses are changes in logs relative to the month before the shock, $y_{t+h} - y_{t-1}$, where y_t is either headline CPI (prices) or the real wage (CPS ORG mean weekly earnings deflated by CPI). Monetary policy shocks use a monthly series available 1990:01–2019:06, normalized to raise the 1-year Treasury yield by 25 bp on impact. Oil-market shocks use a monthly series available 1957:01–2017:12, normalized to a 10% increase in real WTI around OPEC announcements. Solid lines show coefficients in log points; shaded bands denote 90% intervals according to Newey-West standard errors with 6 lags. Panel A: impulse response of prices to a monetary shock. Panel B: impulse response of real wages to a monetary shock. Panel C: impulse response of prices to an oil shock. Panel D: impulse response of real wages to an oil shock.

C.4 General-Equilibrium Determination of Employment

Our baseline model quantifies the aggregate costs of inflation due to conflict in a setting where all workers are employed. However, inflation shocks can also increase overall employment in general equilibrium by "greasing the wheels of the labor market" (Blanco and Drenik, 2023). This channel benefits aggregate worker-welfare through both higher employment rates themselves and their upward pressure on wages in general equilibrium.

In this section, we extend our model to consider the importance of conflict costs when employment and wages are determined in general equilibrium. We find that, even in this extended setting, aggregate costs of inflation due to conflict remain significant, both in absolute value and as a share of the overall costs of inflation.

Workers. Employed workers face a problem nearly identical to the benchmark model, except that they may become unemployed at the beginning of the period with an exogenous probability s. If they stay employed, they receive a default wage offer from their employer that is not fully indexed to inflation. Given the "Calvo-plus" conflict cost in the baseline model, workers optimally decide whether to engage in costly conflict with employers. Real wages are determined similarly to the baseline model. The conflict-induced wage is now given by:

$$\log w_{i,t}^* = \log w_t^* + \log \vartheta_{i,t} \quad \text{and} \quad \log \vartheta_{i,t} = \log \vartheta_{i,t-1} + g + z_{i,t}, \tag{C.21}$$

where $\vartheta_{i,t}$ captures worker productivity subject to idiosyncratic productivity shocks $z_{i,t}$ and satisfies $\int_0^1 z_{i,t} di = 0$ and $\int_0^1 \log \vartheta_{i,-1} di = 0$. The aggregate component of the conflict-induced wage w_t^* is further specified below.

Unemployed workers randomly match with vacancies created by firms. They find a job with probability $f_t = \theta_t q(\theta_t)$, where θ_t captures labor market tightness, and $q(\theta_t) = \Psi \theta_t^{-\eta}$ captures the probability that a vacancy will be filled.[9] When a worker who was unemployed in the previous period finds a job, their initial wage is given by $w_{i,t}^*$ in (C.21), which keeps up with inflation. If they stay unemployed, they earn $\phi w_{i,t}^*$ from home production, where $\phi \in (0,1)$ represents the flow value of unemployment.

Firms. Each firm employs at most one worker. If a firm is currently matched with a worker with productivity $\vartheta_{i,t}$, it produces $\vartheta_{i,t}$ units of final goods. Firms are owned by risk-neutral capitalists with a discount factor β. There is competitive entry to create vacancies (each of which costs $c_v \int_0^1 \vartheta_{i,t} di$ units of output), which will be filled with probability $q(\theta_t)$. Firms are uncertain about the productivity of the worker they will match with when they post the vacancy. Free entry implies the value of a vacancy is zero.

Determination of wages and employment. We use a simple wage rule, similar to Blanchard and Galí (2010), to capture how a tighter labor market leads to higher wages in general equilibrium. Specifically, we assume that the aggregate component of the conflict-induced real wage is given by:

$$\hat{w}_t^* = \psi_E \hat{E}_t, \tag{C.22}$$

where E_t captures the fraction of workers employed at period t, $\hat{w}_t^* = \log w_t^* - \log w^{*,ss}$, and $\hat{E}_t = E_t - E^{ss}$ capture deviations from their steady state value. Gertler et al. (2020) and Hazell and Taska (2025) show that this process approximates well the behavior of the real wage for newly hired workers, who in our model receive the conflict-induced wage. Christiano, Eichenbaum, and Trabandt (2016) also

[9] Market tightness is defined as the number of vacancies divided by the number of job seekers at the beginning of the period, i.e., $\theta_t \equiv v_t / (1-(1-s) E_{t-1})$ where v_t denotes the number of vacancies and $1-(1-s)E_{t-1}$ represents the number of job searchers at the beginning of the period.

find that simple wage rules of this sort approximate well the dynamics of more complex bargaining models.[10]

The employment rate E_t follows from the law of motion $E_t = \left[1 - s\left(1 - f_t\right)\right] E_{t-1} + f_t\left(1 - E_{t-1}\right)$.[11] The job finding rate is given by f_t, where the labor market tightness θ_t is determined in general equilibrium, based on the ratio between vacancies implied by free entry and the number of job seekers. The model is closed by goods market clearing.

Calibration. We again calibrate the model at a quarterly frequency. For the worker problem, we use the same parameters as in Table 2, except that we re-calibrate the conflict cost $\kappa = 7.10\%$ so that $\mathbb{T} = 1.75\%$, as indicated by the survey. This adjustment incorporates the fact that workers may be exogenously separated at a quarterly rate $s = 0.1$, a standard value (e.g., Shimer, 2005). We set the flow value of unemployment to $\phi = 0.50$, which is consistent with the results in Chodorow-Reich and Karabarbounis (2016).

For the matching function we set the elasticity of the vacancy filling probability with respect to tightness to $\eta = 0.7$, as in Shimer (2005), and calibrate $\Psi = 0.65$ so that the steady-state unemployment rate is 5.5%. We set $c_v = 0.07$ so that $c_v / q(\theta^{ss})$ is 10% of the aggregate conflict-induced wage $w^{*,ss}$ in steady state, in line with Silva and Toledo (2009). For the wage rule in (C.22), we set $\psi_E = 1$ so that all else equal a 1 percent point increase in employment increases real new-hire wages by 1%, as Gertler et al. (2020) and Hazell and Taska (2025) estimate.

The impact of inflation shocks on worker welfare. The economy starts from a steady state. As in the main analysis, an unexpected aggregate shock to the path of inflation $\{\hat{\pi}_t \equiv \pi_t - \pi^{ss}\}_{t=0}^{\infty}$ is realized at the beginning of period 0 and there is perfect foresight afterwards. We can interpret these inflation shocks as monetary policy shocks when the monetary authority uses the path of nominal interest rates to implement a path for inflation $\{\pi_t\}_{t=0}^{\infty}$. We study the impact of inflation shocks on worker welfare:

$$\hat{\mathscr{W}} \approx \sum_{t=0}^{\infty} \beta^t \left\{E^{ss} \hat{w}_t + \left(1 - E^{ss}\right) \hat{w}_t^* + \hat{E}_t \left[\log\left(w^{ss}\right) - \log\left(\phi w^{*,ss}\right)\right]\right\} - \hat{\varkappa}, \tag{C.23}$$

where the first term captures the impact on employed workers' average real wage, the second term captures the impact on unemployed workers' average real income (an unemployed worker i earns $\phi w_{i,t}^*$), the third term captures the impact through changing employment rates (where $\log\left(w^{ss}\right) - \log\left(\phi w^{*,ss}\right)$ is the gap between employed workers' average real wage and unemployed workers' real income in steady state), and the fourth term captures aggregate costs of inflation due to conflict $\hat{\varkappa}$

[10] For consistency with the baseline analysis, the default real wage is again given by $w_{i,t}^d = w_{i,t-1} e^{\alpha - \pi^{ss} - (1-\gamma)(\pi_t - \pi^{ss})}$.

[11] The law of motion reflects the timing of our model: aggregate shocks, idiosyncratic productivity shocks, and exogenous separation of existing employment (with probability s) happen at the beginning of the period. Then, firms create vacancies and unemployed workers, both old and new, look for jobs. Finally, matches happen and production takes place.

Figure C.7: The Aggregate Costs of Inflation due to Conflict—GE Determination of Employment

Notes: this figure plots the impact of the persistent inflation shock with $\rho = 0.72$ for the general equilibrium extension of the baseline model. The figure displays the deviation of employment from the steady state (black dash-dotted), the percent deviation of the average real wage of the employed from the steady state (solid blue), and their wage erosion (dashed orange).

defined in (11).

Figure C.7 studies the case of the persistent inflation shock. The figure displays employment $\{\hat{E}_t\}_{t=0}^{\infty}$ (black dash-dotted line), the overall real wage response $\{\hat{w}_t\}_{t=0}^{\infty}$ (solid blue line), and the resulting wage erosion $\{\hat{w}_t^{\text{erosion}}\}_{t=0}^{\infty}$ (dotted orange line), which is defined as how inflation would affect employed workers' average real wage if workers' conflict decisions are fixed at the steady state.[12] We observe that inflation "greases the wheels" of the labor market: employment increases with the inflation shock. Additionally, as in the baseline model, the gap between real wages and wage erosion is large, meaning that a substantial fraction of wage growth is achieved through costly conflict. The overall welfare costs of the inflation shock to workers in (C.23) are equal to 2.28% in units of annual consumption of the employed, lower than the baseline in Table 3, reflecting the general-equilibrium determination of employment and wages. The aggregate costs of inflation due to conflict remain significant: $\hat{\varkappa}$ is equal to 1.70% of annual consumption of the employed, representing 75% of the total welfare costs. Because most workers are not new hires, they still need to pay conflict costs to keep up with inflation and benefit from the higher conflict-induced wages from the tighter labor market.

[12]The definition of $\hat{w}_t^{\text{erosion}}$ is now given by (15), including the impact of inflation shocks on conflict-induced real wages $\hat{w}_t^*$ through changes in employment in (C.22).

C.4.1 Additional Details for General Equilibrium Determination of Employment and Wages

Worker's problem and welfare. Similar to (6), we can rewrite the utility of worker $i \in [0,1]$ as a function of wage gaps, conflict decisions, and a constant exogenous to worker i, and summarize worker i's problem as

$$\max_{\{\mathscr{I}_{i,t}\}_{t=0}^{\infty}} \mathbb{E}\left[\sum_{t=0}^{\infty}\beta^t\left[x_{i,t}-\kappa_{i,t}\mathscr{I}_{i,t}+\left(1-E_{i,t}\right)\log\left(\phi\right)\right]\right]+\underbrace{\mathbb{E}\left[\sum_{t=0}^{\infty}\beta^t\log\left(w_{i,t}^*\right)\right]}_{\text{Exogenous to worker i}}, \tag{C.24}$$

where $E_{i,t}$ is the end-of-period employment status of worker i ($E_{i,t}=1$ means being employed, and $E_{i,t}=0$ means being unemployed); $x_{i,t}$ is their wage gap ($x_{i,t} \equiv \log w_{i,t} - \log w_{i,t}^*$ if the worker is employed, $E_{i,t}=1$, and $x_{i,t}=0$ if the worker is unemployed, $E_{i,t}=0$); and $\kappa_{i,t}$ is the i.i.d. conflict cost ($\kappa_{i,t}=\kappa$ with probability $1-\lambda$ and $\kappa_{i,t}=0$ with probability λ). The employment status $E_{i,t}$ evolves according to

$$E_{i,t}=\begin{cases}1 & \text{if } \left(E_{i,t-1}=1 \;\&\; s_{i,t}=0\right) \text{ or } \left(\left(E_{i,t-1}=0 \text{ or } s_{i,t}=1\right) \text{ and } f_{i,t}\leq f_t\right)\\ 0 & \text{else,}\end{cases}$$

where $s_{i,t}$ is the i.i.d. separation shock ($s_{i,t}=0$ with probability $1-s$ and $s_{i,t}=1$ with probability s) and $f_{i,t}$ is the i.i.d. job finding shock uniformly distributed in $[0,1]$. The wage gap of the employed ($E_{i,t}=1$) evolves according to

$$x_{i,t}=\begin{cases}x_{i,t-1}-\left(\mu+z_{i,t}\right)-\left(1-\gamma\right)\left(\pi_t-\pi^{ss}\right)-\hat{g}_{w,t} & \text{if } \mathscr{I}_{i,t}=0 \text{ and } E_{i,t-1}=1\\ 0 & \text{if } \mathscr{I}_{i,t}=1 \text{ or } E_{i,t-1}=0,\end{cases} \tag{C.25}$$

where $g_{w,t} \equiv \log\left(w_t^*/w_{t-1}^*\right), \mu \equiv g-\alpha+\pi^{ss}$, and deviations from their steady-state values are still denoted by hats. (C.25) captures the fact that, if the previously unemployed worker finds a job, their wage is given by $w_{i,t}^*$, so their wage gap $x_{i,t}$ is zero.[13]

Aggregate worker welfare is given by

$$\begin{aligned}\mathscr{W} &\equiv \int_0^1 \mathbb{E}\left[\sum_{t=0}^{\infty}\beta^t\left[x_{i,t}+\log\left(w_{i,t}^*\right)-\kappa_{i,t}\mathscr{I}_{i,t}+\left(1-E_{i,t}\right)\log\left(\phi\right)\right]\right]di\\ &=\sum_{t=0}^{\infty}\beta^t\left\{E_t\log w_t+\int_0^1\mathbb{E}\left[-\kappa_{i,t}\mathscr{I}_{i,t}+\left(1-E_{i,t}\right)\log\left(\phi w_{i,t}^*\right)\right]di\right\},\end{aligned}$$

[13] Given our timing assumptions, some workers are separated but immediately find a job within the same period. We assume that these workers retain their previous default nominal wage offer.

where $\log w_t \equiv \int_0^1 \frac{E_{i,t}}{E_t}\left[x_{i,t}+\log\left(w^*_{i,t}\right)\right]di$ is the employed workers' average wage. The impact of an inflation shock on aggregate worker welfare is given by

$$\hat{\mathscr{W}} = \sum_{t=0}^{\infty}\beta^t\left[E^{ss}\hat{w}_t + \left(1-E^{ss}\right)\hat{w}^*_t + \hat{E}_t\left(\log\left(w^{ss}\right)-\log\left(\phi w^{*,ss}\right)\right)\right] - \hat{\varkappa},$$

where $\log\left(w^{ss}\right)-\log\left(\phi w^{*,ss}\right)$ captures the gap between the employed-workers' average wage and the unemployed-workers' income in steady state, and $\hat{\varkappa}$ denotes the aggregate costs of inflation due to conflict.

Finally, as in the baseline model, we define wage erosion by the counterfactual path of wages for workers holding constant the conflict decisions. It is now given by (15), including the impact of inflation shocks on conflict-induced real wages $\hat{w}^*_t$ through changes in employment in (C.22).

Firm's problem. The value of a firm employing worker i is given by

$$\begin{aligned}\mathscr{J}_t\left(\vartheta_{i,t}, w_{i,t}\right) =& \vartheta_{i,t} - w_{i,t} + \beta\left(1-s\right)\mathbb{E}_t\left[\mathscr{I}^*_{i,t+1}\mathscr{J}_{t+1}\left(\vartheta_{i,t+1}, w^*_{i,t+1}\right) + \left(1-\mathscr{I}^*_{i,t+1}\right)\mathscr{J}_{t+1}\left(\vartheta_{i,t+1}, w_{i,t+1}\right)\right]\\ &+\beta s\max\left\{\mathscr{V}_{t+1},0\right\}\end{aligned}$$

where $\mathscr{I}^*_{i,t+1}$ captures worker i's optimal conflict decision, $\mathscr{V}_t$ denotes the value of a posted vacancy, and we use the fact that firms are owned by risk-neutral capitalists with a discount factor β. The value of a posted vacancy is given by

$$\mathscr{V}_t = -c_v\int_0^1 \vartheta_{i,t}di + q\left(\theta_t\right)\int_0^1 \mathscr{J}_t\left(\vartheta_{i,t}, w^*_{i,t}\right)di + \beta\left(1-q\left(\theta_t\right)\right)\max\left\{\mathscr{V}_{t+1},0\right\}.$$

The free entry condition implies that $\mathscr{V}_t = 0$ for all $t \geq 0$.[14]

Capitalists' consumption-and-savings problem. Capitalists own the firms, earn dividends from their operation, and pay the costs to post new vacancies. They face a standard intertemporal consumption-savings decision problem. In equilibrium, the real interest rate $e^{i_t-\pi_{t+1}}$ must satisfy the capitalists' Euler equation: $\beta e^{i_t-\pi_{t+1}} = 1$, because capitalists are risk-neutral with a discount factor β.

Monetary policy. In the main text, we specify monetary policy as determining a path for inflation $\{\pi_t\}_{t\geq 0}$. Implicitly, we assume that monetary policy controls the path of nominal interest rates $\{i_t\}_{t\geq 0}$ in order to implement the path of inflation.

[14] The free entry condition defined here based on $\mathscr{V}_t$ is only approximately right, as workers who immediately find a job retain their previous default nominal wage offer. But because the probability of immediate reemployment is small relative to the number of unemployed, we use this approximation to simplify.

Goods market clearing. The model is closed via goods market clearing. Let C_t^w and C_t^c denote the aggregate consumption of workers and capitalists, respectively. Goods market clearing is given by:

$$C_t^w + C_t^c + \left(c_v \int_0^1 \vartheta_{i,t} di \right) v_t = Y_t + \int_{\{i:E_{i,t}=0\}} \phi w_{i,t}^* di,$$

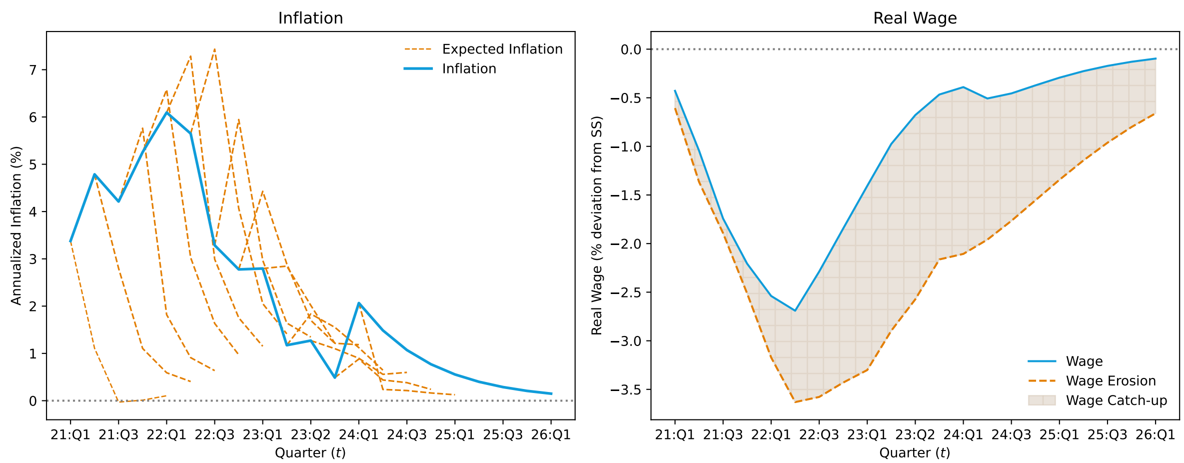
where v_t denotes the total number of vacancies posted, and $Y_t \equiv E_t \int_0^1 \vartheta_{i,t} di$ denotes aggregate production, i.e., the sum of production of all firms.[15]

[15] Since separations are exogenous and independent of productivity, we can factor aggregate output as E_t times average productivity.

C.5 Costs of 2021-2023 Inflation without Perfect Foresight

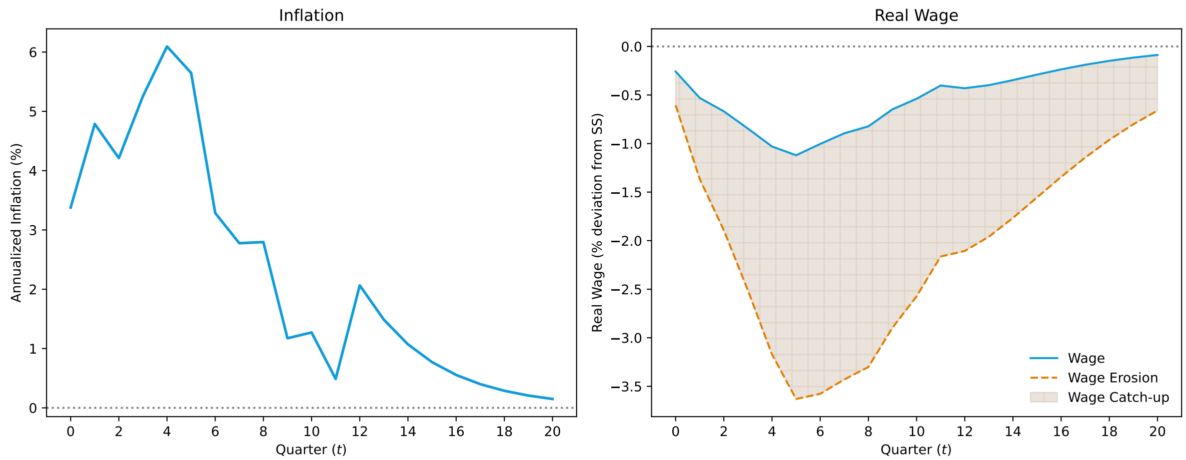
In this appendix, we study and decompose the costs of 2021–2023 inflation to workers without assuming perfect foresight of the 2021–2023 inflation. Two technical points are worth mentioning. First, as shown in Auclert, Rognlie, and Straub (2020), the Sequence-Space Jacobian approach can be easily extended to alternative models of expectations. Here, we follow Bardóczy and Guerreiro (2023) and specify workers' inflation expectations directly based on survey data. Second, for these cases without perfect foresight, to maintain comparability with the perfect-foresight case, we base our welfare assessments on the ex-post realized outcomes; i.e., we use the realized path of inflation to evaluate welfare. An alternative would be to consider "ex-ante welfare" based on workers' expectations.

Figure C.8: The Aggregate Costs of Inflation due to Conflict during the 2021-2023 Inflation with Observed Expectations Data



Notes: In the left panel, we plot the path of annualized headline PCE inflation over 2021–2023, after subtracting the steady state inflation based on the historical mean inflation. We then contrast this realized path of inflation with expected inflation for each quarter, where expected inflation is from the Survey of Consumer Expectations and the Survey of Professional Forecasters. Specifically, the SCE provides households' expectations for inflation over the coming 12 months, but does not provide quarterly or long term expectations over this period. The SPF does provide quarterly and long term expectations, but arguably professionals' expectations are less relevant than households'. We create an expectation series that re-scales the value of the SPF so that mean expectations over the first year are the same as households' expectations from the SCE. We also use a spline to interpolate medium term expectations, which are not reported in the SPF. In the right panel, we plot the percent deviation of the real wage from the steady state in the solid blue line. We also plot wage erosion in the dashed orange line, which captures the impact of inflationary shocks on worker welfare. The gap between the two lines, shaded in gray, represents wage catch-up achieved through more frequent conflict. In this exercise, workers' inflation expectations are based on observed expectations.

Figure C.9: The Effect of 2021-23 Inflation With No Foresight



Notes: The path of inflation shock is given by the path of annualized headline PCE inflation over 2021–2023, after subtracting the steady state inflation based on the historical mean inflation. The figure plots the percent deviation of the real wage from the steady state (solid blue line) and the welfare-relevant wage erosion (dashed orange line). The gap between the two lines, shaded in gray, represents wage catch-up achieved through more frequent conflict. Unlike in the main text, workers have no foresight about the inflation shock: in each period, they expect inflation to remain at the steady state in all future periods.

C.6 Alternative Calibration – Alternative Steady State Share of Conflict

In our baseline calibration, we calibrate the parameters of the distribution of idiosyncratic productivity shocks such that the yearly share of workers engaging in conflict at steady-state inflation is equal to 48%, as in Panel B of Figure 4. Here, we consider an alternative calibration where the yearly share of workers engaging in conflict at steady-state inflation is equal to 21%, based on the evidence for the year of 2023 in Panel A of Figure 1. This implies that the idiosyncratic productivity shock is such that $z_{i,t} + \mu \sim \text{Gamma}(a, b)$, where $a = 0.02$ and $b = 0.28$. We also re-calibrate the cost of conflict κ so that the conflict threshold is $\mathbb{T} = 1.75\%$. We fix all other parameters as in Table 2.

Table C.1: Decomposing the Impact of Inflation Shocks on Worker Welfare – Alternative Steady State Share of Conflict

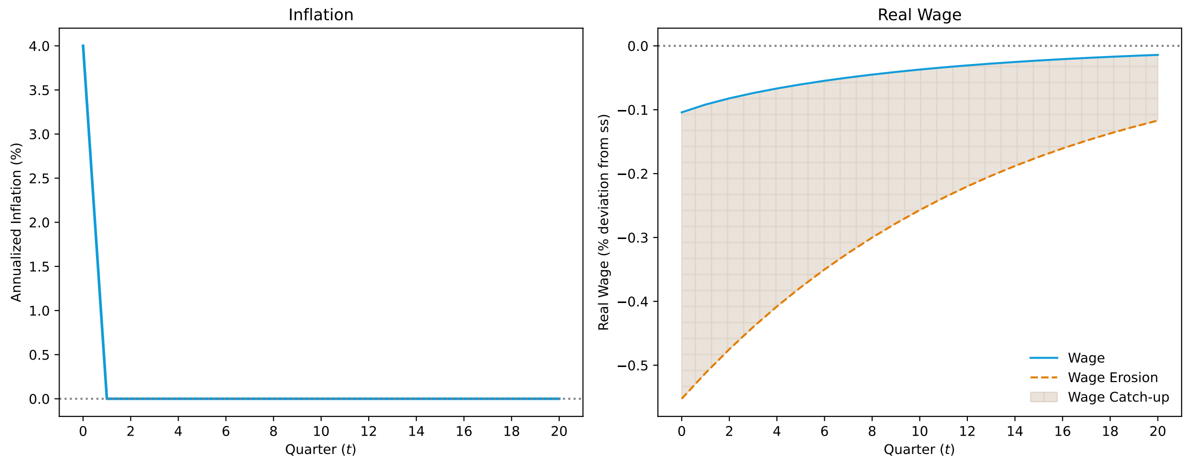
	Overall Welfare Impact	**Real Wage Response**	**Impact due to Conflict**
Transitory inflation	−1.67%	−0.25%	−1.42%
Persistent inflation	−5.80%	−0.95%	−4.86%
2021-23 inflation	−19.11%	−3.29%	−15.83%

Notes: the first column shows the overall impact on worker welfare after the transitory inflation shock (row 1), the persistent inflation shock (row 2), and the 2021-2023 inflation (row 3), as a percent of annual consumption. The second column shows the response of the present value of real wages in each scenario, again as a percent of annual consumption. The final column shows the welfare impact from aggregate costs of inflation due to conflict, $-\hat{\varkappa}$, again as a percent of annual consumption. We recalibrate so that the yearly share of workers engaging in conflict at steady state is 21%.

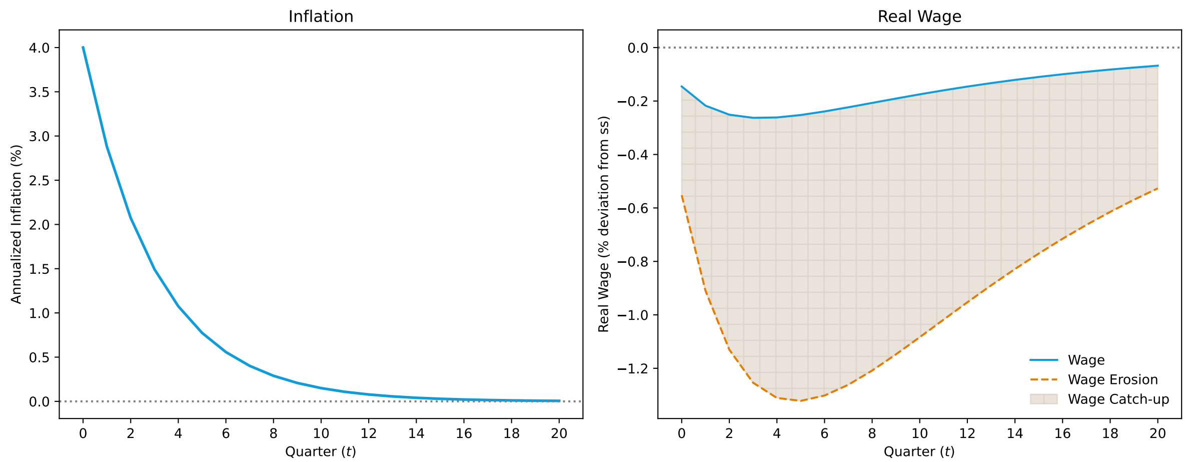
From Proposition 2, we know that a lower frequency of conflict in steady state implies higher costs of inflation shocks to worker welfare. As the Table C.1 shows (compared to Table 3 in the main text), the increase in total welfare costs of inflation shocks is primarily attributable to higher aggregate costs of inflation due to conflict. Figure C.10 plots dynamic response of real wages and wage erosion under inflation scenarios, corresponding to Figure 9 in the main text.

Figure C.10: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflict – Alternative Steady State Share of Conflict

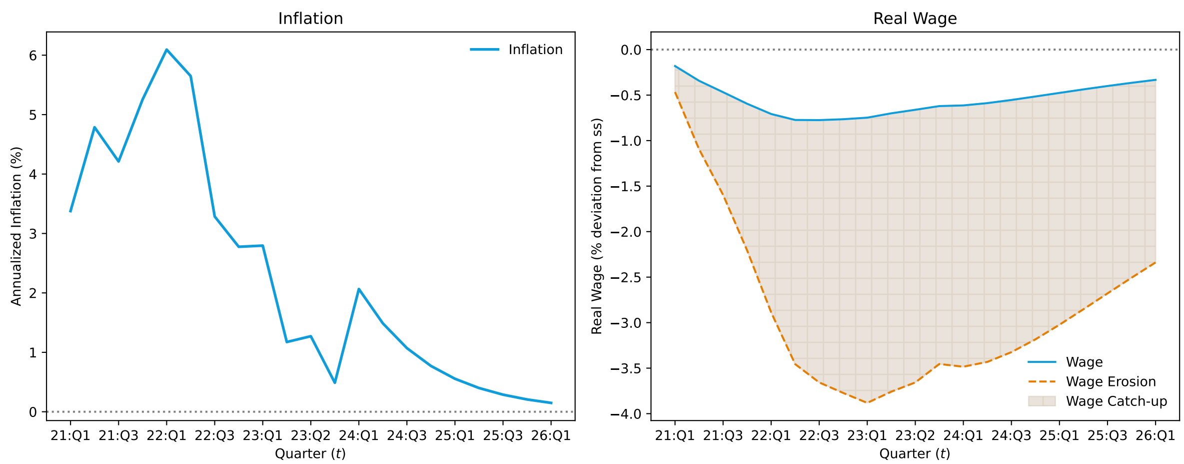
Panel A: Transitory Inflation



Panel B: Persistent Inflation



Panel C: 2021-2023 Inflation



Notes: each panel plots the response to a given inflation scenario. In Panel A, there is a transitory shock to inflation lasting one quarter. In Panel B, there is a persistent shock, that decays at quarterly rate $\rho = 0.72$. In Panel C, the shock to inflation is given by annualized headline PCE inflation over 2021–2023, after subtracting the steady state inflation based on the historical mean inflation. In the left figure of each panel, we plot the path of annualized inflation shock. In the right panel, we plot the percent deviation of the real wage from the steady state in the solid blue line. We also plot wage erosion in the dashed orange line, which captures the impact of inflationary shocks on worker welfare. The gap between the two lines, shaded in gray, represents wage catch-up achieved through more frequent conflict. We recalibrate so that the yearly share of workers engaging in conflict at steady state is 21%.

C.7 Alternative Calibration – Action Takers in 2023

In our baseline calibration, we calibrate the conflict cost parameters (κ, λ) using elicited conflict thresholds based on all survey respondents. Here, we consider an alternative calibration using only the 21% of respondents who took action in 2023, based on their answers displayed in Figure 1, as these respondents may have a better understanding of the nature of conflict costs. For this subset of respondents, 22.56% have a zero elicited conflict threshold, and the median conflict threshold for those with a positive elicited conflict threshold is 1.25%. This implies $(\kappa, \lambda) = (4.59\%, 6.19\%)$. All other parameters are as in Table 2.

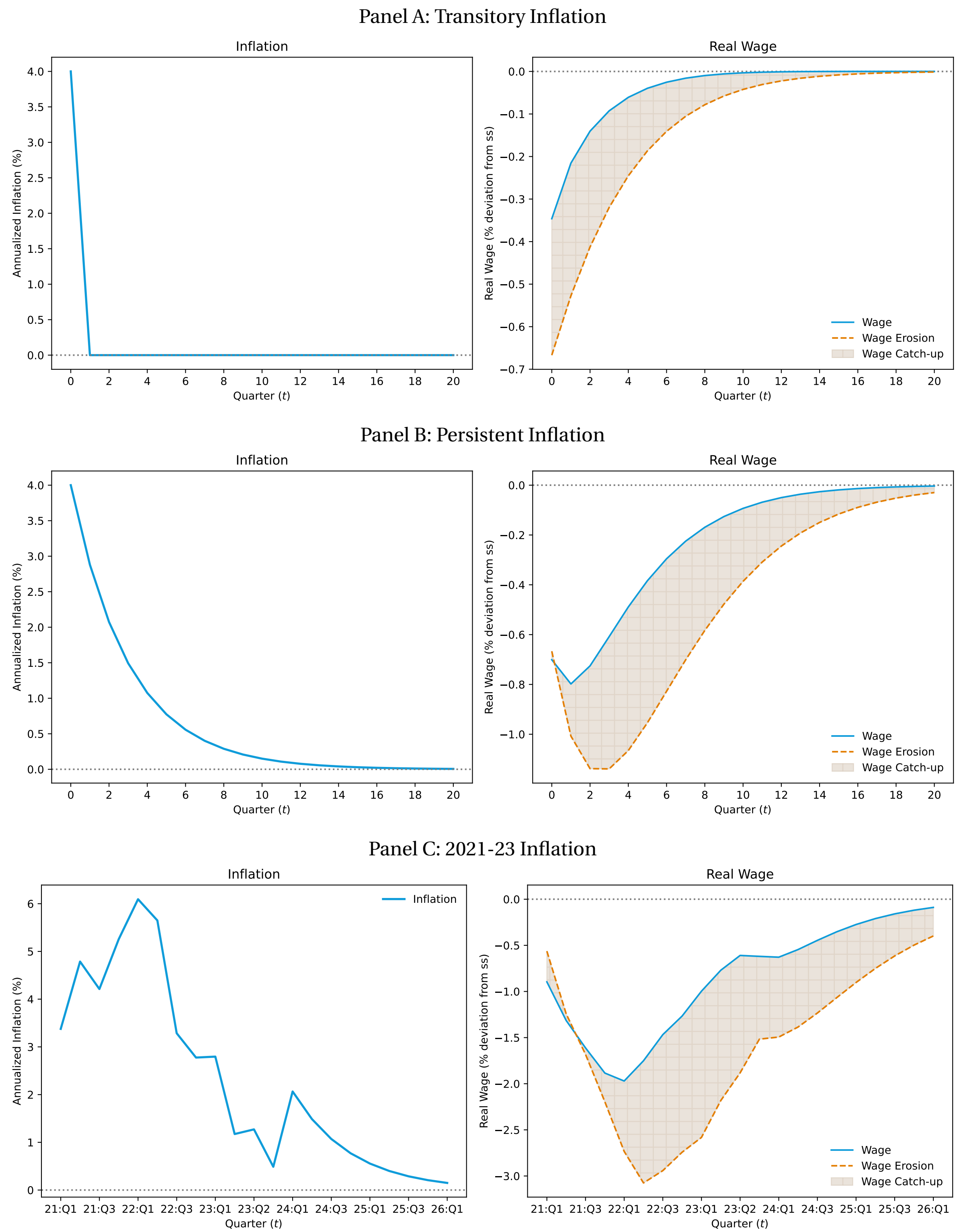
Table C.2 shows the welfare costs of inflation shocks to workers under different inflation scenarios, corresponding to Table 3 in the main text. Figure C.11 plots dynamic response of real wages and wage erosion under different inflation scenarios, corresponding to Figure 9 in the main text. The ratio of aggregate costs of inflation due to conflict to the overall costs of inflation is close to or above 50% for all inflation scenarios, verifying the robustness of the conflict channel's importance.

Table C.2: Decomposing the Impact of Inflation Shocks on Worker Welfare – Action Takers in 2023

	Overall Welfare Impact	**Real Wage Response**	**Impact due to Conflict**
Transitory inflation	−0.69%	−0.24%	−0.45%
Persistent inflation	−2.40%	−1.17%	−1.23%
2021-23 inflation	−7.90%	−4.24%	−3.67%

Notes: the first column shows the overall impact on worker welfare after the transitory inflation shock (row 1), the persistent inflation shock (row 2), and the 2021-2023 inflation (row 3), as a percent of annual consumption. The second column shows the response of the present value of real wages in each scenario, again as a percent of annual consumption. The final column shows the welfare impact from aggregate costs of inflation due to conflict, $-\hat{\varkappa}$, again as a percent of annual consumption. We calibrate the conflict cost parameters (κ, λ) using the 21% of respondents who took action in 2023.

Figure C.11: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflict – Action Takers in 2023



Notes: each panel plots the response to a given inflation scenario. In Panel A, there is a transitory shock to inflation lasting one quarter. In Panel B, there is a persistent shock, that decays at quarterly rate $\rho = 0.72$. In Panel C, the shock to inflation is given by annualized headline PCE inflation over 2021–2023, after subtracting the steady state inflation based on the historical mean inflation. In the left figure of each panel, we plot the path of annualized inflation shock. In the right panel, we plot the percent deviation of the real wage from the steady state in the solid blue line. We also plot wage erosion in the dashed orange line, which captures the impact of inflationary shocks on worker welfare. The gap between the two lines, shaded in gray, represents wage catch-up achieved through more frequent conflict. We calibrate the conflict cost parameters (κ, λ) using the 21% of respondents who took action in 2023.

C.8 Alternative Calibration – Difficult Conversations with Employers in 2023

In our baseline calibration, we calibrate the conflict cost parameters (κ, λ) using elicited conflict thresholds based on all survey respondents. Here, we consider an alternative calibration using only the subset of respondents who took action in 2023 by having a difficult conversation with their employers, based on their answers displayed in Figure 1. Such an action perhaps best approximates our baseline model. For this subset of respondents, 28.03% have a zero elicited conflict threshold, and the median conflict threshold for those with a positive elicited conflict threshold is 1.25%. This implies $(\kappa, \lambda) = (4.39\%, 7.89\%)$. All other parameters are as in Table 2.

Table C.3 shows the welfare costs of inflation shocks to workers under different inflation scenarios, corresponding to Table 3 in the main text. Figure C.12 plots dynamic response of real wages and wage erosion under different inflation scenarios, corresponding to Figure 9 in the main text. The ratio of aggregate costs of inflation due to conflict to the overall costs of inflation is close to or above 50% for all inflation scenarios, verifying the robustness of the conflict channel's importance.

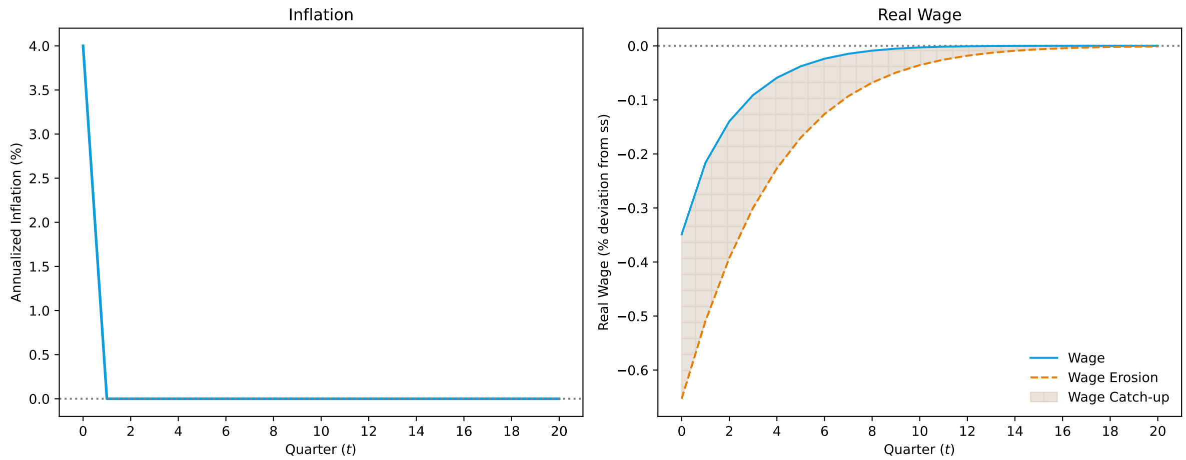
Table C.3: Decomposing the Impact of Inflation Shocks on Worker Welfare – Difficult Conversations with Employers in 2023

	Overall Welfare Impact	**Real Wage Response**	**Impact due to Conflict**
Transitory inflation	−0.64%	−0.24%	−0.41%
Persistent inflation	−2.24%	−1.12%	−1.12%
2021-23 inflation	−7.37%	−4.03%	−3.33%

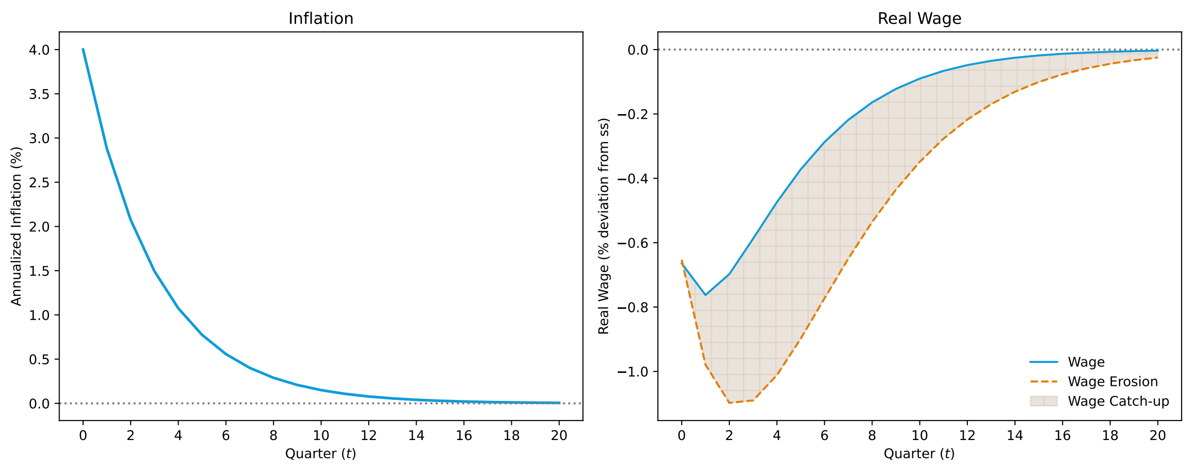
Notes: the first column shows the overall impact on worker welfare after the transitory inflation shock (row 1), the persistent inflation shock (row 2), and the 2021-2023 inflation (row 3), as a percent of annual consumption. The second column shows the response of the present value of real wages in each scenario, again as a percent of annual consumption. The final column shows the welfare impact from aggregate costs of inflation due to conflict, $-\hat{\mathcal{Z}}$, again as a percent of annual consumption. We calibrate the conflict cost parameters (κ, λ) using the subset of respondents who took action in 2023 by having a difficult conversation with their employers.

Figure C.12: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflict – Difficult Conversations with Employers in 2023

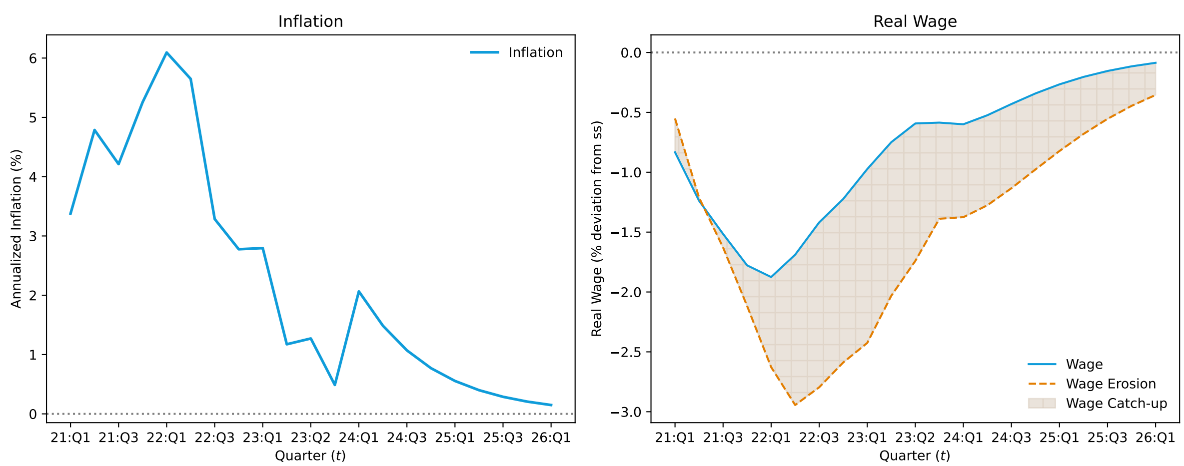
Panel A: Transitory Inflation



Panel B: Persistent Inflation



Panel C: 2021-23 Inflation



Notes: each panel plots the response to a given inflation scenario. In Panel A, there is a transitory shock to inflation lasting one quarter. In Panel B, there is a persistent shock, that decays at quarterly rate $\rho = 0.72$. In Panel C, the shock to inflation is given by annualized headline PCE inflation over 2021–2023, after subtracting the steady state inflation based on the historical mean inflation. In the left figure of each panel, we plot the path of annualized inflation shock. In the right panel, we plot the percent deviation of the real wage from the steady state in the solid blue line. We also plot wage erosion in the dashed orange line, which captures the impact of inflationary shocks on worker welfare. The gap between the two lines, shaded in gray, represents wage catch-up achieved through more frequent conflict. We calibrate the conflict cost parameters (κ, λ) using the subset of respondents who took action in 2023 by having a difficult conversation with their employers.

C.9 Alternative Calibration – Respondents with $\Delta W^* \geq 4\%$

Here, we consider an alternative calibration in which we estimate the conflict cost parameters (κ, λ) using only the subset of respondents who report conflict-induced nominal wage growth $\Delta W^* \geq 4\%$. Those respondents' elicitation questions display no negative default nominal wage growth, so their elicitation is not affected by aversion to nominal wage cuts (as discussed in Appendix D.3). For this subset of respondents, 6.65% have a zero elicited conflict threshold, and the median conflict threshold for those with a positive elicited conflict threshold is 2.25%. This implies $(\kappa, \lambda) = (12.01\%, 1.71\%)$. All other parameters are as in Table 2.

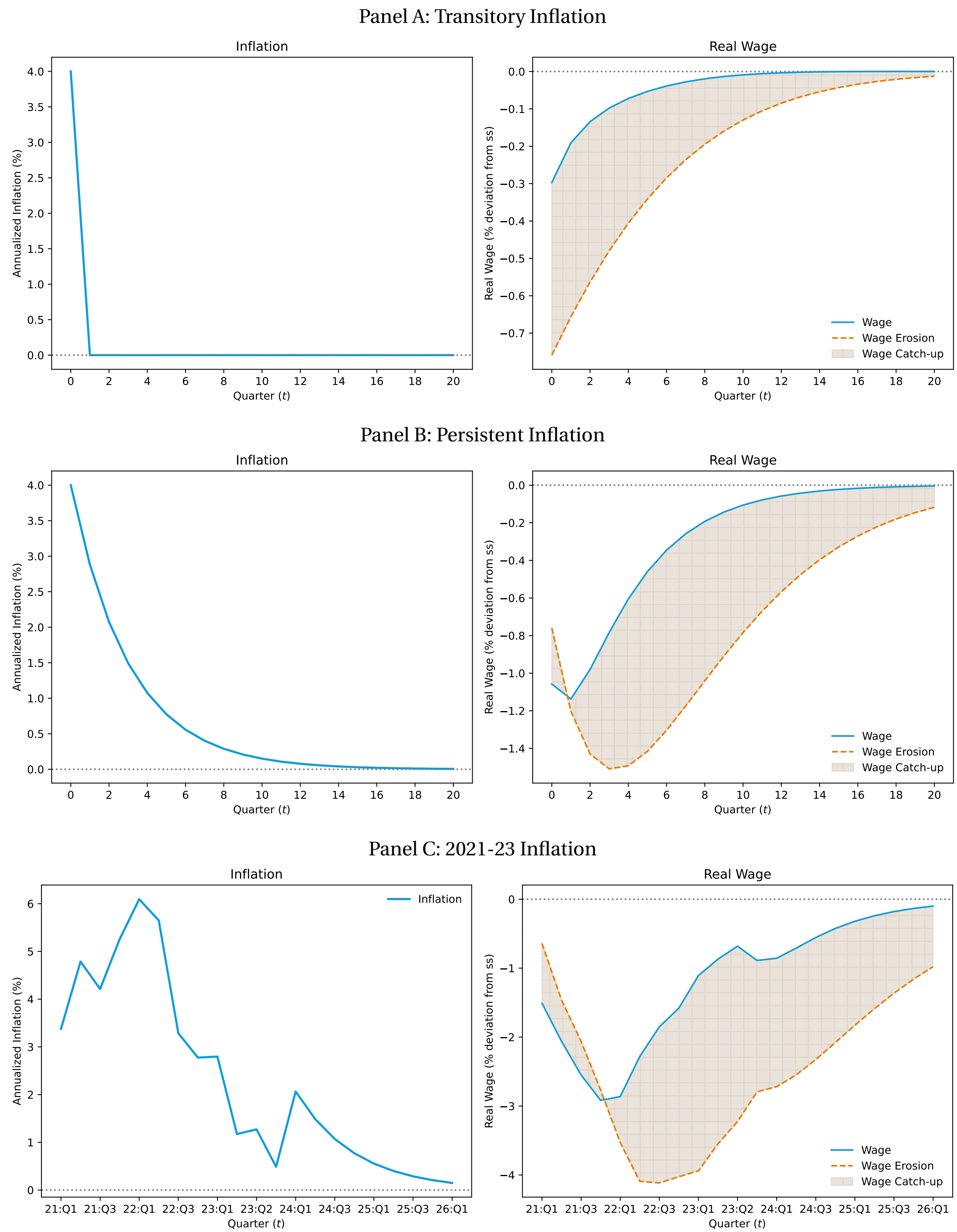
Table C.4 shows the welfare costs of inflation shocks to workers under different inflation scenarios, corresponding to Table 3 in the main text. Figure C.13 plots dynamic response of real wages and wage erosion under different inflation scenarios, corresponding to Figure 9 in the main text. The ratio of aggregate costs of inflation due to conflict to the overall costs of inflation is above 50% for all inflation scenarios, verifying the robustness of the conflict channel's importance.

Table C.4: Decomposing the Impact of Inflation Shocks on Worker Welfare – Respondents with $\Delta W^* \geq 4\%$

	Overall Welfare Impact	**Real Wage Response**	**Impact due to Conflict**
Transitory inflation	−1.14%	−0.24%	−0.91%
Persistent inflation	−3.98%	−1.56%	−2.42%
2021-23 inflation	−13.12%	−5.96%	−7.15%

Notes: the first column shows the overall impact on worker welfare after the transitory inflation shock (row 1), the persistent inflation shock (row 2), and the 2021-2023 inflation (row 3), as a percent of annual consumption. The second column shows the response of the present value of real wages in each scenario, again as a percent of annual consumption. The final column shows the welfare impact from aggregate costs of inflation due to conflict, $-\hat{\varkappa}$, again as a percent of annual consumption. We calibrate the conflict cost parameters (κ, λ) using the subset of respondents who report a conflict-induced nominal wage growth above 4%.

Figure C.13: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflict – Respondents with $\Delta W^* \geq 4\%$

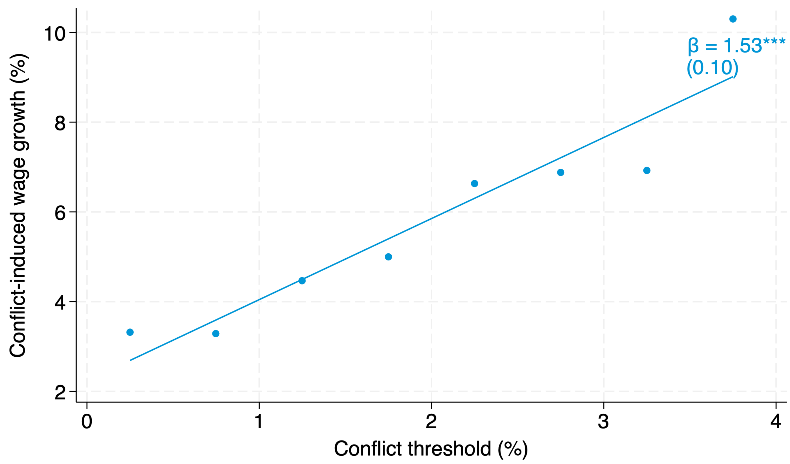


Notes: each panel plots the response to a given inflation scenario. In Panel A, there is a transitory shock to inflation lasting one quarter. In Panel B, there is a persistent shock, that decays at quarterly rate $\rho = 0.72$. In Panel C, the shock to inflation is given by annualized headline PCE inflation over 2021–2023, after subtracting the steady state inflation based on the historical mean inflation. In the left figure of each panel, we plot the path of annualized inflation shock. In the right panel, we plot the percent deviation of the real wage from the steady state in the solid blue line. We also plot wage erosion in the dashed orange line, which captures the impact of inflationary shocks on worker welfare. The gap between the two lines, shaded in gray, represents wage catch-up achieved through more frequent conflict. We calibrate the conflict cost parameters (κ, λ) using the subset of respondents who report a conflict induced nominal wage growth above 4%.

D Heterogeneity in Conflict Thresholds

D.1 Conflict Thresholds and Conflict-induced Nominal Wage Growth in the Survey

Figure D.1: Conflict Thresholds and Conflict-induced Nominal Wage Growth



Notes: This figure plots a binned scatter of conflict-induced nominal wage growth over the next 12 months (ΔW^*, y-axis) against the elicited conflict threshold ($\mathbb{T}$, x-axis), based on the hypotheticals in Figure 5. The sample is restricted to respondents who report conflict-induced nominal wage growth below 50% and first engage in conflict then accept the default wage offer when eliciting $\mathbb{T}$. The solid line shows the fitted linear relationship from an OLS regression. The slope coefficient (β), standard error in parentheses, and significance stars are reported in the top right corner. Stars denote levels of statistical significance: 1% (***), 5% (**), and 10% (*).

D.2 Model with Heterogeneous Conflict Costs

One explanation for the previous pattern is heterogeneity in respondents' conflict costs. Intuitively, workers with higher conflict costs, and higher thresholds $\mathbb{T}$, engage in conflict less frequently and so, on average, their conflict-induced nominal wage growth ΔW^* is higher. This extension also captures the dispersion in elicited conflict thresholds in Figure 6. In this extension, we also verify that the ratio of aggregate costs of inflation due to conflict to the overall costs of inflation is still above 50% for all inflation scenarios, verifying the robustness of the conflict channel's importance.

We modify the baseline model by assuming that workers have heterogeneous conflict costs. We assume that there are groups of otherwise identical workers with heterogeneous conflict costs. Each group $g \in \{1, \ldots, G\}$ has mass $\pi_g \geq 0$. The conflict costs of workers in group g are determined by the same Calvo-plus structure as in the main analysis:

$$\kappa_{i,t} = \begin{cases} 0 & \text{w. prob. } \lambda \\ \kappa_g & \text{w. prob. } 1-\lambda, \end{cases}$$

where $\kappa_g \geq 0$ is heterogeneous across g. For simplicity, we keep λ the same for all groups and calibrate it as in the baseline model. This assumption can easily be relaxed. The aggregate worker welfare is now given by

$$\mathscr{W} = \sum_g \pi_g \mathscr{W}_g \quad \text{and} \quad \mathscr{W}_g = \frac{1}{\pi_g} \int_{i \in g} \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t \left(\log c_{i,t} - \kappa_{i,t} \mathscr{I}_{i,t}\right)\right] di,$$

where $\mathscr{W}_g$ denotes average welfare of workers in group g. Our previous results for $\mathscr{W}$ in Theorem 1 now apply directly to $\mathscr{W}_g$, so

$$\hat{\mathscr{W}}_g = \sum_{t=0}^{\infty} \beta^t \hat{w}_{g,t}^{\text{erosion}} = \sum_{t=0}^{\infty} \beta^t \hat{w}_{g,t} - \sum_{t=0}^{\infty} \beta^t \hat{w}_{g,t}^{\text{catch-up}}.$$

Averaging across all groups implies that Theorem 1 can also be extended for the impact of inflation shocks on aggregate worker welfare in this model:

$$\hat{\mathscr{W}} = \sum_{t=0}^{\infty} \beta^t \hat{w}_t^{\text{erosion}} = \sum_{t=0}^{\infty} \beta^t \hat{w}_t - \sum_{t=0}^{\infty} \beta^t \hat{w}_t^{\text{catch-up}},$$

where $\hat{w}_t \equiv \sum \pi_g \hat{w}_{g,t}, \hat{w}_t^{\text{erosion}} \equiv \sum \pi_g \hat{w}_{g,t}^{\text{erosion}}$, and $\hat{w}_t^{\text{catch-up}} \equiv \sum \pi_g \hat{w}_{g,t}^{\text{catch-up}}$. The same characterizations of wage erosion in Proposition 2 applies to the wage erosion of group g:

$$\hat{w}_{g,t}^{\text{erosion}} = -\left(1-\gamma\right) \sum_{s=0}^{t} \Phi_{g,t-s}^{ss} \hat{\pi}_s,$$

with $\left\{\Phi_{g,k}^{ss}\right\}$ capturing the probability that the employer's default wage offer "survives" without conflict for k periods at steady state for the group g. Define $\Phi_k^{ss} \equiv \sum \pi_g \Phi_{g,k}^{ss}$ for all k. Then, aggregate wage erosion is given by:

$$\hat{w}_t^{\text{erosion}} = -\left(1-\gamma\right)\sum_{s=0}^{t} \Phi_{t-s}^{ss} \hat{\pi}_s.$$

We set $G = 8$ to match the empirical distribution of elicited conflict thresholds $\mathbb{T}$ in Figure 6, ranging from 0.25% to 3.75%.[16] We set the mass π_g equal to the relative frequency of workers in each group. We then calibrate κ_g for each group to match the elicited conflict threshold for that group. We fix all other parameters as in Table 2.

Table D.1 shows the welfare costs of inflation shocks to workers under different inflation scenarios, corresponding to Table 3 in the main text. Figure D.2 plots dynamic response of real wages and wage erosion under different inflation scenarios, corresponding to Figure 9 in the main text. The ratio of aggregate costs of inflation due to conflict to overall costs of inflation is above 50% for all inflation scenarios, verifying the robustness of the conflict channel's importance.

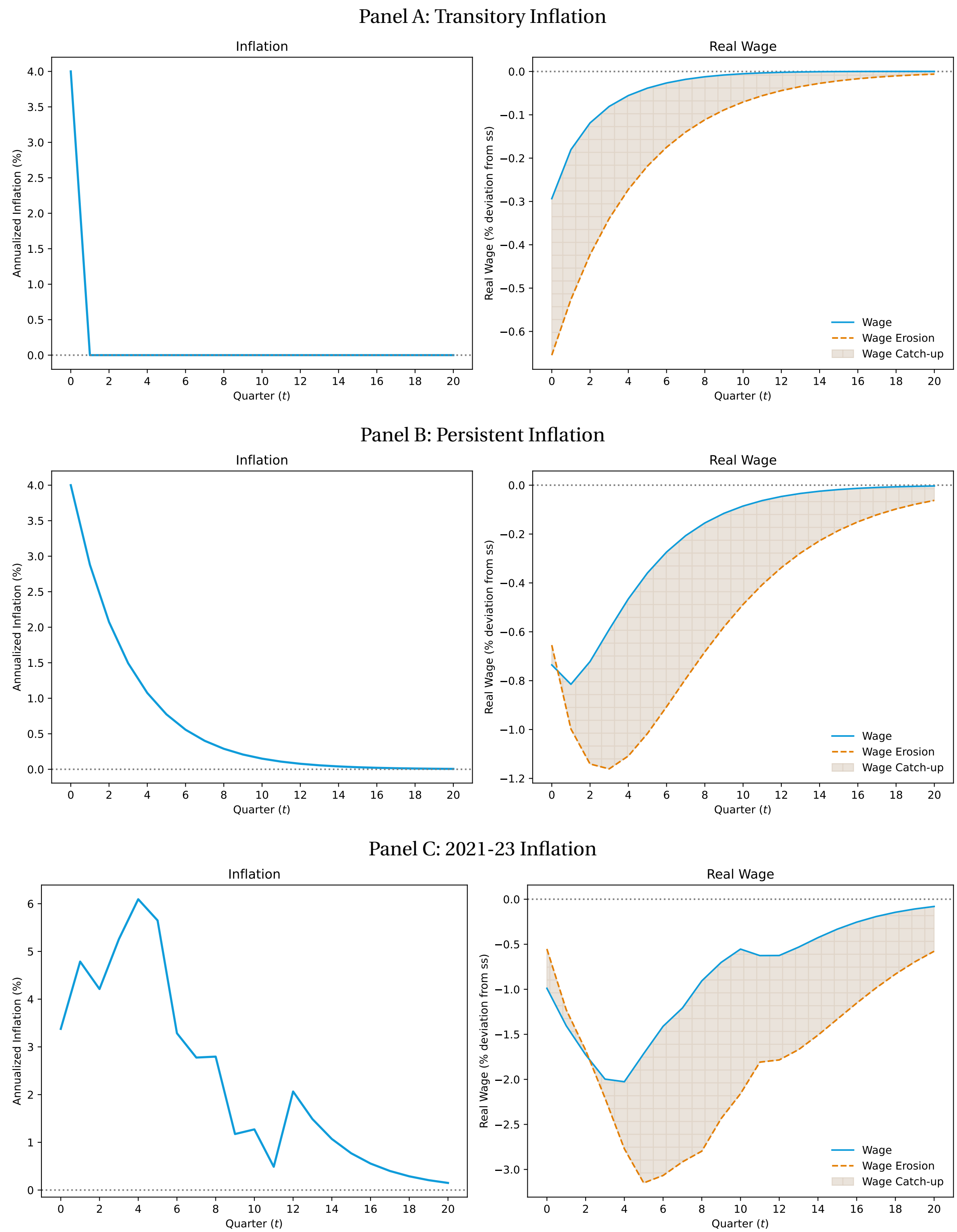
Table D.1: Decomposing the Impact of Inflation Shocks on Worker Welfare – Heterogeneous Conflict Costs

	Overall Welfare Impact	**Real Wage Response**	**Impact due to Conflict**
Transitory inflation	−0.80%	−0.21%	−0.59%
Persistent inflation	−2.79%	−1.16%	−1.62%
2021-23 inflation	−9.18%	−4.34%	−4.84%

Notes: the first column shows the overall impact on worker welfare after the transitory inflation shock (row 1), the persistent inflation shock (row 2), and the 2021-2023 inflation (row 3), as a percent of annual consumption. The second column shows the response of the present value of real wages in each scenario, again as a percent of annual consumption. The final column shows the welfare impact from aggregate costs of inflation due to conflict, $-\hat{\varkappa}$, again as a percent of annual consumption. The table is based on the extension with heterogeneous conflict costs in Appendix Section D.2.

[16] As in Figure D.1, to which we compare this extension, we restrict attention to respondents who first engage in conflict and then accept the default offer. For those who always engage in conflict with their employers, we use them to calibrate the probability of a free wage catch-up in our model λ and, for simplicity, assume that λ is the same for all groups g. We remove workers who would never engage in conflict in our elicitation of the conflict threshold of Figure 6 since their elicited $\mathbb{T}$ is not well defined.

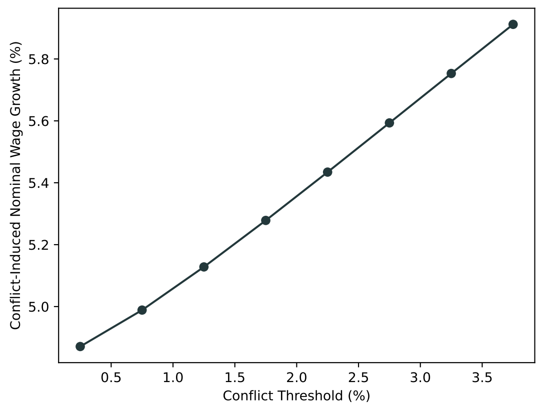
Figure D.2: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflict – Heterogeneous Conflict Costs



Notes: each panel plots the response to a given inflation scenario. In Panel A, there is a transitory shock to inflation lasting one quarter. In Panel B, there is a persistent shock, that decays at quarterly rate $\rho = 0.72$. In Panel C, the shock to inflation is given by annualized headline PCE inflation over 2021–2023, after subtracting the steady state inflation based on the historical mean inflation. In the left figure of each panel, we plot the path of annualized inflation shock. In the right panel, we plot the percent deviation of the real wage from the steady state in the solid blue line. We also plot wage erosion in the dashed orange line, which captures the impact of inflationary shocks on worker welfare. The gap between the two lines, shaded in gray, represents wage catch-up achieved through more frequent conflict. The figure is based on the extension with heterogeneous conflict costs in Appendix Section D.2.

This extended model with heterogeneous conflict costs also explains the untargeted positive relationship between the elicited conflict threshold and conflict-induced nominal wage growth documented in Appendix D.1: workers with higher conflict costs choose to conflict less frequently, implying that, on average, their conflict-induced nominal wage growth is also larger.

Figure D.3: Conflict Thresholds and Conflict-induced Nominal Wage Growth – Heterogeneous Conflict Costs



Notes: this figure displays the relationship between annualized conflict-induced nominal wage growth (y-axis) and conflict threshold (x-axis) based on the extension with heterogeneous conflict costs in Appendix Section D.2. The x-axis corresponds to the conflict threshold $\mathbb{T}_g$ for each worker group g. The y-axis reports the average yearly conflict-induced nominal wage growth for each worker group g, based on simulations of the evolution of workers' wages in the model over a one-year horizon.

D.3 Aversion to Nominal Wage Cuts and Elicited Conflict Thresholds

Another potential explanation for the pattern in Appendix Section D.1 is forms of reference dependence in workers' conflict decisions, such as aversion to nominal wage cuts.

In the hypothetical survey question of Figure 5, all respondents see a menu of default nominal wage growth rates spanning four percentage points below their reported conflict-induced wage growth. That is, based on the reported conflict-induced nominal wage growth, ΔW^*, we construct a menu of default nominal wage growth options where the maximum wage growth is ΔW^* and the minimum is ΔW^* minus 4 percentage points, with a gradient of 0.5 percentage points. Therefore, respondents with $\Delta W^* < 4\%$ must contemplate options with negative default nominal wage growth. An aversion to nominal wage cuts, which is a standard justification for downward nominal wage rigidity, can potentially affect the elicited conflict threshold of these respondents.

Figure D.4 below explores the importance of aversion to nominal wage cuts in the survey. In each panel, the x-axis is the conflict-induced nominal wage growth ΔW^* and the y-axis is the indifference wage growth, ΔW^{indiff}, the default nominal wage growth at which workers are indifferent between accepting their employer's default wage offer versus choosing to take costly action. The difference, $\Delta W^* - \Delta W^{\text{indiff}}$, measures the conflict threshold $\mathbb{T}$. In the left panel, we show respondents with $\Delta W^* \leq 3\%$, i.e., respondents considering default offers with negative nominal wage growth (all those below the black line). As a point of comparison, the right panel shows respondents with $\Delta W^* \geq 4\%$.[17] Lastly, the size of each bubble is the fraction of respondents that reported each ΔW^{indiff} for each given reported ΔW^* (i.e., the weight sums to 1 for each value of ΔW^*).

There are several patterns to note in the figure. First, there is "missing mass" of ΔW^{indiff} in the left panel below 0, consistent with aversion to nominal wage cuts. While the reported ΔW^{indiff} is fairly uniform within the four–percentage point interval for values in the right panel, it is less uniform on the left. This is especially true for the sample of workers with $\Delta W^* = 0\%$, where over 70% of respondents reported that they would not accept a default wage offer with below 0 nominal wage growth. Second, some respondents are willing to accept nominal wage cuts, and the fraction willing to do so decreases with ΔW^*. For example, 30% of respondents are willing to accept nominal wage cuts when ΔW^* is zero, while only 11% are willing to accept such cuts when ΔW^* is 1%.

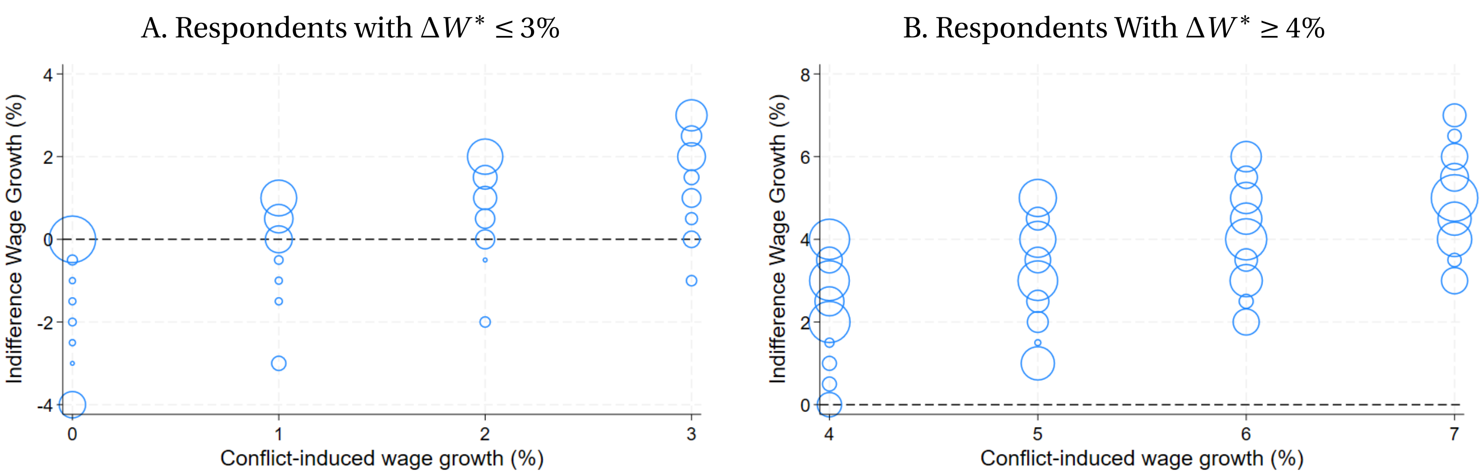
These patterns suggest an aversion to accepting nominal wage cuts to avoid conflict, though some workers are still willing to contemplate such cuts in certain circumstances. This aversion likely lowers the estimated conflict thresholds for the 43% of the sample who reported $\Delta W^* < 4\%$.

In Appendix Section C.9, we consider a calibration of the model using only the subset of respondents who report $\Delta W^* \geq 4\%$. In this subset of workers the median conflict threshold is 2.25% and

[17] We only display respondents with round-number values of ΔW^* as examples, to avoid an overly crowded figure.

the share of workers with zero conflict thresholds is 6.65%. We show that our quantitative results are robust to considering this alternative calibration. The ratio of aggregate costs of inflation due to conflict to the overall costs of inflation is even higher in this alternative calibration, owing to the higher elicited conflict threshold and thus higher conflict costs.

Figure D.4: Aversion to Nominal Wage Cuts in the Survey



Notes: this figure shows the distribution of ΔW^{indiff}, the default nominal wage growth at which workers are indifferent between accepting their employer's default wage offer versus choosing to take costly action, across different levels of conflict-induced nominal wage growth (ΔW^*). Panel A shows respondents with conflict-induced nominal wage growth $\Delta W^* \leq 3\%$, restricting to those reporting whole percentage points. Panel B shows respondents with conflict-induced nominal wage growth $\Delta W^* \geq 4\%$ and $\Delta W^* \leq 7\%$, restricting to those reporting whole percentage points. The size of each bubble is the fraction of respondents that reported each ΔW^{indiff} for each given reported ΔW^*.

E Survey Questionnaire

E.1 Pre-screening background questions

1. Before we begin, please enter your Prolific ID below.

[Text box]

2. What is your current age in years?

[Text box]

[We accepted participants aged 22 to 60 years old.]

3. What is your employment status?

[Full-Time; Part-Time; Due to start a new job within the next month; Unemployed (and job seeking); Not in paid work (e.g., homemaker, retired or disabled); Other]

[We accepted participants who selected Full-Time or Part-Time]

4. Please describe your work

[Employee of a for-profit company or business or of an individual, for wages, salary, or commissions; Employee of a not-for-profit, tax-exempt, or charitable organization; Local government employee (city, county, etc.); State government employee; Federal government employee; Self-employed in own not-incorporated business, professional practice, or farm; Self-employed in own incorporated business, professional practice, or farm; Working without pay in family business or farm; None of the above]

[We rejected participants who selected Self-employed in own not-incorporated business, professional practice, or farm; Self-employed in own incorporated business, professional practice, or farm or Working without pay in family business or farm]

E.2 Consent

This is a consent form. Please read and click below to continue.

Study background: this is a study by researchers at the London School of Economics, the University of Chicago, and the University of California. Your participation in this research will take approximately 7 minutes.

What happens in this research study: if you decide to participate, you will be asked to complete a series of questions about your perceptions of inflation, the costs of inflation, and how you negotiate your pay. You will also answer basic questions about demographics.

Compensation: there are no costs to you for participating in this research study, except for your time. On completion of the survey, you will be redirected to Prolific. You will be paid around $1.50 for completing the survey.

Risks: Your involvement in this study poses no additional risks beyond those encountered in daily life.

Benefits: Participating in this research offers compensation, as detailed earlier. Additionally, the findings may contribute to society by informing better policymaking. This, in turn, can guide efforts to minimize the negative effects of inflation. Voluntary participation: participating in this research is voluntary. You can withdraw from the study at any time.

Confidentiality: We will collect data through a Qualtrics questionnaire in the University of Chicago system, overseen by our Research Team. All gathered data will be securely stored in a password-protected Dropbox account dedicated to this research project. Identifiable data will not be collected as part of this study. If you decide to withdraw, any collected data will be permanently deleted. De-identified information from this study may be used for future research studies or shared with other researchers for future research without your additional informed consent.

Contact: For questions, concerns, or complaints about this research, contact the researchers at danielav@uchicago.edu. For inquiries regarding the IRB process for this study, reach out to the University of Chicago IRB team at cdanton@uchicago.edu.

Agreement to participate: by clicking continue, you indicate that you have read this consent form and voluntarily agree to participate in the study.

E.3 Preamble

The button to continue will appear after 15 seconds.

The **annual inflation** rate measures how much prices in the economy rise from year to year. It is defined as the yearly growth of the general level of prices of goods and services. For example, an inflation rate of 2% means that, on average, prices for goods and services rise by 2% over 12 months. In other words, an average bundle of goods and services that costs $100 at the beginning of a year costs $102 at the end of the year. If the inflation rate is negative, it is referred to as deflation. Deflation means that, on average, prices of goods and services fall from one year to the next.

E.4 Demographics

1. How long have you been working for your current employer?

[Less than 1 year; Between 1 and 3 years (2); Between 3 and 5 years (3); Between 5 and 10 years (4); More than 10 years (5)]

2. Do most people in your occupation or industry have their pay set by a union?

[Yes; No; I don't know]

3. Which category represents your annual pre-tax individual pay from your current employer?

If you have multiple jobs, please report the pay in the job in which you have the most earnings

[15 non-overlapping brackets from $0-$9,999 to $200,000 or more]

4. What is the value of your household's **total financial investment** (checking and savings accounts, stocks, bonds, 401(k), real estate, etc.) **minus total financial liabilities** (credit card debt, mortgages, student loans, consumer loans, etc.)? If you are not sure, please estimate.

You should choose a negative range if the value of your liabilities is greater than the value of your investments.

[29 non-overlapping brackets from - $50,000 or less to $1,000,000 or more]

E.5 Experienced inflation in 2023

1. During the year 2023, did prices in general go up or down?

[*Prices in general went up; Prices in general went down; Prices in general stayed the same; I don't know]*

- **Branch:** If in Q1 of this section "Prices in general went up"

2. During the year 2023, by what percent did prices in general rise?

Please write your answer in percent. If you mean x%, input x.

[Text box]%

3. A general rise in prices in the economy, which we call inflation, can have many effects, both positive and negative. On net, do you think your household was made better or worse off because of inflation in the year 2023?

[*We were substantially worse off; We were somewhat worse off; Inflation didn't really affect our household; We were somewhat better off; We were substantially better off]*

- **Same branch:**
  - **Sub-branch:** If in Q3 of this branch "We were substantially worse off" OR "We were somewhat worse off"

4. What were the biggest factors that contributed to your dislike for the rise in inflation (which is defined as the growth rate in prices) in the year 2023?

Please pick ***up to three reasons.***

[Inflation hurts my real buying power, it makes me poorer: things that I buy became more expensive more quickly than my pay rose.; Inflation reduced the value of my savings, such as my investments or pension, potentially meaning I had to change my saving behavior.; Inflation causes a lot of inconvenience: budgeting and financial planning is more difficult and confusing for me, for example, I find it

harder to comparison shop or plan my savings decisions.; Inflation is bad for society overall, for instance because inflation harms the overall economy, reduces political stability, disproportionately harms disadvantaged groups.; Inflation makes it challenging for businesses to operate effectively. When inflation is high, businesses struggle to set accurate prices for their goods and services. This leads to a poor allocation of resources and production.; Higher inflation makes it harder to know what will happen in the future.; Other, please add additional comments below [Text box]]

5. Please rank your top reasons that contributed to your dislike for the rise in inflation (which is defined as the growth rate in prices) in the year 2023, from the most (1) to the least (3) important reason.

[The options chose by respondents in the previous questions with radio buttons next to them to rank these options]

- **Same branch:**
  - **Same sub-branch:**
    - **Under sub-branch:** If in Q4 of this sub-branch "Inflation hurts my real buying power, it makes me poorer: things that I buy became more expensive more quickly than my pay rose."

6. Message: You previously suggested that a key reason that you disliked inflation was that the things that you buy became expensive more quickly than your pay rose, which reduced your standard of living. We want to understand more about your answer.

- **Same branch:**
  - **Same sub-branch:**
    - **Under sub-branch:** If in Q4 of this sub-branch not selected "Inflation hurts my real buying power, it makes me poorer: things that I buy became more expensive more quickly than my pay rose."

6. Message: You previously suggested that pay not keeping up with prices was not a key cost of inflation for your household over the past year. We want to understand a little bit more about why this is.

- **Same branch:**
  - **Sub-branch:** If in Q3 of this branch "Inflation didn’t really affect our household"

4. What were the reasons why you were not affected by inflation in the year 2023?

[My income, or my household's income, increased at roughly the same rate as inflation, ensuring that my real buying power did not fall as inflation rose.; My household altered our spending behavior in order to consume cheaper goods but maintain our living standards.; My household didn't notice any significant changes in the price of the goods that we buy. We could afford what we needed without cutting back on our budget.; Other, please add additional comments below[Text box]]

- **Same branch**
  - **Sub-branch:** If in Q3 of this branch "We were somewhat better off" OR "We were substantially better off"

4. Why do you think your household was made better off because of inflation in the year 2023?

[My income, or my household's income, increased at a higher rate than inflation, ensuring an increase in my real buying power; Other, please add additional comments below[Text box]]

- **Branch:** If in Q1 of this section "Prices in general went down"

2. During the year 2023, by what percent did prices in general fall?
Please write your answer in percent. If you mean x%, input x.

[Text box]%

3. A general fall in prices in the economy, which we call deflation, can have many effects, both positive and negative. On net, do you think your household was made better or worse off because of deflation in the year 2023?

[We were substantially worse off; We were somewhat worse off; Deflation didn't really affect our household; We were somewhat better off; We were substantially better off]

- **Same branch:**
  - **Sub-branch:** If in Q3 of this branch "We were substantially worse off" OR "We were somewhat worse off"

4. Why do you think your household was made worse off because of deflation in the year 2023?

[Text box]

- **Same branch:**
  - **Sub-branch:** If in Q3 of this branch "Deflation didn't really affect our household"

4. Why do you think your household was not really affected by deflation in the year 2023?

[Text box]

E.6 Exploring actions to increase pay

1. What was your pay growth in 2023?

Please write your answer in percent. If you mean x%, input x.

[Text box]%

2. Common strategies to increase pay include initiating a difficult conversation with your employer to ask for a raise, searching for higher paying jobs with other employers, or switching employers in order to get a raise. Moreover, you could have obtained a second job or worked longer hours to get a raise. A union could also bargain for higher pay on your behalf.

Did your employer offer you this [Stated pay growth value in Q1 in this section]% by default or did you, or a union on your behalf, use any of the actions above or other actions to increase your pay?

[My employer offered me this pay by default.; My employer did not offer me this pay by default and I, or a union on my behalf, used some of the strategies above.]

- **Branch:** If in Q2 of this section "My employer offered me this pay by default."

3. What was your motivation for accepting your employer's default wage offer and not taking other actions to negotiate a higher pay raise?

*Please pick **up to three options.***

[My company does not negotiate to increase my pay. Perhaps because they would have to lay off workers or because they can replace me with another employee.; I am unlikely to be able to find a higher paying job that suits me as well as my current job, perhaps because of the perks and benefits offered by my job, or because there are few good alternative jobs.; My company sets pay in line with the rest of the industry, and industry-wide pay is not growing, perhaps because of the state of the overall economy.; Taking actions to raise my pay, such as a difficult conversation or searching for a new job, is too difficult. These actions take too much time or effort, or risk a conflict with my employer.; My employer's default wage offer was satisfactory, because they offered wage growth in excess of the increase in my cost of living.; My contract was negotiated before the higher inflation.; Other, please add additional comments below [Text box]]

4. Please rank your top reasons for accepting your employer's default wage offer and not taking other actions to negotiate a higher pay raise, from the most (1) to the least (3) important reason.

[The options chose by respondents in the previous questions with radio bottoms next to them to rank these options]

- **Branch:** If in Q2 of this section "My employer did not offer me this pay by default and I, or a union on my behalf, used some of the strategies above."

3. Did you take any of the following actions to achieve this pay change?

Please select all that apply

[I initiated a difficult conversation with my employer about my pay; I searched for a higher paying job with other employers, to make it easier to bargain with my employer over pay; I switched employers in order to get a raise; I obtained a second job in addition to my main job; I worked longer hours or performed better at work in order to get a performance based pay increase; A union bargained for higher pay on my behalf; Other, please add additional comments below [Text box]]

4. Above, you indicated that you got a pay raise of this [Stated pay growth value in Q1 in this section]% by implementing a common strategy to increase pay such as initiating a difficult conversation with your employer to ask for a raise, searching for higher paying jobs with other employers, switching employers in order to get a raise or other. Moreover, you could have obtained a second job or worked longer hours to get a raise. A union could have also bargained for higher pay on your behalf.

If you, or possibly your union, had not implemented any of these strategies, what pay growth do you think your employer would have offered you in 2023?

Please write your answer in percent. If you mean x%, input x.

[Text box]%

5. What was your, or your union's, motivation for taking actions in order to secure a pay increase in 2023?

Please pick ***up to three options.***

[My cost of living increased due to high inflation, therefore I needed more money to fund my spending and saving plans; My performance and output in the workplace increased significantly; I always bargain for pay; It was a long time since the last time my pay had been increased; Other, please add additional comments below[Text box]]

6. Please rank your top reasons for taking actions in order to secure a pay increase in 2023, from the most (1) to the least (3) important reason.

[*The options chose by respondents in the previous questions with radio bottoms next to them to rank these options]*

- **Same branch:**
  - **Sub-branch:** If in Q3 of this branch "I initiated a difficult conversation with my employer about my pay"

8. How many times in 2023 did you initiate a difficult conversation with your employer about your pay?

[Text box] times

9. Compared to a typical year, how were the conversations with your employer about pay?

[The conversations were substantially easier; The conversations were somewhat easier; The conversations were the same as a typical year; The conversations were somewhat more difficult; The conversations were substantially more difficult]

- **Same branch:**
  - **Sub-branch:** If in Q3 of this branch "A union bargained for higher pay on my behalf"

10. Compared to a typical year, did your union take more actions to increase pay in 2023 (e.g., engage in a tough negotiation or go on strike)?

[Compared to a typical year, my union did not take more actions to increase pay.; Compared to a typical year, my union took more actions to increase pay. My union engaged in tougher negotiations.; Compared to a typical year, my union took more actions to increase pay. My union organized a strike.; Compared to a typical year, my union took other actions to increase pay, please add additional comments below. [Text box]]

- **Same branch:**
  - **Sub-branch:** If in Q3 of this branch "I obtained a second job in addition to my main job"

11. In how many months in 2023 did you work for a second job in addition to your main job?

[Text box] months

12. Compared with a typical year, did you spend more months working on a second job in addition to your main job in 2023?

[Yes; No]

- **Same branch:**
  - **Sub-branch:** If in Q3 of this branch "I searched for a higher paying job with other employers, to make it easier to bargain with my employer over pay"

13. In how many months in 2023 did you submit at least 1 job application?

[Text box] months

14. Compared to a typical year, did you submit more job applications in 2023?

[Yes; No]

- **Same branch:**
  - **Sub-branch:** If in Q3 of this branch "I worked longer hours or performed better at work in order to get a performance based pay increase"

15. In how many months in 2023 did you work longer hours or did extra work to increase your performance?

[Text box] months

16. Compared to a typical year, did you work longer hours or did extra work to increase your performance in 2023?

[Yes; No]

- **Same branch:**
  - **Sub-branch:** If in Q3 of this branch "I switched employers in order to get a raise"

17. How many times in 2023 did you switch employers in order to get a raise?

[Text box] times

18. Compared to a typical year, did you switch employers more times in order to get a raise in 2023?

[Yes; No]

- **Branch:** If in Q2 of this section "My employer did not offer me this pay by default and I, or a union on my behalf, used some of the strategies above" but the only choice selected in Q2 of this section was "A union bargained for higher pay on my behalf" OR if in Q2 of this section "My employer offered me this pay by default."

19. Above, you indicated that you got a pay growth of [Stated pay growth value in Q1 in this section]% in 2023.

What pay growth do you think you could have attained in 2023 if you had taken actions such as initiating a difficult conversation with your employer to ask for a raise, searching for higher paying jobs with other employers, switching employers in order to get a raise, or others?

Please write your answer in percent. If you mean x%, input x.

[Text box] %

E.7 Employer's profits

1. During the year 2023, do you think that your employer's profits:

[Went up; Stayed the same; Went down; Not relevant - I work for a non-profit or government; I don't know]

E.8 Attention check

1. In questionnaires like ours, sometimes there are participants who do not carefully read the questions and quickly click through the survey. This means that there are a lot of random answers which

compromise the results of research studies. To show that you read our questions carefully, please enter turquoise as your answer to the next question.

What is your favorite color?

[Text box]

E.9 Future inflation

1. During the next 12 months, do you think that prices in general will go up, or go down, or stay where they are now?

[Go up; Stay the same; Go down; I don't know]

- **Branch:** If in Q1 of this section "Go up"

2. By about what percent do you expect prices to go up on the average, during the next 12 months?
Please write your answer in percent, if you mean x%, input x

[Text box] %

- **Branch:** If in Q1 of this section "Go down"

2. By about what percent do you expect prices to go down on the average, during the next 12 months?
Please write your answer in percent, if you mean x%, input x

[Text box] %

E.10 Cost of conflict

Common strategies to increase pay include initiating a difficult conversation about pay with employers, or searching for higher paid jobs with other employers. Please, think ahead to 12 months from now. Suppose that you are working at the same job at the same place you currently work, and working the same number of hours.

1. What pay growth do you think you would get by default if you do not take any strategies at your disposal to increase your pay, including the common strategies listed above?
Please write your answer in percent, if you mean x%, input x

[Text box] %

2. What pay growth do you think you would get if you do your best to increase pay using any strategies at your disposal, including the common strategies listed above?
Please write your answer in percent, if you mean x%, input x

[Text box] %

3. Your employer increases pay for everyone in your position, including you, by z% (possible values listed below). Would you accept your employer's offer without taking any actions to increase your pay or would you do your best to increase your pay using any strategies at your disposal (such as initiating a difficult conversation about pay with employers, or searching for higher paid jobs with other employers)?
Remember that you have said that if you do your best to increase pay using any strategies at your disposal, you would have a pay growth of [Stated pay growth value in Q2 in this section]%.

[9 rows presented in either descending or ascending order, each with different pay growth values. The maximum value corresponds to the pay growth stated in Q2 of this section, while the minimum value is this pay growth value minus 4. The difference between each row is 0.5 percentage points. For each row, respondents are presented with two options: "I would accept my employer's pay growth offer" or "I would do my best using any strategies at my disposal to increase my pay further."]

E.11 Hypothetical inflation

[In this section, participants were randomly assigned to one of 5 possible hypothetical inflation scenarios, either 2%, 4%, 6%, 8% or 10%.]
Consider a hypothetical situation in which inflation is expected to be [Hypothetical inflation]% in the next 12 months. Suppose that you are working at the same job at the same place you currently work, and working the same number of hours.
1. What pay growth do you think you would get by default if you do not take any strategies at your disposal to increase your pay (such as initiating a difficult conversation about pay with employers, or searching for higher paid jobs with other employers)?
Please write your answer in percent, if you mean x%, input x

[Text box] %

2. Would you accept your employer's offer without taking any actions to increase your pay or would you do your best to increase your pay using any strategies at your disposal?

[I would accept my employer's pay growth offer; I would do my best using any strategies at my disposal to increase my pay further]

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