Why Do Workers Dislike Inflation? Wage Erosion and Conflict Costs

Supplemental Appendix (For Online Publication)

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A Proofs

Proof of Proposition 1

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

$$G_0^d\left(x_{i,0}^d;\boldsymbol{\pi}_\infty\right) = G^{d,ss}\left(x_{i,0}^d + \left(1-\gamma\right)\hat{\pi}_0\right), \tag{A.1}$$

where $G^{d,ss}$ is the steady-state stationary cumulative distribution function of implied by the employer's default wage offer, and where we define $\boldsymbol{\pi}_\infty = \{\pi_t\}_{t=0}^{+\infty}$. 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 $x_{i,0}^d \leq \underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right)$ and not if $x_{i,0}^d > \underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right)$, where $\underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right)$ is a threshold as a function of $\boldsymbol{\pi}_{\mathbf{1:\infty}} = \{\pi_\tau\}_{\tau=1}^{\infty}$. When conflict is costless ($\kappa_{i,0} = 0$), the worker chooses to engage in conflict if $x_{i,0}^d \leq 0$ and not if $x_{i,0}^d > 0$. Then the fraction of workers that conflict at 0 is

$$\begin{aligned}
\text{frac}_0 &= (1-\lambda)\, G_0^d\left(\underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right);\boldsymbol{\pi}_\infty\right) + \lambda G_t^d\left(0;\boldsymbol{\pi}_\infty\right) \\
&= (1-\lambda)\, G^{d,ss}\left(\underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right) + \left(1-\gamma\right)\hat{\pi}_0\right) + \lambda G^{d,ss}\left(\left(1-\gamma\right)\hat{\pi}_0\right),
\end{aligned}$$

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 $\underline{x}_0\left(\boldsymbol{\pi}_{\mathbf{1:\infty}}\right)$, 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 equation (A.1). Differentiating implies

$$\left.\frac{\partial \text{frac}_0}{\partial \pi_0}\right|_{\{\pi_t=\pi^{ss}\}_{t=0}^{\infty}} = \left(1-\gamma\right)\left[(1-\lambda)\, g^{d,ss}\left(\underline{x}^{ss}\right) + \lambda g^{d,ss}\left(0\right)\right] > 0,$$

where $g^{d,ss}(\cdot)$ is the steady-state stationary probability density function of implied by the employer's default wage offer and we use the fact that $g^{d,ss}\left(\underline{x}^{ss}\right) > 0$.

Proof of Theorem 1 and Proposition 2.

Worker's problem. We first define $\chi_t\left(\boldsymbol{\pi}_t, \mathscr{I}_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)$, 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 $\mathscr{I}_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right) = \left\{\mathscr{I}_{i,\tau}\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right);\boldsymbol{\pi}_\infty\right\}_{\tau=0}^t$, and history of idiosyncratic conditions $h_{i,t} \equiv \left(\left\{z_{i,\tau}, \kappa_{i,\tau}\right\}_{\tau=0}^t, x_{i,-1}\right)$.[32] This object is connected to worker i's real wage $\omega_t\left(\boldsymbol{\pi}_t, \mathscr{I}_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)$ as defined in the main text by

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

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

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

and

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

where $\boldsymbol{\pi}^{\boldsymbol{ss}} = \{\pi^{ss}\}_{\tau=0}^\infty$, and $\mathscr{I}_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}^{\boldsymbol{ss}}\right)$ captures what the conflict decisions would have been, given steady-state inflation, as well as the same history of idiosyncratic shocks (i.e., $\mathscr{I}_{i,t}^{ss}$ in the main text). From (5) and (6), the impact of inflation on aggregate worker welfare can be written as

$$\hat{\mathscr{W}} = \int_0^1 \chi_t\left(\boldsymbol{\pi}_t, \mathscr{I}_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)di - \int_0^1 \chi_t\left(\boldsymbol{\pi}^{\boldsymbol{ss}}, \mathscr{I}_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}^{\boldsymbol{ss}}\right), h_{i,t}\right)di - \hat{\varkappa}, \tag{A.4}$$

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

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

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

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 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:

[32] 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 $x_{i,-1} = \log w_{i,-1} - \log w_{i,-1}^*$.

$$\mathscr{U}\left(\boldsymbol{\pi}_{\infty}, x_{i,-1}\right) = \max_{\{\mathscr{I}_{i,t}(h_{i,t};\boldsymbol{\pi}_{\infty})\}_{t=0}^{\infty}} \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t \left[\chi_t\left(\boldsymbol{\pi_t}, \boldsymbol{\mathscr{I}_{i,t}}\left(h_{i,t};\boldsymbol{\pi}_{\infty}\right), h_{i,t}\right) - \kappa_{i,t}\mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_{\infty}\right)\right]\right] \quad \text{s.t. (4)}, \tag{A.6}$$

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 $\boldsymbol{\mathscr{I}}_{\boldsymbol{i,t}}^{*}\left(h_{i,t};\boldsymbol{\pi}_{\infty}\right) = \left\{\mathscr{I}_{i,\tau}^{*}\left(h_{i,\tau};\boldsymbol{\pi}_{\infty}\right)\right\}_{\tau=0}^{t}$ denote the corresponding individual history 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 $\{\mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_{\infty}\right)\}_{t=0}^{\infty}$. 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 $s \geq 0$,

$$\begin{aligned}
\frac{\partial \mathscr{U}\left(\boldsymbol{\pi}_{\infty}, x_{i,-1}\right)}{\partial \pi_s} &= \left(1-\gamma\right)\sum_{t=s}^{\infty} \beta^t \mathbb{E}\left[\sum_{t=0}^{\infty} \beta^t \frac{\partial \chi_t\left(\boldsymbol{\pi_t}, \boldsymbol{\mathscr{I}}_{\boldsymbol{i,t}}^{*}\left(h_{i,t};\boldsymbol{\pi}_{\infty}\right), h_{i,t}\right)}{\partial \pi_s}\right] \quad \text{a.e.} \\
&= -\left(1-\gamma\right)\sum_{t=s}^{\infty} \beta^t \mathbb{E}\left[\prod_{\tau=s}^{t}\left(1-\mathscr{I}_{i,\tau}^{*}\left(h_{i,\tau};\boldsymbol{\pi}_{\infty}\right)\right)\right] \quad \text{a.e.,}
\end{aligned} \tag{A.7}$$

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

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

where $\boldsymbol{\pi}_{\boldsymbol{1}:\infty} = \{\pi_{\tau}\}_{\tau=1}^{\infty}$ 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 $\frac{\partial \mathcal{V}\left(x_{i,0}^d, \kappa_{i,0}, \boldsymbol{\pi}_{1:\infty}\right)}{\partial x_{i,0}^d}$ exists almost everywhere and its absolute value is bounded by $\frac{1-\gamma}{1-\beta}$. That is, similar to (A.7),

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

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

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

We know that

$$\begin{aligned}\frac{\partial \mathcal{U}\left(\boldsymbol{\pi}_\infty, x_{i,-1}\right)}{\partial x_{i,-1}} &= (1-\lambda)\int_{\underline{z}}^{\infty} \frac{\partial \mathcal{V}\left(x_{i,-1} - \mu - (1-\gamma)\hat{\pi}_0 - z_{i,0}, \kappa, \boldsymbol{\pi}_{1:\infty}\right)}{\partial x_{i,0}^d} f\left(z_{i,0}\right) dz_{i,0} \\ &\quad + \lambda \int_{\underline{z}}^{\infty} \frac{\partial \mathcal{V}\left(x_{i,-1} - \mu - (1-\gamma)\hat{\pi}_0 - z_{i,0}, 0, \boldsymbol{\pi}_{1:\infty}\right)}{\partial x_{i,0}^d} f\left(z_{i,0}\right) dz_{i,0}. \\ &= \sum_{t=0}^{\infty} \beta^t \mathbb{E}\left[\prod_{\tau=0}^{t}\left(1 - \mathscr{I}_{i,\tau}^*\left(h_{i,\tau}; \boldsymbol{\pi}_\infty\right)\right)\right] \geq 0. \end{aligned} \tag{A.9}$$

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

First consider the case that conflict is costly ($\kappa_{i,0} = \kappa$). Because $\mathcal{U}\left(\boldsymbol{\pi}_\infty, x_{i,0}^d\right)$ is weakly increasing in $x_{i,0}^d$, the value of not conflicting, $x_{i,0}^d + \beta\mathcal{U}\left(\boldsymbol{\pi}_\infty, x_{i,0}^d\right)$, strictly increases in $x_{i,0}^d$. The value of conflicting $\beta\mathcal{U}\left(\boldsymbol{\pi}_\infty, 0\right) - \kappa_{i,0}$ is instead independent of $x_{i,0}^d$. The worker's optimal conflict choice can then be characterized by a threshold $\underline{x}_0\left(\boldsymbol{\pi}_{1:\infty}\right)$,[33] which satisfies

$$-\kappa + \beta\mathcal{U}\left(\boldsymbol{\pi}_{1:\infty}, 0\right) = \underline{x}_0\left(\boldsymbol{\pi}_{1:\infty}\right) + \beta\mathcal{U}\left(\boldsymbol{\pi}_{1:\infty}, \underline{x}_0\left(\boldsymbol{\pi}_{1:\infty}\right)\right). \tag{A.10}$$

The worker chooses to engage in conflict if $x_{i,0}^d \leq \underline{x}_0\left(\boldsymbol{\pi}_{1:\infty}\right)$ and not if $x_{i,0}^d > \underline{x}_0\left(\boldsymbol{\pi}_{1:\infty}\right)$.[34] Second con-

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

[34]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.

sider the case that conflict is costless ($\kappa_{i,0} = 0$). In this case, the worker chooses to engage in conflict if $x^d_{i,0} \leq 0$ and not if $x^d_{i,0} > 0$.[35]

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 $H(\boldsymbol{\pi}_\infty, x) \equiv -\kappa + \beta\mathscr{U}(\boldsymbol{\pi}_\infty, 0) - x - \beta\mathscr{U}(\boldsymbol{\pi}_\infty, x)$. One needs two conditions. First, $H(\boldsymbol{\pi}_\infty, x)$ 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), and the fact that the absolute value of the partial derivatives is bounded above by $\frac{1-\gamma}{1-\beta}$. Second, $\frac{\partial H(\boldsymbol{\pi}^{\boldsymbol{ss}}, \underline{x}^{ss})}{\partial x} \neq 0$. This is true because $\frac{\partial H(\boldsymbol{\pi}^{\boldsymbol{ss}}, \underline{x}^{ss})}{\partial x} = -1 - \frac{\partial \mathscr{U}(\boldsymbol{\pi}^{\boldsymbol{ss}}, \underline{x}^{ss})}{\partial x_{i,-1}} \leq -1$. 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 $\boldsymbol{\pi}_{\mathbf{1:\infty}}$ 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 (5) 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),

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

[35] 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 ($\hat{\pi}_t \geq 0$ for all t), the distribution of wage gaps implied by the employer's default wage offer, $G^{ss}_t\left(x^d_{i,t}\right)$, 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.

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 $t \geq s$, i.e., the fraction of workers who never engage in conflict during the period $s,\ s+1,\cdots,\ t$. Define $\tilde{\mathscr{W}}(\varepsilon) = \mathscr{W}(\varepsilon\boldsymbol{\pi}_\infty + (1-\varepsilon)\boldsymbol{\pi}^{ss})$. We have

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

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

$$\hat{\mathscr{W}}(\boldsymbol{\pi}_\infty) = -\left(1-\gamma\right)\sum_{s=0}^{\infty}\sum_{t=s}^{\infty}\beta^t\left(\int_0^1\Phi_{s,t}\left(\varepsilon\boldsymbol{\pi}_\infty + (1-\varepsilon)\boldsymbol{\pi}^{ss}\right)d\varepsilon\right)\hat{\pi}_s. \tag{A.11}$$

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

$$\begin{aligned}\hat{w}_t^{\text{erosion}} &= -\left(1-\gamma\right)\sum_{s=0}^{t}\left(\int_0^1\mathbb{E}\left[\prod_{\tau=s}^{t}\left(1-\mathscr{I}_{i,\tau}^*\left(h_{i,\tau};\boldsymbol{\pi}^{ss}\right)\right)\right]di\right)\cdot\hat{\pi}_s,\\ &= -\left(1-\gamma\right)\sum_{s=0}^{t}\Phi_{s,t}\left(\boldsymbol{\pi}^{ss}\right)\cdot\hat{\pi}_s.\end{aligned} \tag{A.12}$$

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, $\hat{\mathscr{W}} \approx \sum_{t=0}^{\infty}\beta^t\hat{w}_t^{\text{erosion}}$. From (A.12), 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.11), 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):

$$G_t\left(x_{i,t};\boldsymbol{\pi}_\infty\right)=(1-\lambda)\left(\max\left\{G_t^d\left(x_{i,t};\boldsymbol{\pi}_\infty\right)-G_t^d\left(\underline{x}_t\left(\boldsymbol{\pi}_{t+1:\infty}\right);\boldsymbol{\pi}_\infty\right),0\right\}+G_t^d\left(\underline{x}_t\left(\boldsymbol{\pi}_{t+1:\infty}\right);\boldsymbol{\pi}_\infty\right)\mathbb{1}_{x_{i,t}\geq 0}\right) \tag{A.13}$$

$$+\lambda\left(\max\left\{G_t^d\left(x_{i,t};\boldsymbol{\pi}_\infty\right)-G_t^d\left(0;\boldsymbol{\pi}_\infty\right),0\right\}+G_t^d\left(0;\boldsymbol{\pi}_\infty\right)\mathbb{1}_{x_{i,t}\geq 0}\right),$$

where the first line captures workers whose conflict is costly and whose conflict choice can then be characterized by the threshold $\underline{x}_t\left(\boldsymbol{\pi}_{t+1:\infty}\right)$, and the second line captures workers whose conflict is costless and whose conflict choice can then be characterized by the threshold 0. Recall that $\underline{x}_t\left(\boldsymbol{\pi}_{t+1:\infty}\right)$ 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

$$\begin{aligned}G_{t+1}^d\left(x_{i,t+1}^d;\boldsymbol{\pi}_\infty\right)&=\int_{\underline{z}}^{\infty}G_t\left(\mu+(1-\gamma)\hat{\pi}_{t+1}+z_{i,t+1}+x_{i,t+1}^d;\boldsymbol{\pi}_\infty\right)f\left(z_{i,t+1}\right)dz_{i,t+1}\\&=\int_{-\infty}^{0}G_t\left(x_{i,t};\boldsymbol{\pi}_\infty\right)f\left(x_{i,t}-\mu-(1-\gamma)\hat{\pi}_{t+1}-x_{i,t+1}^d\right)dx_{i,t}\\&\quad+\int_{0}^{\infty}G_t\left(x_{i,t};\boldsymbol{\pi}_\infty\right)f\left(x_{i,t}-\mu-(1-\gamma)\hat{\pi}_{t+1}-x_{i,t+1}^d\right)dx_{i,t}\end{aligned}$$

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 $x_{i,t}=0$, $G_{t+1}^d\left(x_{i,t+1}^d;\boldsymbol{\pi}_\infty\right)$ is continuous in $\boldsymbol{\pi}_\infty$ around $\boldsymbol{\pi}^{ss}$ and is continuous in $x_{i,t+1}^d$. 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 $\Phi_{s,t}\left(\boldsymbol{\pi}_\infty\right)$ 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 $s\geq 0$,

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

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

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

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

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

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

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

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

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 $\hat{w}_t=\hat{w}_t^{\text{erosion}}+\hat{w}_t^{\text{catch-up}}$.

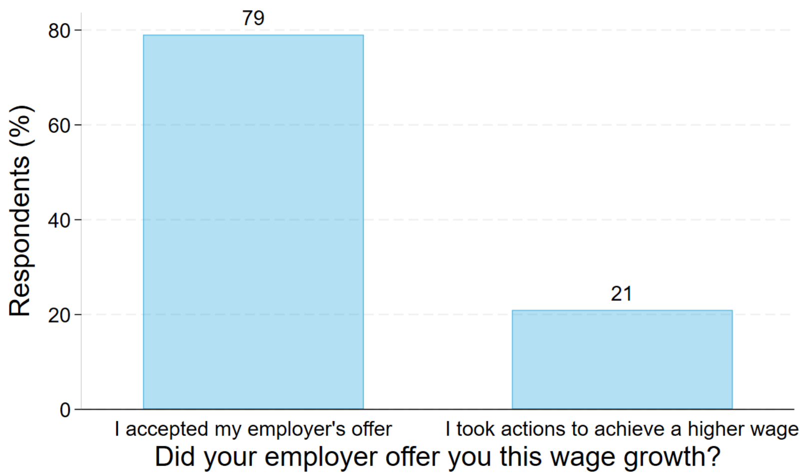
Proof of Proposition 3.

The workers' problem (7) depends 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

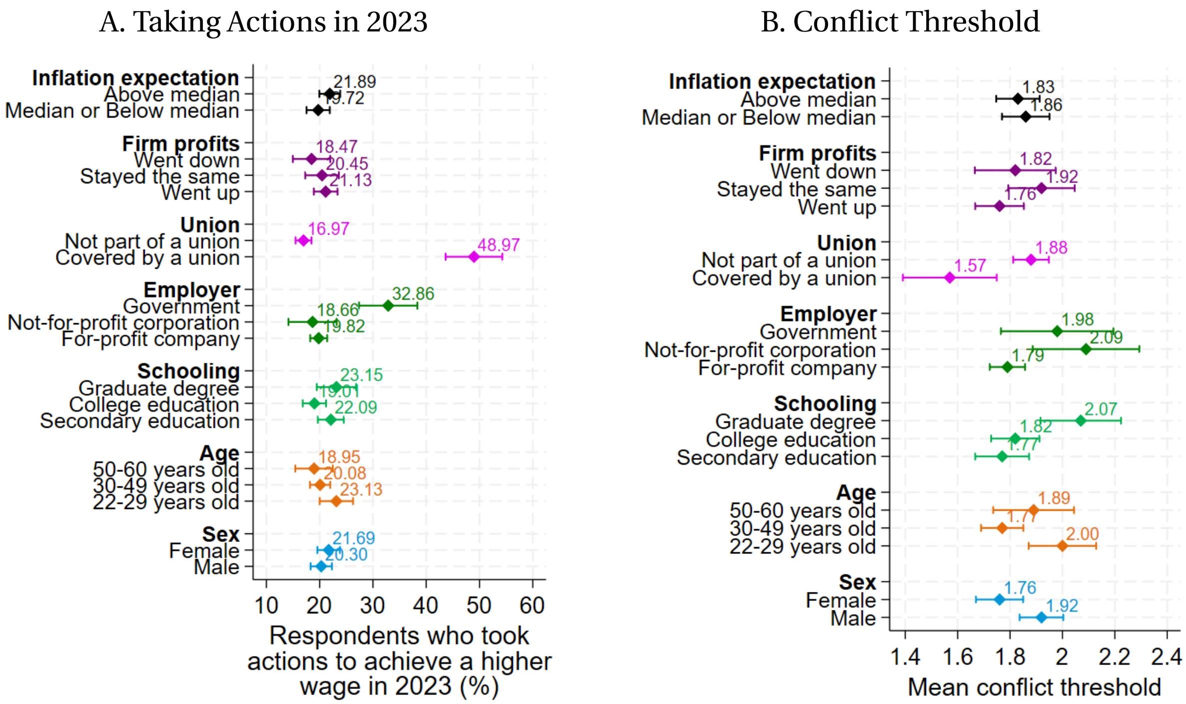
B.1 Appendix Figures

Figure B.1: Default Wage Growth and Costly Actions



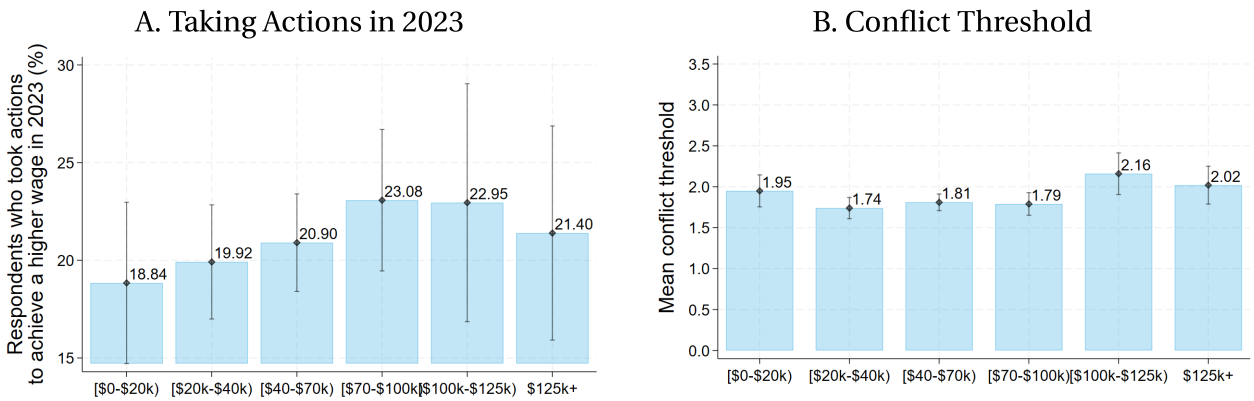
Notes: the figure illustrates the percentage of survey participants who either accepted their employers' default wage offer or took action, either individually or through their unions, to achieve a higher wage during 2023.

Figure B.2: Heterogeneity in Conflict: Demographics



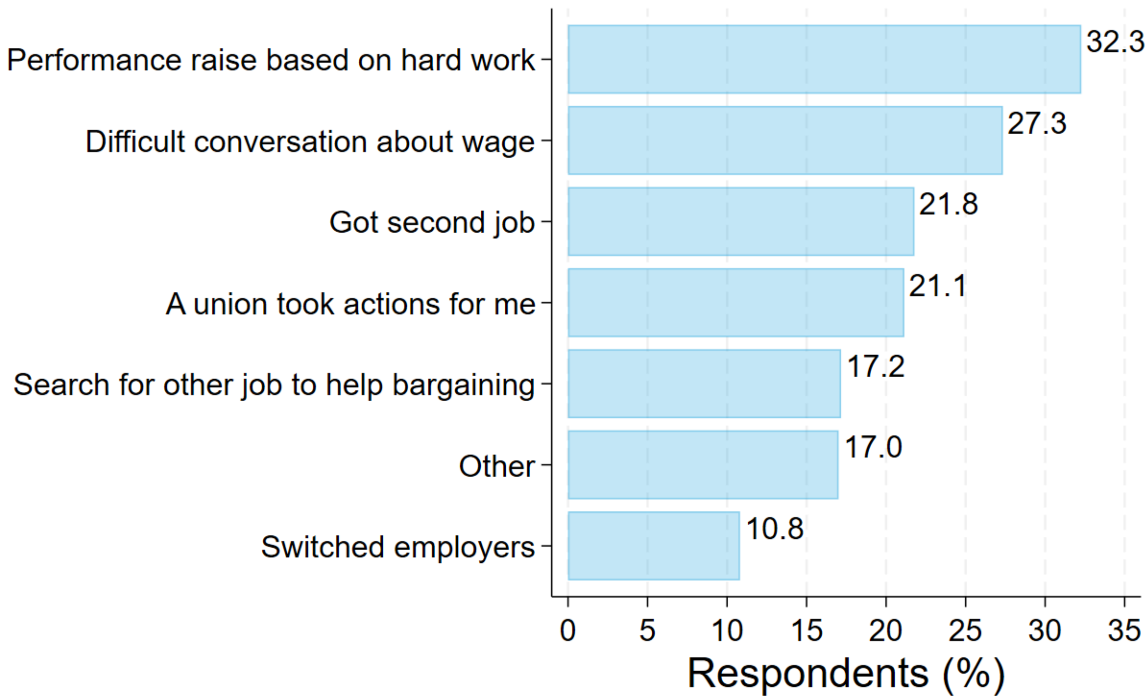
Note: Panel A displays the percentage of participants who took actions to achieve a higher wage in 2023, with 95% confidence intervals shown for each demographic category. Panel B illustrates the mean of the conflict threshold (x^{conflict}, which maps to $-\underline{x}^{ss}$ in the model) along with with 95% confidence intervals displayed for each demographic category. The conflict threshold x^{conflict} is as the difference between the wage growth participants believe they will receive if they take actions to increase their pay ($\Delta W^{\text{conflict}}$) in the next 12 months and their indifference wage (ΔW^{indiff}), which is the wage growth participants would be willing to accept if offered by their employers in the next 12 months. Panel B restricts the data to respondents who bargain first and then accept the offer. The categories depicted include inflation expectations, firm profits, union membership, employer type, education level, age, and gender.

Figure B.3: Heterogeneity in Conflict: Income



Note: Panel A shows the percentage of participants who took actions to achieve a higher wage in 2023, with 95% confidence intervals displayed for each income category. Panel B illustrates the mean of the conflict threshold (x^{conflict}, which maps to $-\underline{x}^{ss}$ in the model) along with 95% confidence intervals shown for each income category. The conflict threshold x^{conflict} is defined as the difference between the wage growth participants believe they will receive if they take actions to increase their pay ($\Delta W_{\text{conflict}}$) in the next 12 months and their indifference wage (ΔW_{indiff}), which is the wage growth participants would be willing to accept if offered by their employers in the next 12 months. Panel B restricts the data to respondents who bargain first and then accept the offer.

Figure B.4: Types of Costly Actions Achieving Higher Wages

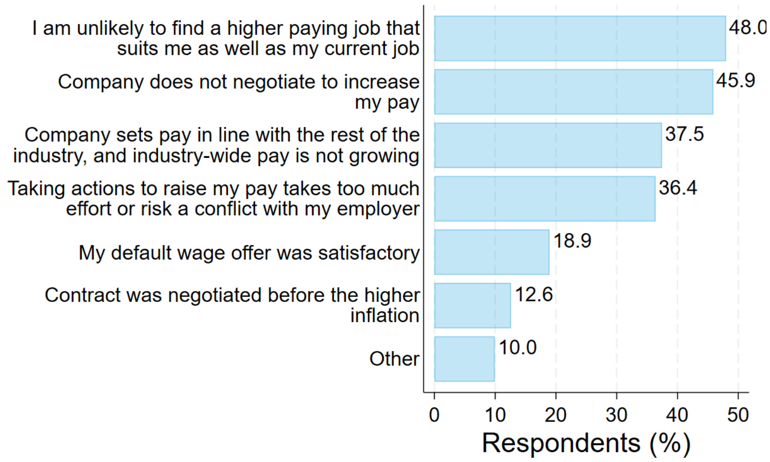


Notes: the figure displays the percentage of survey participants who undertook costly actions to secure higher wage growth in 2023. Participants were asked to choose all actions that applied to them. Each bar in the figure corresponds to the following answer choices in order: "I worked longer hours or performed better at work to get a performance-based pay increase"; "I initiated a difficult conversation with my employer about my pay"; "I obtained a second job in addition to my main job"; "A union bargained for higher pay on my behalf"; "I searched for a higher-paying job with other employers to facilitate pay negotiations with my employer"; "Other, please add additional comments below"; and "I switched employers to get a raise." To answer this question without imposing preconceptions, we took two steps. First, in a pilot of 100 people, we asked respondents who took actions to explain them in open-ended form. Second, we grouped these actions into a set of categories, and asked the full survey to select actions from within these categories. We also allowed respondents to select an "other" option, and randomized the order of the categories.

Figure B.5: The Effectiveness of Conflict: Within-Individual Distributions

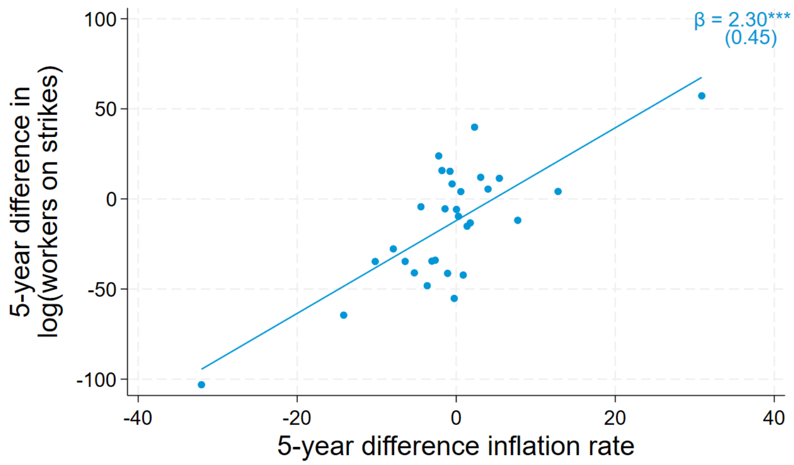
Note: Panels A and B depict difference between the reported wage growth during 2023 and the hypothetical wage growth respondents reported they would have received if no actions had been taken or if actions had been taken to achieve a higher pay, respectively. The unit of observation is the respondent. The data range has been truncated, with values ranging from a minimum of -15% to a maximum of 15%. The data has been restricted to respondents who indicated that they took actions to achieve a higher pay during 2023 in Panel A and to respondents who accepted their employers' default wage during 2023 in Panel B.

Figure B.6: Motivation to Accept Wage Offer



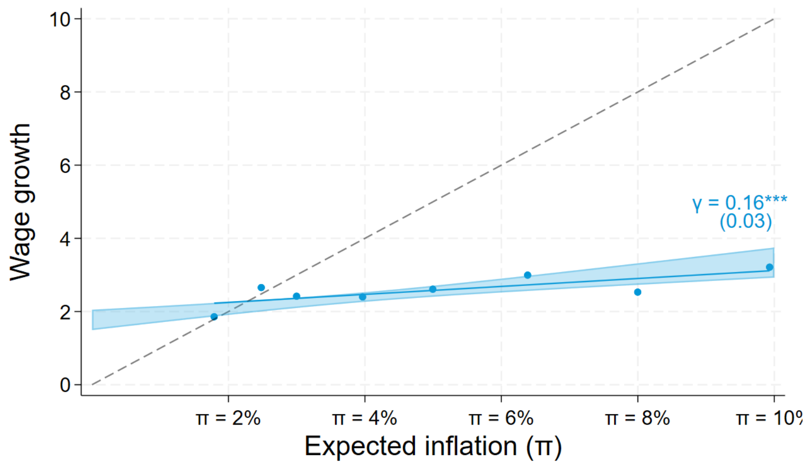
Note: This figure illustrates the percentage of survey participants who stated their motivations to accept their employers' default pay offer during 2023. Each bar in the figure represents the following answer choices in order: "I am unlikely to be able to find a higher paying job that suits me as well 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 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."; "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."; and "Other, please add additional comments below". The data in this figure only includes respondents who stated that they accepted their employers' default pay offer during 2023.

Figure B.7: Cross-Country Relationship Between Inflation and Union Strikes



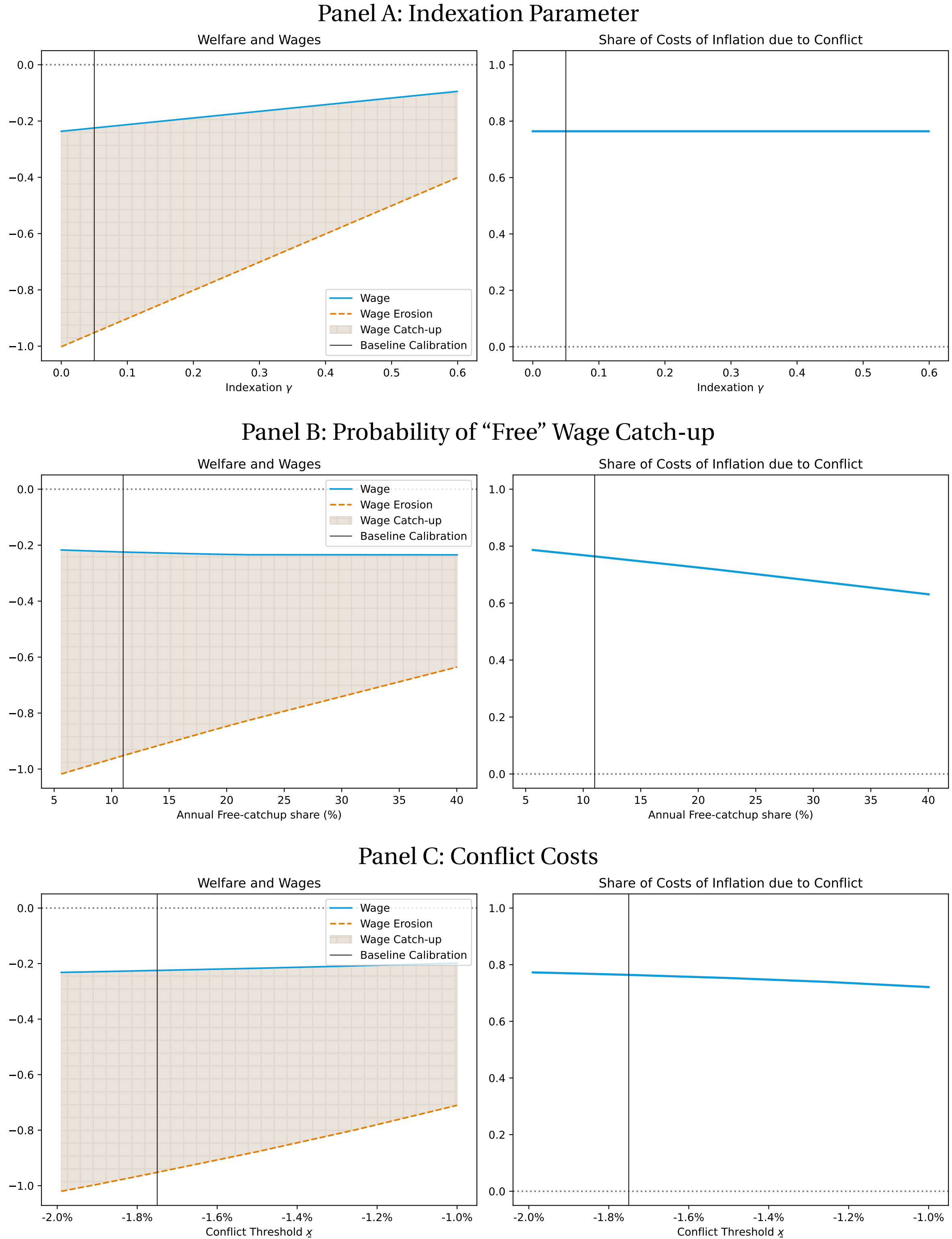
Notes: This binned scatterplot illustrates the relationship between labor market strikes and inflation. The y variable is the 5-year log difference of "Workers involved in strikes and lockouts," sourced from the International Labour Organization, multiplied by 100 for ease of interpretation. The x variable is the five year difference of headline inflation, sourced by the World Bank, with the 2.5% most extreme observations trimmed in each tail. Both variables are residualized against country and time fixed effects. Observations are unweighted, and standard errors are clustered at the country level. The analysis includes 78 countries spanning from 1969 to 2022. Data availability varies by year and country. The coefficient of this relationship is displayed, with the standard errors enclosed in brackets. Stars denote levels of statistical significance: 1% (***), 5% (**), and 10% (*).

Figure B.8: Wage Indexation: Variation from Inflation Expectations



Note: This figure restricts observations to respondents who expect a positive inflation rate of no more than 10% next year. This excludes 36.24% of the sample of respondents who predict that prices will go up next year. This binned scatterplot depicts the relationship between the default wage and the expected inflation in the following 12 months, along with the 95% confidence interval of the predicted relationship. The default wage is defined as the wage growth that participants anticipate their employers will offer them next year. The gray dashed line serves as a reference 45-degree line. The coefficient of this relationship is displayed, with the standard errors enclosed in brackets. The stars indicate levels of statistical significance: 1% (***), 5% (**), and 10% (*).

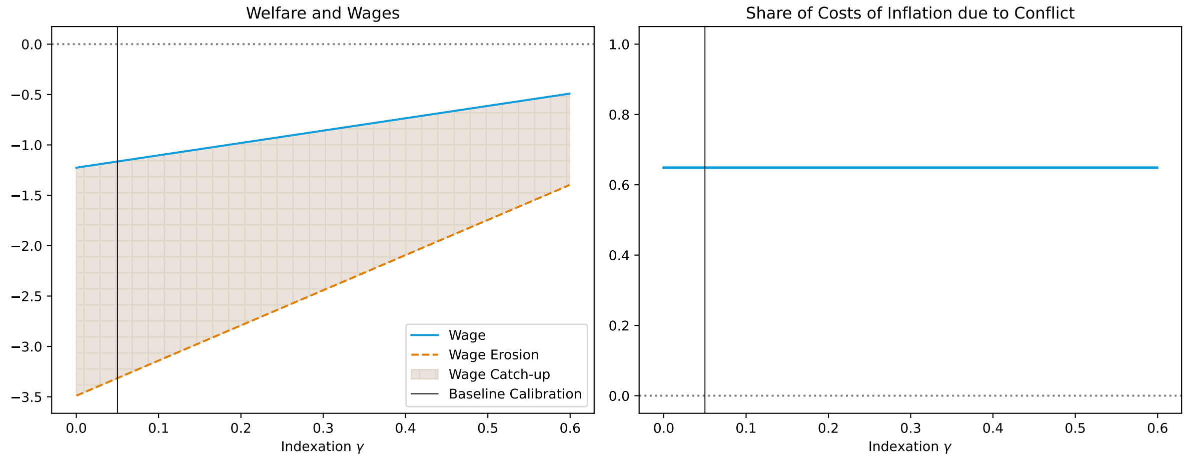
Figure B.10: Aggregate Costs of Conflict due to Inflation—as a Function of Key Parameters (the Transitory Inflation Shock)



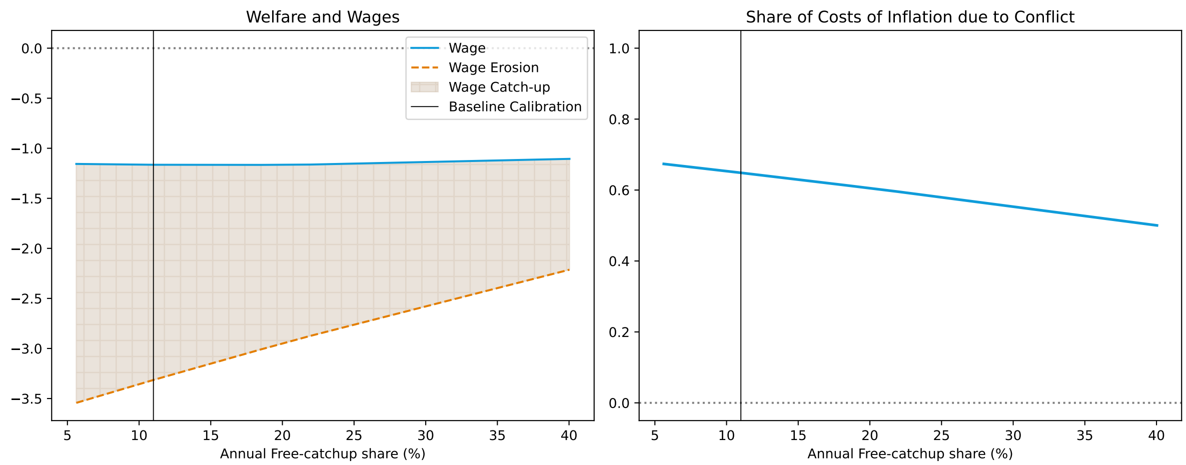
Notes: these figures summarize the impact of the transitory inflation shock on wages and worker welfare under different model parameterizations. The left figure of each panel plots the decline in the present value of real wages (blue solid line), and the present value of welfare-relevant wage erosion (dashed orange line) after the persistent inflation shock. The right figure of each panel plots the ratio of these two terms as the parameter varies. Panel A varies the indexation parameter 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 $\underline{x}^{ss}$ varies between -2% and -1%.

Figure B.9: Aggregate Costs of Conflict due to Inflation—as a Function of Key Parameters

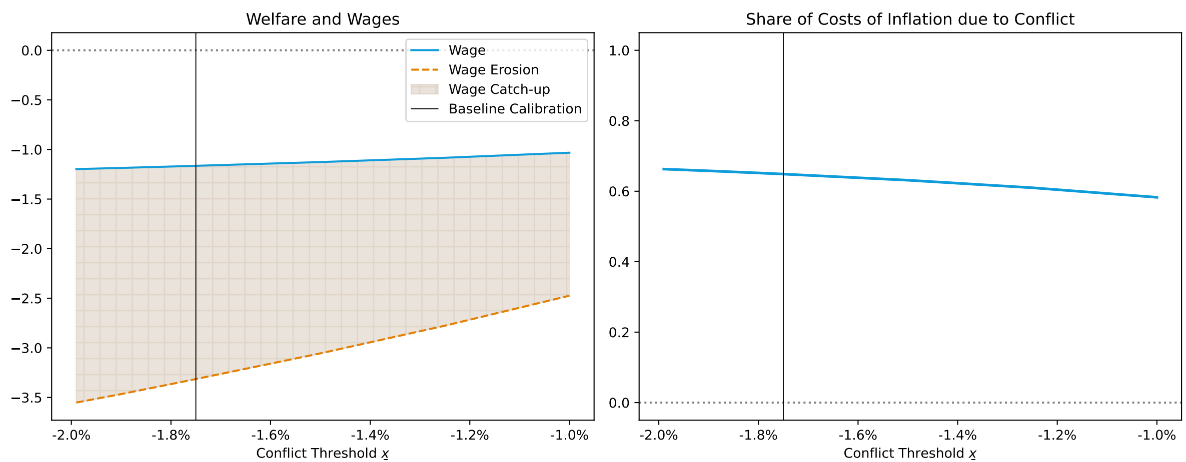
Panel A: Indexation Parameter



Panel B: Probability of "Free" Wage Catch-up



Panel C: Conflict Costs



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 persistent inflation shock. 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 $\underline{x}^{ss}$ varies between -2% and -1%.

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 union	0.11	0.13
Not part of a union	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: Inflation and Union Strikes—Robustness Table

	Difference in log number of workers on strike							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
5-year diff in inflation rates	2.922***	2.764***	2.439***	2.302***	1.915***	3.132***	2.846***	
	(0.410)	(0.405)	(0.449)	(0.451)	(0.474)	(1.055)	(0.431)	
5-year diff GDP per capita							0.000**	
							(0.000)	
2-year diff in inflation rates								0.883**
								(0.373)
Observations	1872	1872	1872	1872	5955	1021	1765	2079
Country FE		✓		✓	✓	✓		✓
Year FE			✓	✓	✓	✓		✓
Industry FE					✓			
Weight: 1960 population						✓		

Notes: this table illustrates the relationship between labor market strikes and inflation. The dependent variable is the 5-year log difference of "Workers involved in strikes and lockouts," sourced from the International Labour Organization, multiplied by 100 for ease of interpretation. We use headline inflation, sourced by the World Bank, trimmed at 2.5% on each tail. In the first column, we regress the 5 year difference in the log number of workers on strike on the 5 year difference in inflation rates. In the second column we add country fixed effects, in the third column year fixed effects, in the fourth column country and year fixed effects, and in the seventh column a control for the 5 year change in real GDP per capita. In the fifth column we use industry-by-country data with industry, country and year fixed effects; with 7 broad industries. In the sixth column we repeat the fourth column but weight by 1960 population. The final column repeats the fourth column but with 2 year differences. Standard errors are clustered by country. The analysis includes 78 countries spanning from 1969 to 2022. Data availability varies by year and country. Stars denote levels of statistical significance: 1% (***), 5% (**), and 10% (*).

Table B.3: Decomposing the Impact of Inflation Shocks on Worker Welfare—2021-2023 Inflation

	Overall Welfare Change	**Real Wage Response**	**Aggregate Costs of Inflation due to Conflict**
2021-2023 inflation	−10.91%	−4.21%	−6.70%
2021-2023 inflation with observed expectations	−10.91%	−4.45%	−6.46%

Notes: the first column shows the impact of 2021-3 inflation on overall worker welfare with perfect foresight (row 1) or with observed expectations (row 2), as a percent of annual consumption. The second column shows the response of present value of real wages in each scenario, again as a percent of annual consumption. The final column shows the response of the aggregate costs of inflation due to conflict $\hat{\varkappa}$, again as a percent of annual consumption.

Why Do Workers Dislike Inflation? Wage Erosion and Conflict Costs

Additional Materials

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C Additional Model Analysis

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 conditional 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

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

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 $x^d_{i,0}>\underline{x}_t(\boldsymbol{\pi}_{t+1:\infty};\kappa_{i,t})$. 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 $t \geq s$,

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

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

Conflict-induced real wages affected by inflation shocks. In our main analysis, the conflict-induced (real) wage $w^*_{i,t}$ is invariant to inflation shocks. Our main result, Theorem 1, can be extended to the case where $w^*_{i,t}$ is affected by inflation shocks. 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 $g_{w,t} \equiv \log\left(w^*_t / w^*_{t-1}\right)$ is the growth rate of aggregate conflict-induced (real) wage $\log w^*_t = \int \log w^*_{i,t} di$. 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:

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

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

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

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

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

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).

Allowing other aggregate shocks. In the main analysis, we study the case in which the only aggregate shocks are inflation shocks. Our main result, Theorem 1, can be extended to the case with other aggregate shocks (e.g., TFP shocks from changing aggregate productivity growth $g_{z,t}$). 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

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

where γ_z captures the degree of indexation of default wages to TFP shocks and $\hat{g}_t \equiv g_t - g^{ss}$. This is the same problem as (7) with relevant aggregate shocks replaced from $\{(1-\gamma)\hat{\pi}_t\}_{t=0}^{\infty}$ to $\{(1-\gamma_g)\hat{g}_t + (1-\gamma)\hat{\pi}_t\}^{\infty}$. 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 aggregate shocks on aggregate wage gaps (from the conflict-induced wage) while holding each worker's conflict decision as if inflation and productivity growth are at the steady-state level, and is given by

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

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

$$\hat{\mathscr{W}}^x \equiv \hat{\mathscr{W}} - \sum_{t=0}^{\infty} \frac{\beta^t}{1-\beta}\hat{g}_t.$$

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:

$$\hat{w}_t^{\text{erosion}} = \hat{x}_t^{\text{erosion}} + \sum_{l=0}^{t} \hat{g}_l.$$

Together, we arrive at

$$\hat{w}_t^{\text{erosion}} \approx -\left(1-\gamma\right) \sum_{s=0}^{t} \Phi_{t-s}^{ss} \hat{\pi}_s + \sum_{s=0}^{t} \left[1 - \left(1-\gamma_g\right) \Phi_{t-s}^{ss}\right] \hat{g}_s \quad \forall t \geq 0, \tag{C.1}$$

similar to (15).

Conflict costs increasing with the wage gains from conflict. The worker i's problem is given by

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

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

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

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

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

where $\mathbb{E}_t$ averages over the realization of idiosyncratic shocks $\{z_{i,s}, \kappa_{i,s}\}_{s=t+1}^{\infty}$ 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 $s \geq 0$,

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

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

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

where

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

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.

Beyond 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

$$c_{i,t} + a_{i,t} = w_{i,t} + (1+r)\,a_{i,t-1} \quad \text{s.t.} \quad a_{i,t} \geq \underline{a}, \tag{C.2}$$

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 $a_{i,t} \geq \underline{a}$. We now prove that the impact of inflation $\{\hat{\pi}_t\}_{t=0}^{+\infty}$ on aggregate worker welfare is now given by (16) in the main text.

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:

$$\mathscr{U}\left(\boldsymbol{\pi}_\infty, w_{i,-1}, w_{i,-1}^*, a_{i,-1}\right) = \max_{\{a_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty), \mathscr{I}_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty)\in\{0,1\}\}_{t=0}^{\infty}} \mathbb{E}\left[\sum_{t=0}^{\infty}\beta^t u\left(\omega_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)\right) - \kappa_{i,t}\mathscr{I}_{i,t}\left(h_{i,t};\boldsymbol{\pi}_\infty\right)\right] \tag{C.3}$$

subject to (C.2) and

$$w_{i,t} = \begin{cases} w_{i,t-1}e^{\alpha-(1-\gamma)\pi_t} & \text{if } \mathscr{I}_{i,t} = 0, \\ w_{i,t}^* & \text{if } \mathscr{I}_{i,t} = 1. \end{cases} \tag{C.4}$$

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 $\mathscr{I}^*_{\boldsymbol{i,t}}(h_{i,t};\boldsymbol{\pi}_\infty) = \left\{\mathscr{I}^*_{i,\tau}(h_{i,\tau};\boldsymbol{\pi}_\infty)\right\}_{\tau=0}^{t}$ the corresponding individual history up to t. Also let $\left\{a^*_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty), c^*_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty)\right\}_{t=0}^{\infty}$ 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 to choose the *probability* of conflict with their employer to increase pay, $\mathscr{I}_{i,t} \in [0,1]$. In this case, workers' choices $\{\mathscr{I}_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty)\}_{t=0}^{\infty}$ reside in a convex compact set.[36] The dynamics of the worker $i's$ real wage is given by:

$$w_{i,t} = \begin{cases} w_{i,t-1}e^{\alpha-(1-\gamma)\pi_t} & \text{with prob. } 1-\mathscr{I}_{i,t} \\ w^*_{i,t} & \text{with prob. } \mathscr{I}_{i,t} \end{cases}. \tag{C.5}$$

The worker's alternative problem is then given by

$$\tilde{\mathscr{U}}\left(\boldsymbol{\pi}_\infty, w_{i,-1}, w^*_{i,-1}, a_{i,-1}\right) = \max_{\{a_{i.t}(h_{i,t};\boldsymbol{\pi}_\infty), \mathscr{I}_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty)\in[0,1]\}_{t=0}^{\infty}} \mathbb{E}\left[\sum_{t=0}^{\infty}\beta^t u\left(\omega_t\left(\boldsymbol{\pi_t}, \mathscr{I}_{\boldsymbol{i,t}}(h_{i,t};\boldsymbol{\pi}_\infty), h_{i,t}\right)\right) - \kappa_{i,t}\mathscr{I}_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty)\right] \quad \text{s.t. (C.2) and (C.5).} \tag{C.6}$$

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 $\mathscr{I}_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty) \in [0,1]$, 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 $\mathscr{I}_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty) \in \{0,1\}$. This is because a worker will choose an interior probability of conflict $\mathscr{I}_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty) \in (0,1)$ if and only if they are indifferent between conflict and non-conflict. By the same token, the optimally chosen conflict decision $\left\{\mathscr{I}^*_{i,t}(h_{i,t};\boldsymbol{\pi}_\infty)\right\}_{t=0}^{\infty}$ for the problem (C.3) also maximizes the alternative problem (C.6).

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

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

native problem (C.6).[37] Similar to (A.7),

$$\frac{\partial \log \omega_t\left(\boldsymbol{\pi}_t, \mathscr{I}^*_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)}{\partial \pi_s} = \begin{cases} 0 & \text{if } t < s \\ -\left(1-\gamma\right)\prod_{\tau=s}^{t}\left(1-\mathscr{I}^*_{i,\tau}\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right) & \text{if } t \geq s \end{cases}. \tag{C.7}$$

As a result,

$$\begin{aligned} \frac{\partial \mathscr{U}\left(\boldsymbol{\pi}_\infty, w_{i,-1}, w^*_{i,-1}, a_{i,-1}\right)}{\partial \pi_s} &= \left(1-\gamma\right)\sum_{t=s}^{\infty}\beta^t \mathbb{E}\left[\sum_{t=0}^{\infty}\lambda_{i,t} w_{i,t}\frac{\partial \log \omega_t\left(\boldsymbol{\pi}_t, \mathscr{I}^*_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)}{\partial \pi_s}\right] \quad \text{a.e.} \\ &= -\left(1-\gamma\right)\sum_{t=s}^{\infty}\beta^t \mathbb{E}\left[u'\left(c_{i,t}\right) w_{i,t}\prod_{\tau=s}^{t}\left(1-\mathscr{I}^*_{i,\tau}\left(h_{i,\tau};\boldsymbol{\pi}_\infty\right)\right)\right] \quad \text{a.e.,} \end{aligned} \tag{C.8}$$

where $w_{i,t} = \omega_t\left(\boldsymbol{\pi}_t, \mathscr{I}^*_{\boldsymbol{i},\boldsymbol{t}}\left(h_{i,t};\boldsymbol{\pi}_\infty\right), h_{i,t}\right)$ 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 multiple of the budget constraint at history $h_{i,t}$ given the aggregate shock $\boldsymbol{\pi}_\infty$. Aggregating (C.8),

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

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

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

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

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

This proves (16) in the main text.

C.2 General Equilibrium Determination of Employment and Wages

Our baseline model quantifies the aggregate costs of inflation due to conflict in a setting where all workers are employed and the conflict-induced real wage is exogenous. However, inflation shocks

[37] We also need to check whether the objective and the constraint in (C.3) are concave in worker choices. In this case, because workers choose the probability of conflict, both the objective and the constraint in (C.3) are linear (and hence weakly concave) in worker choices.

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. We outline the extended model first and refer the reader to the end of this Section for details.

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, where the conflict-induced wage is now given by:

$$\log w^*_{i,t} = \log w^*_t + \log \vartheta_{i,t} \quad \text{and} \quad \log \vartheta_{i,t} = \log \vartheta_{i,t-1} + g + z_{i,t}, \tag{C.9}$$

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. In the steady state, it grows at the trend worker productivity growth rate g, as in the main analysis.

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.[38] When a worker who was unemployed in the previous period finds a job, their initial wage is given by $w^*_{i,t}$ in (3), which keeps up with inflation. If they stay unemployed, they earn $\phi w^*_{i,t}$, 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 rate β. There is competitive entry to create vacancies (with costs $c_v \int \vartheta_{i,t} di$), 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

[38] 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.

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 is given by:

$$\hat{w}_t^* = \psi_E \hat{E}_t, \tag{C.10}$$

where E_t captures the fraction of workers employed at period t, $\hat{w}_t^* = \log\left(w_t^*\right) - \log\left(w^{*,ss}\right)$, and $\hat{E}_t = E_t - E^{ss}$ capture deviations from their steady state value. Gertler et al. (2020) and Hazell and Taska (2024) 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 find that simple wage rules of this sort approximate well the dynamics of more complex bargaining models.[39]

The employment rate E_t follows from the law of motion $E_t = \left[1 - s\left(1 - f_t\right)\right] E_{t-1} + f_t\left(1 - E_{t-1}\right)$.[40] 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.

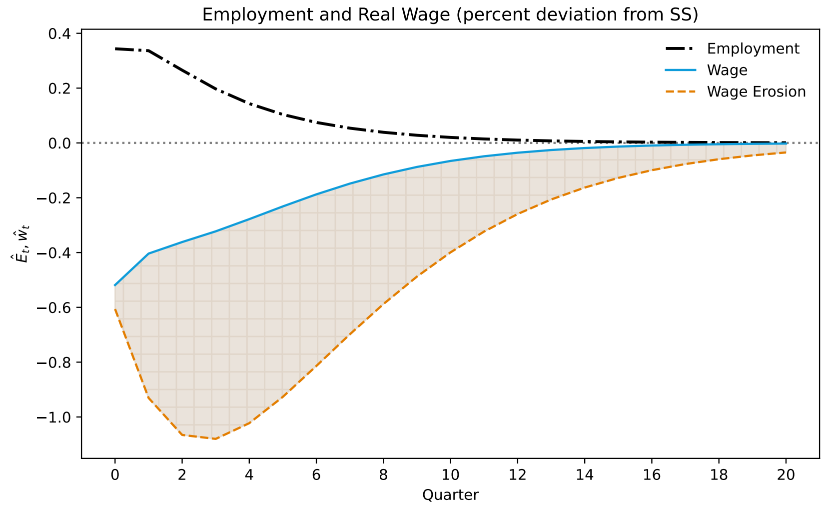
Calibration. We again calibrate the model at a quarterly frequency. For the worker problem, we use the same parameters as in Table 1, except that we re-calibrate the conflict cost $\kappa = 7.23\%$ so that $\underline{x}^{\text{ss}} = -1.75\%$, as indicted the survey. This adjustment incorporates the 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 $\phi = 0.5$, similar to 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 $\Psi = 0.68$ so that the steady-state unemployment rate is 5.5%. We set $c_v = 0.07$ so that the present value of the costs of vacancy posting, $c_v / q(\theta^{ss})$, is 10% of the aggregate conflict-indexed wage $w^{*,ss}$ in steady state, in line with Silva and Toledo (2009). For the wage rule in (C.10), we set $\psi_E = 1$ so that all else equal a 1% increase in unemployment lowers real

[39] In our main general-equilibrium analysis, for consistency with the baseline analysis, the default real wage is again given by $w_{i,t}^{\text{d}} = w_{i,t-1} e^{\alpha - \pi^{ss} - (1-\gamma)(\pi_t - \pi^{ss})}$. A tighter labor market may also lead to higher default wages offered by employers, perhaps to prevent conflict. In Appendix Figure C.12, we consider a variant in which the default real wage depends on labor market conditions in exactly the same way as for newly hired workers, as specified in (C.10), arguably an upper bound for the wage pressure on the default wage. We find that the variant has slightly lower aggregate costs of inflation due to conflict but its importance remains similar to our main general equilibrium analysis.

[40] 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.1: The Aggregate Costs of Inflation due to Conflict—General Equilibrium and 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 (dashed black), the percent deviation of the average real wage of the employed from the steady state (solid blue), and their wage erosion (dashed orange).

new hire wages by 1%, as Gertler et al. (2020) and Hazell and Taska (2024) 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. We can interpret these inflation shocks as monetary policy shocks when the monetary authority uses the path of nominal interest rates to impact a path for inflation $\{\pi_t\}_{t=0}^{\infty}$. We study the impact of inflation shocks on worker welfare:

$$\hat{\mathcal{W}} = \sum_{t=0}^{\infty} \beta^t \left\{ E^{ss} \hat{w}_t + \left(1 - E^{ss}\right) \hat{w}_t^* + \hat{E}_t \left[\log\left(w^{ss}\right) - \log\left(\phi w^{*,ss}\right)\right]\right\} - \hat{\varkappa}, \tag{C.11}$$

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 $\hat{\varkappa}$ defined in (11).

Figure C.1 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 $\left\{\hat{w}_t^{\text{erosion}}\right\}_{t=0}^{+\infty}$ (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.[41] 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.11) are equal to 2.31% in units of annual consumption of the employed, lower than the baseline in Table 2, reflecting the general-equilibrium determination of employment and wages. The aggregate costs of inflation due to conflict remain significant: $\hat{\varkappa}$ is equal to 1.92% of annual consumption of the employed, representing 83% 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.

C.2.1 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 an exogenous constant exogenous to worker i, and summarize worker i's problem as

$$\max_{\{\mathscr{I}_{i,t}\}_{t=0}^{\infty}} \mathbb{E}\left[\sum_{t=0}^{\infty}\beta^t\left[x_{i,t}-\kappa_{i,t}\mathscr{I}_{i,t}+\left(1-E_{i,t}\right)\log\left(\phi\right)\right]\right]+\underbrace{\mathbb{E}\left[\sum_{t=0}^{\infty}\beta^t\log\left(w_{i,t}^*\right)\right]}_{\text{Exogenous to worker i}}, \tag{C.12}$$

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

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

where $s_{i,t}$ is the i.i.d. separation shock ($s_{i,t}=0$ with probability $1-s$ and $s_{i,t}=0$ 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

[41] 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.10).

($E_{i,t} = 1$) evolves according to

$$x_{i,t} = \begin{cases} x_{i,t-1} - \left(\mu + z_{i,t}\right) - \left(1-\gamma\right)\left(\pi_t - \pi^{ss}\right) - g_{w,t} & \text{if } \mathcal{I}_{i,t} = 0 \text{ and } E_{i,t-1} = 1 \\ 0 & \text{if } \mathcal{I}_{i,t} = 1 \text{ or } E_{i,t-1} = 0, \end{cases} \tag{C.13}$$

which captures the fact that, if the previously unemployed worker finds a job, their wage is be given by $w^*_{i,t}$, so their wage gap $x_{i,t}$ is zero.[42]

Aggregate worker welfare is given by

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

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

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

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:

$$\hat{w}^{\text{erosion}}_t = -\left(1-\gamma\right)\sum_{k=0}^{t}\Phi^{ss}_{t-k}\hat{\pi}_k - \sum_{k=0}^{t}\Phi^{ss}_{t-k}\hat{g}_{w,k} + \hat{w}^*_t,$$

which captures the direct impact of inflation and the change in conflict induced wages on wages holding fixed conflict decisions of workers as in the extension of Appendix C.1.

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

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

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

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

The free entry condition implies that $\mathcal{V}_t = 0$ for all $t \geq 0$.

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 rate 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.

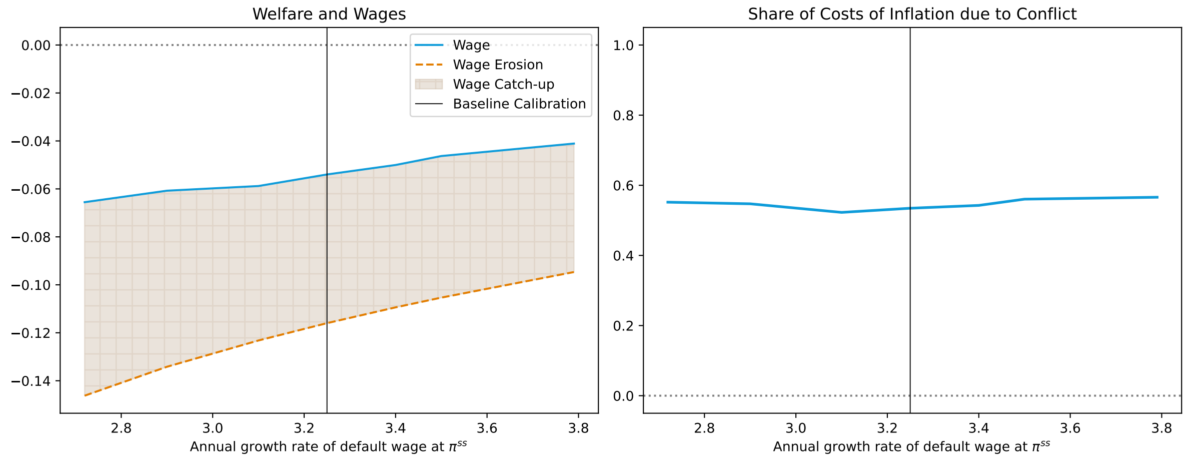
Good's market clearing. The model is closed via good's market clearing. Let C^w_t and C^c_t denote the aggregate consumption of workers and capitalists, respectively. Goods market clearing is given by:

$$C^w_t + C^c_t + \left(c_v \int_0^1 \vartheta_{i,t} di\right) v_t = Y_t + (1 - E_t)\phi w^*_t,$$

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.

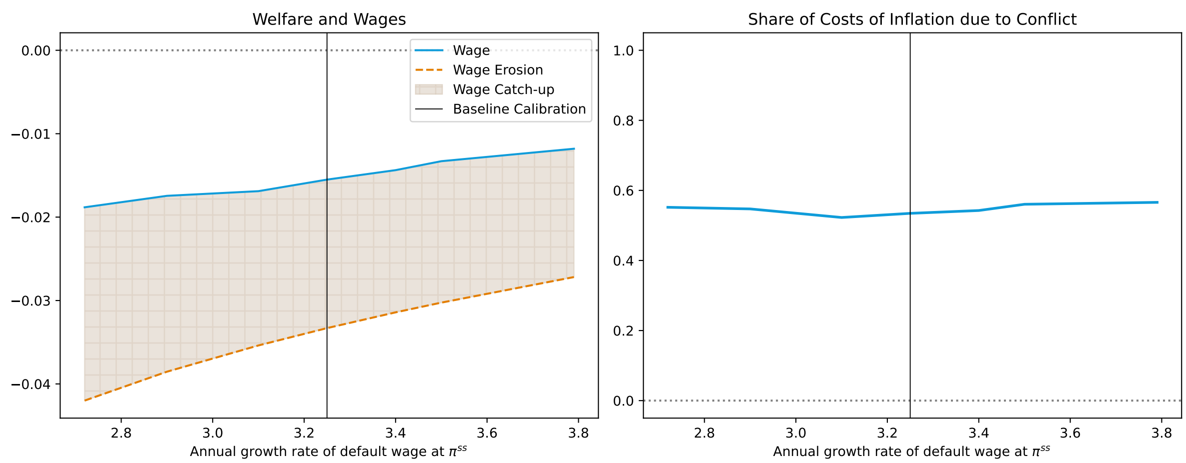
C.3 Additional Quantitative Exercises

Figure C.2: Robustness to the Growth Rate of the Default Nominal Wage at Steady State, α



Notes: the left figure 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 persistent inflation shock. The right panel plots the ratio of these two terms as the parameter varies. The figure varies the annual growth rate of the default nominal wage at steady state inflation ($4 \times \alpha$) between 2.8% to 3.8%.

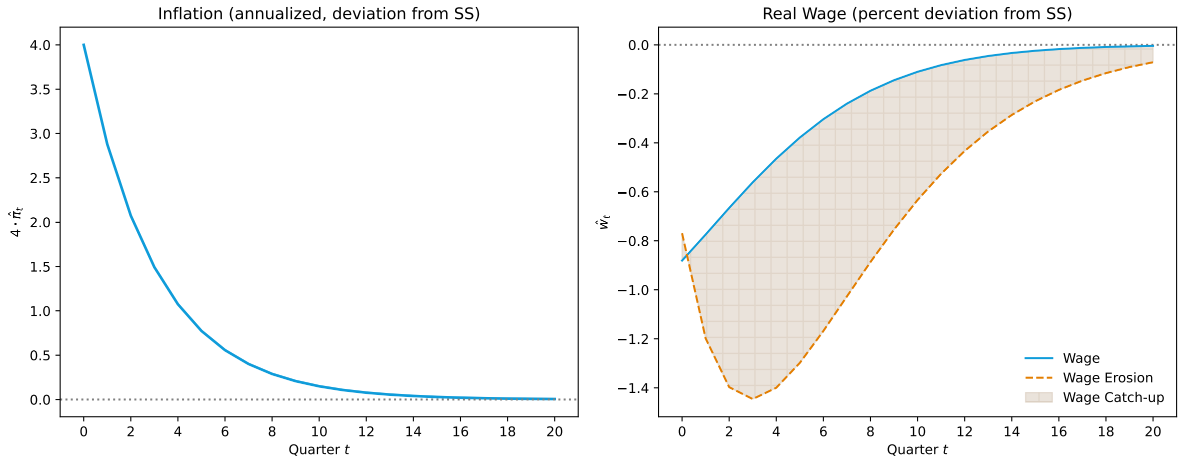
Figure C.3: Robustness to the Growth Rate of the Default Nominal Wage at Steady State, α



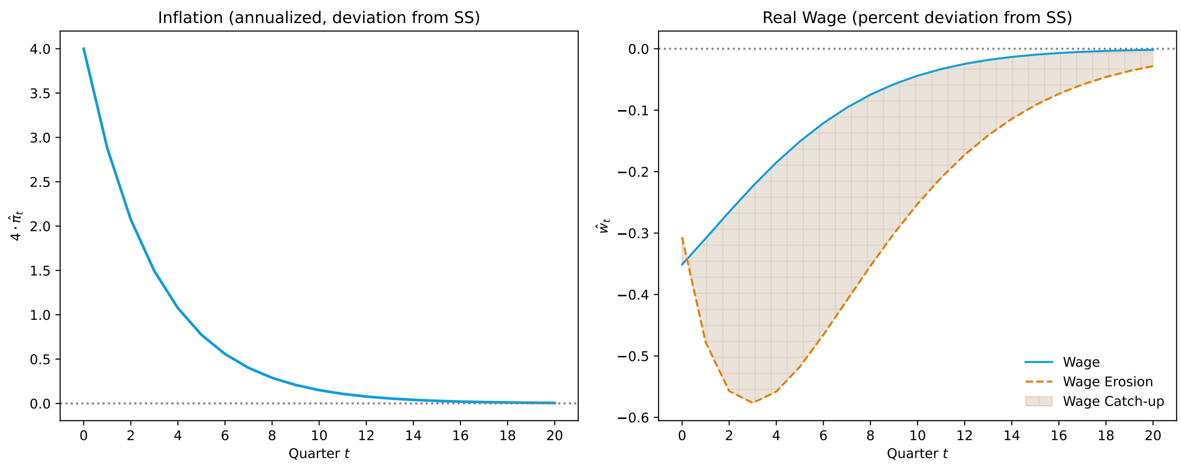
Notes: the left figure plots the decline in the present value of real wages (blue solid line), and the present value of welfare-relevant wage erosion (dashed orange line) after the transitory inflation shock. The right panel plots the ratio of these two terms as the parameter varies. The figure varies the annual growth rate of the default nominal wage at steady state inflation ($4 \times \alpha$) between 2.8% to 3.8%.

Figure C.4: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflict—Robustness to Indexation Parameter γ

Panel A: Low Indexation Parameter γ



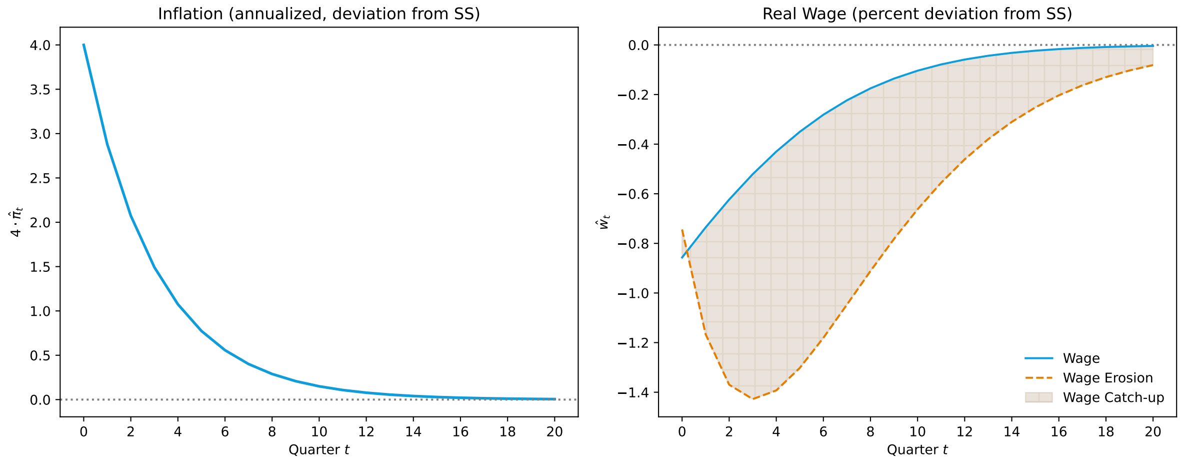
Panel B: High Indexation Parameter γ



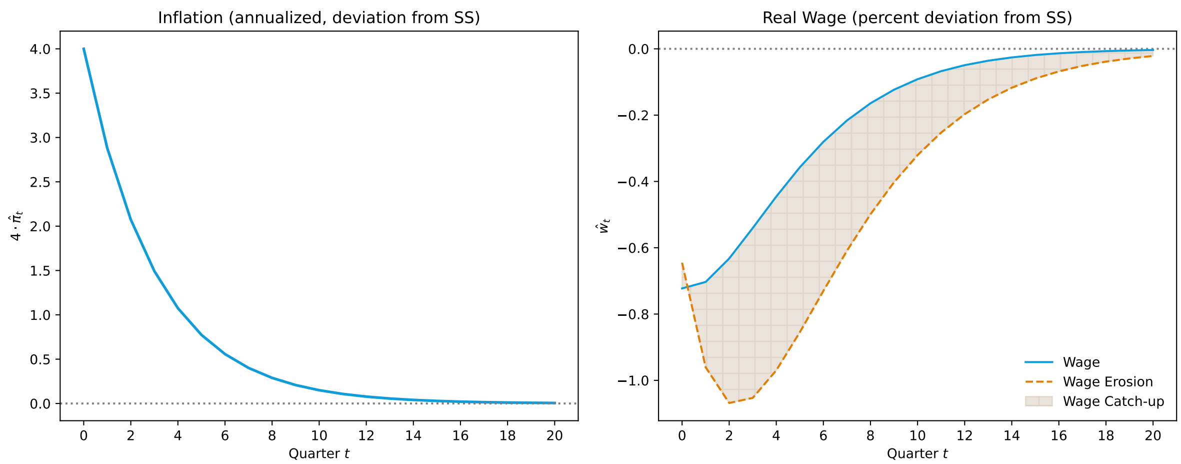
Notes: the left figure of each panel plots the persistent inflation shock, while the right figure of each panel plots the percent deviation of the real wage from the steady state (solid blue line) and the welfare-relevant wage erosion (dashed orange line). Panel A sets the indexation parameter γ to 0. Panel B sets the indexation parameter γ to 0.6.

Figure C.5: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflict—Robustness to Free Wage Catch-Up λ

Panel A: Low Probability of Free Wage Catch-up λ



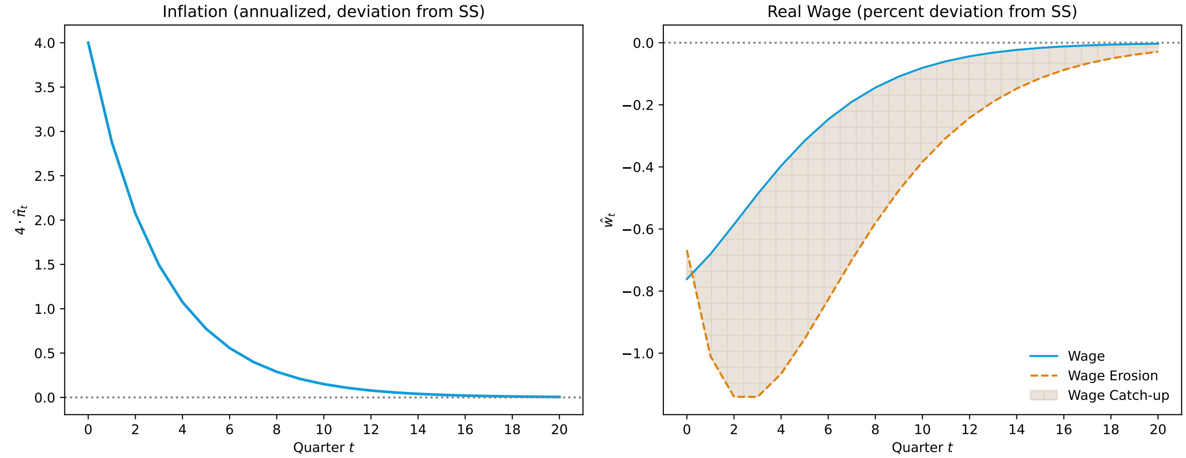
Panel B: High Probability of Free Wage Catch-Up λ



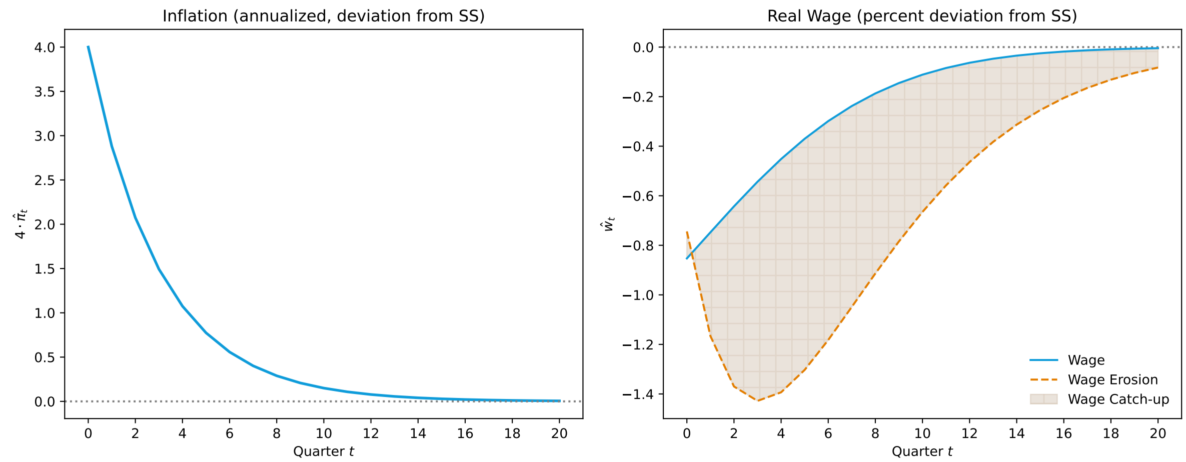
Notes: the left figure of each panel shows the inflation shock, while the right figure of each panel plots the percent deviation of the real wage from the steady state (solid blue line) and the welfare-relevant wage erosion (dashed orange line). Panel A sets the quarterly probability of free wage catch-up λ to 0. Panel B sets the quarterly probability of free wage catch-up λ to 12%, which corresponds to an annual share of free wage catch-up, $1-(1-\lambda)^4$, 40%.

Figure C.6: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflict—Robustness to Conflict Cost κ

Panel A: Low Conflict Cost κ

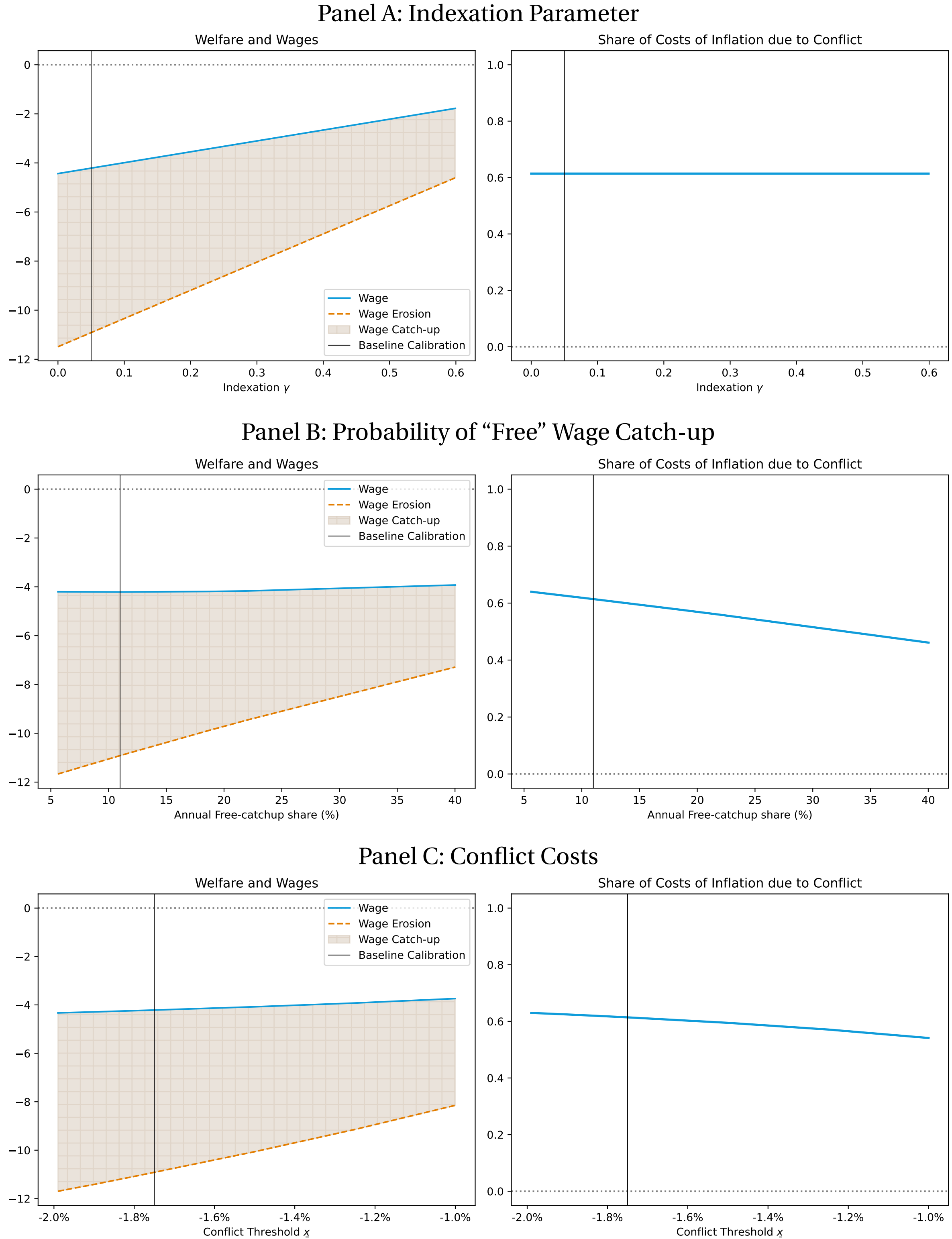


Panel B: High Conflict Cost κ



Notes: the left figure of each panel plots the persistent inflation shock, while the right figure of each panel plots the percent deviation of the real wage from the steady state (solid blue line) and the welfare-relevant wage erosion (dashed orange line). Panel A sets the conflict threshold $\underline{x}^{ss}$ to -1%. Panel B sets the conflict threshold $\underline{x}^{ss}$ to -2%.

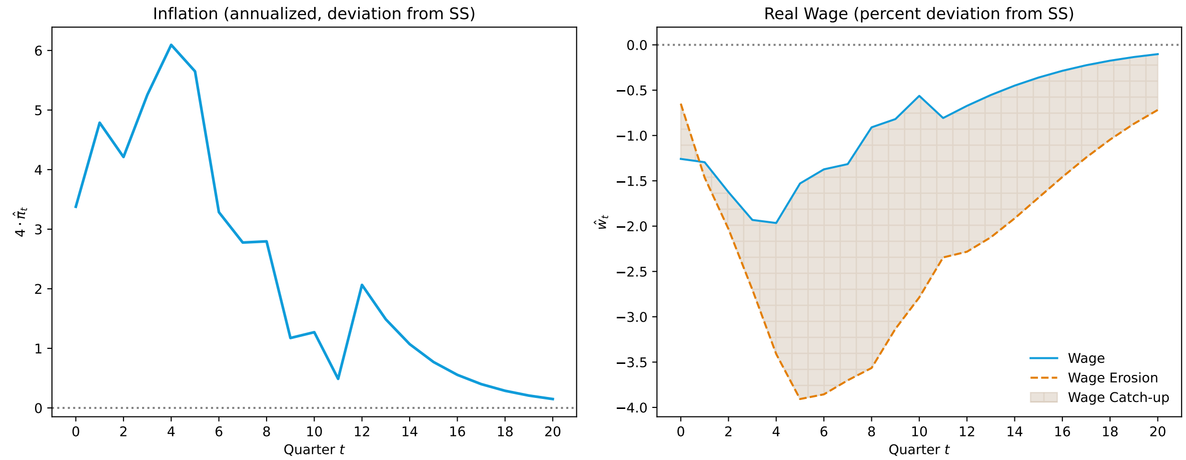
Figure C.7: Aggregate Costs of Conflict due to Inflation —as a Function of Key Parameters (2021-2023 Inflation)



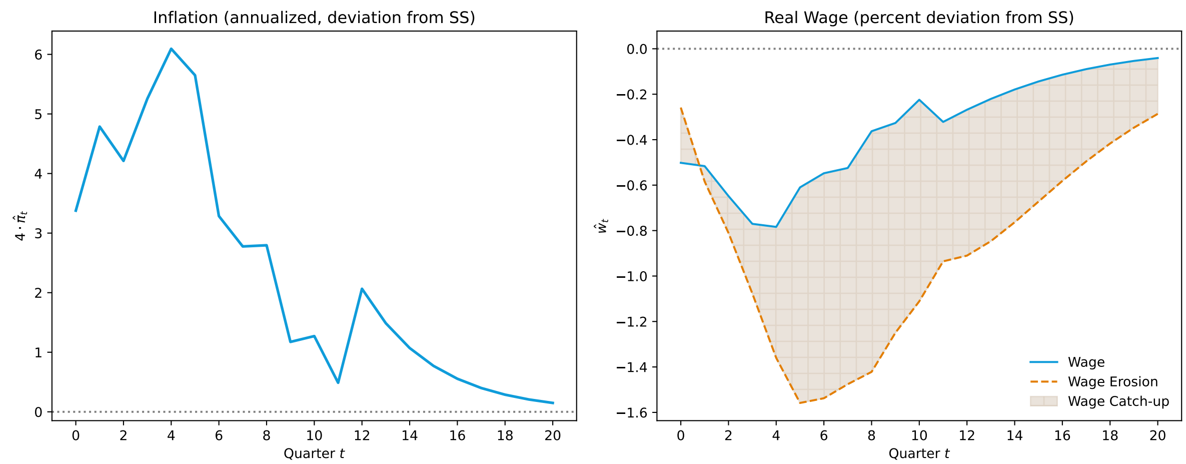
Notes: these figures summarize the impact of the post-Pandemic inflation shock on wages and worker welfare under different model parameterizations. The inflation shock is given by the path of annualized headline PCE inflation over 2021–2023, after subtracting the steady-state inflation based on the historical 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 persistent inflation shock. The right figure of each panel plots the ratio of these two terms as the parameter varies. Panel A varies the indexation parameter 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 x^{ss} varies between

Figure C.8: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflic—Robustness to Indexation Parameter γ (2021-2023 Inflation, Perfect Foresight)

Panel A: Low Indexation Parameter γ



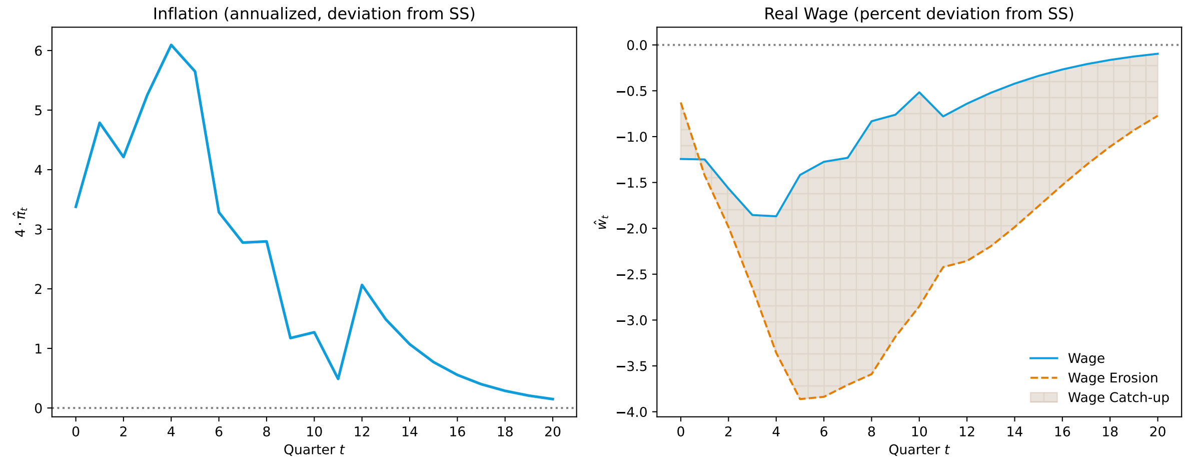
Panel B: High Indexation Parameter γ



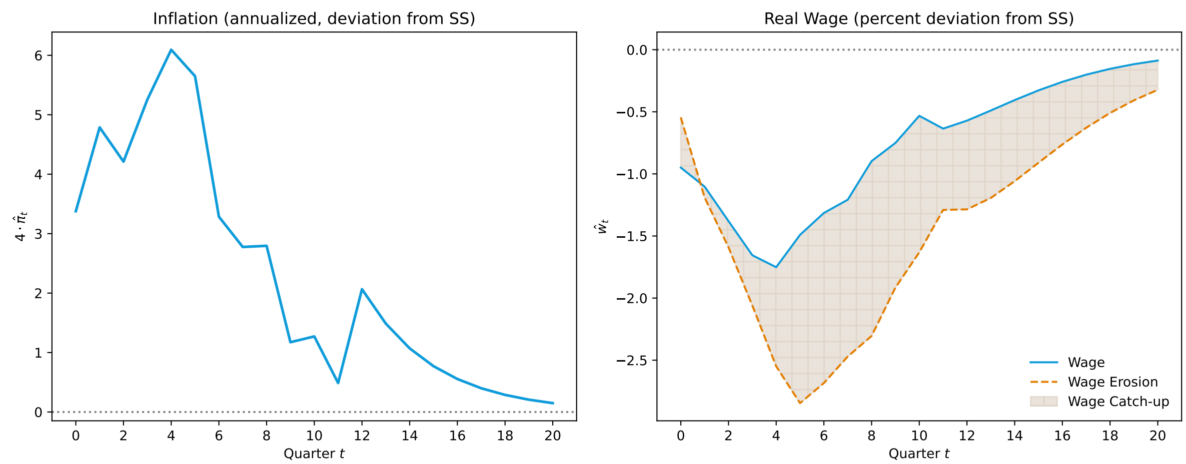
Notes: the left figure of each panel plots the path of annualized headline PCE inflation over 2021–2023, after subtracting the steady state inflation based on the historical mean inflation, while the right figure of each panel plots the percent deviation of the real wage from the steady state (solid blue line) and the welfare-relevant wage erosion (dashed orange line). Panel A sets the indexation parameter γ to 0. Panel B sets the indexation parameter γ to 0.6.

Figure C.9: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflict—Robustness to Free Wage Catch-Up λ (2021-2023 Inflation, Perfect Foresight)

Panel A: Low Probability of Free Wage Catch-up λ



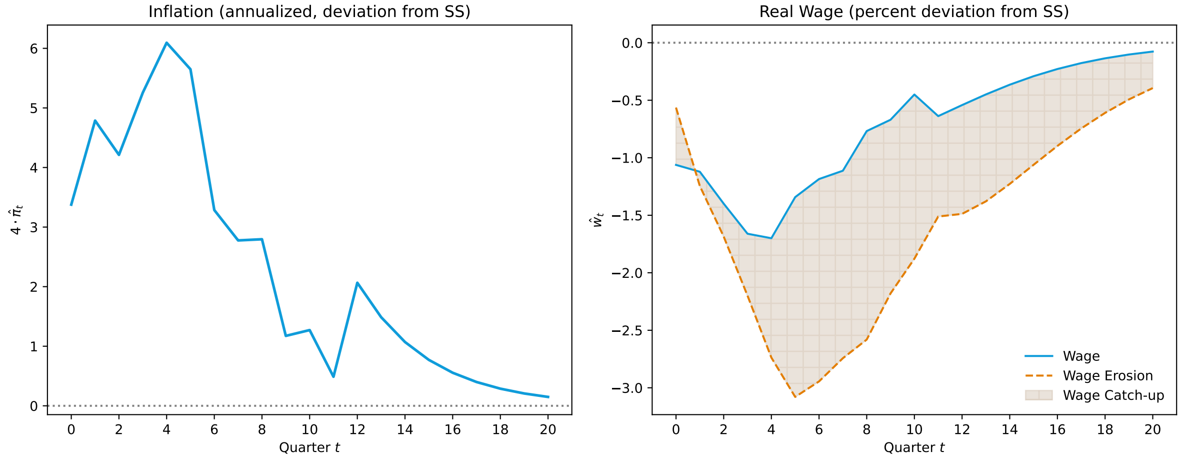
Panel B: High Probability of Free Wage Catch-Up λ



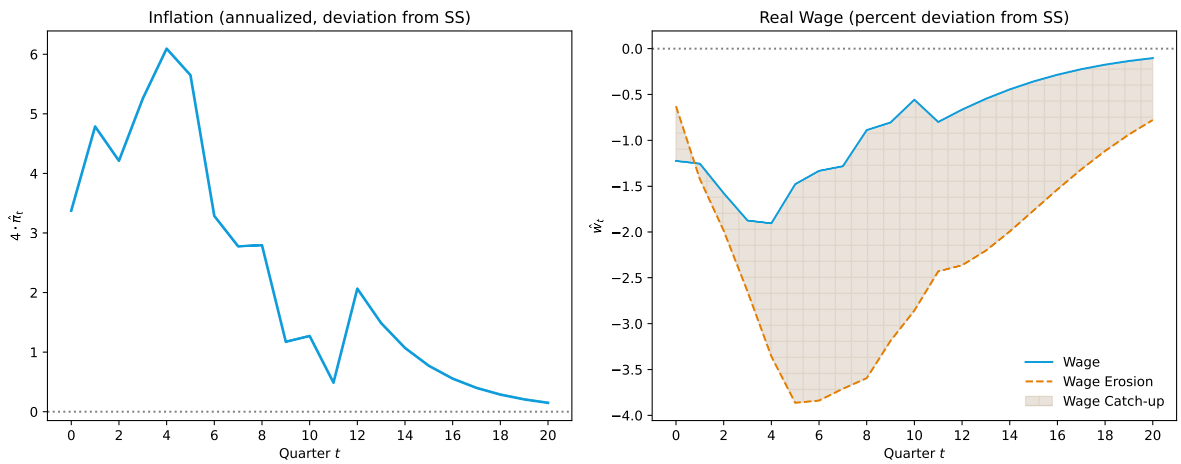
Notes: the left figure of each panel plots the path of annualized headline PCE inflation over 2021–2023, after subtracting the steady state inflation based on the historical mean inflation, while the right figure of each panel plots the percent deviation of the real wage from the steady state (solid blue line) and the welfare-relevant wage erosion (dashed orange line). Panel A sets the quarterly probability of free wage catch-up λ to 0. Panel B sets the quarterly probability of free wage catch-up λ to 12%,which corresponds to an annual share of free wage catch-up, $1-(1-\lambda)^4$, 40%.

Figure C.10: Real Wage Dynamics and the Aggregate Costs of Inflation due to Conflict—Robustness to Conflict Cost κ (2021-2023 Inflation, Perfect Foresight)

Panel A: Low Conflict Cost κ

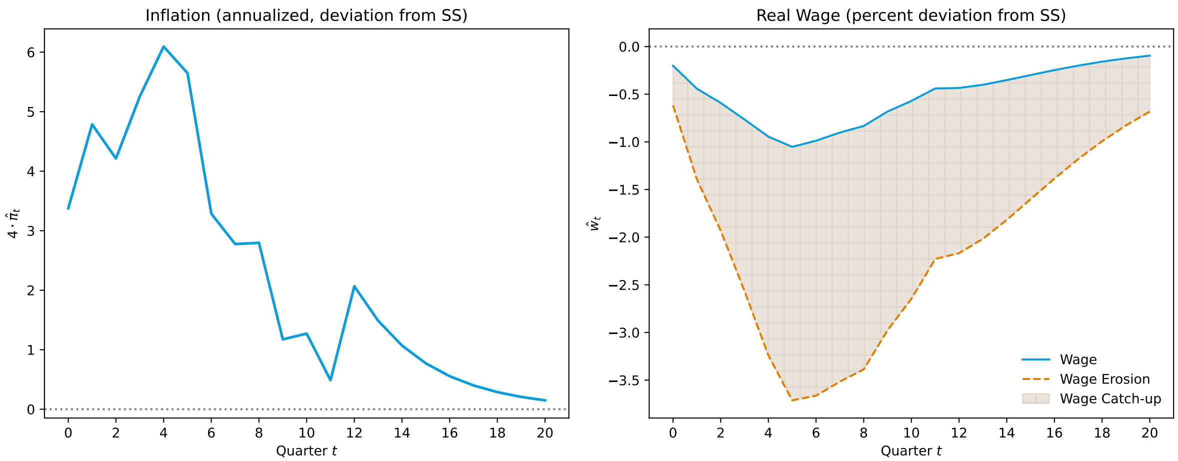


Panel B: High Conflict Cost κ



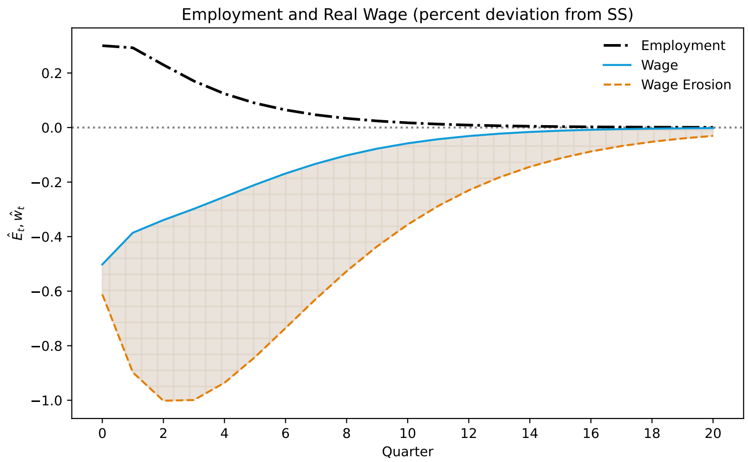
Notes: the left figure of each panel plots the path of annualized headline PCE inflation over 2021–2023, after subtracting the steady state inflation based on the historical mean inflation, while the right figure of each panel plots the percent deviation of the real wage from the steady state (solid blue line) and the welfare-relevant wage erosion (dashed orange line). Panel A sets the conflict threshold $\underline{x}^{ss}$ to -1%. Panel B sets the conflict threshold $\underline{x}^{ss}$ to -2%.

Figure C.11: 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.

Figure C.12: The Aggregate Costs of Inflation due to Conflict—General Equilibrium and Employment (Alternative Default Wage Rule)



Notes: this figure plots the impact of the persistent inflation shock for the general equilibrium extension of the baseline model under the alternative default wage rule. The figure displays the deviation of employment from the steady state (dashed black), the percent deviation of the average real wage of the employed from the steady state (solid blue), and their wage erosion (dashed orange). The default real wage is given by $w^{\mathrm{d}}_{i,t} = w_{i,t-1} e^{\alpha-\pi^{ss}-(1-\gamma)(\pi_t-\pi^{ss})+\psi_D(E_t-E_{t-1})}$, so labor market conditions impact the level of default real wages in exactly the same way as they impact the level of wages for newly hired workers, as specified in (C.10). The overall welfare costs of the inflation shock to workers in (C.11) are equal to 2.13% in units of annual consumption of the employed, while the aggregate costs of inflation due to conflict are 1.75% of consumption of the employed, representing 82% of the total welfare costs.

D Survey Questionnaire

D.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]

D.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.

D.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.

D.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 state, 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]

D.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 bottoms 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]

D.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 Q1 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] %

D.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]

D.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]

D.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] %

D.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 \textbf{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."]

D.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]