Changing Jobs to Fight Inflation: Labor Market Reactions to Inflationary Shocks*

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Abstract: This paper argues that inflationary shocks affect the real economy by reallocating workers. First, using monetary policy and oil price shocks and survey data on search effort, we show that a 1 p.p. rise in inflation increases job-to-job transitions by 3%-4%, and workers with higher inflation expectations are more likely to search and do so more effectively. Second, to quantify the aggregate implications, we build a model with directed on-the-job search. Higher-than-expected inflation reduces real wages, prompting workers to search more actively and less selectively. This increases job-to-job transitions but lowers the efficiency gains per transition. Therefore, the effect on output becomes ambiguous. Last, we calibrate the model to the U.S. economy. Shocks smaller than 3% bring a short-run output increase, while those smaller bring a decrease.

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1 Introduction

The rate of job-to-job transitions is considered a measure of the health of the economy because job switches are usually associated with wage and productivity increases.[1]. In this paper, we identify a novel channel that affects the rate of job-to-job transitions: inflation. If wages are not indexed to inflation, real wages decrease when inflation is higher than expected and gains from renegotiation increase. Workers could respond by (1) increasing their search effort, thus making a new job offer more likely, and (2) being less selective, i.e., looking for offers with smaller wage increases. The first channel (search effort, henceforth) increases the number of job switches, while the second channel (selectivity, henceforth) decreases the associated productivity boost for each switch. Hence, the impact of inflation shocks on output is ambiguous and potentially depends on the size of the shock.

This paper measures how inflation affects aggregate output through its impact on worker reallocation. We begin by utilizing reduced-form evidence to argue a causal link from unexpected increases in inflation to higher job-to-job transition rates. To quantify the resulting change in output, we build a model of directed on-the-job search with aggregate shocks. We calibrate the model to match the empirical job-switching patterns and associated wage increases in the U.S. The calibrated model suggests a non-monotonic output response following inflation shocks, suggesting both channels (search effort and selectivity) are quantitatively meaningful.

Our paper is motivated by the recent findings by Faberman et al. (2015), Moscarini and Postel-Vinay (2017), and Karahan et al. (2017) that once job-to-job transition rates are controlled for, unemployment-to-employment transition rates have little to no predictive power on nominal wage growth. Our analysis confirms the co-movement between job-

[1] See, e.g., Fallick and Fleischman (2004), Christensen et al. (2005) and Jolivet et al. (2006) Under a variety of models, job changes come with changes in both wage and productivity (See Postel-Vinay and Robin (2002), and Menzio and Shi (2011)).

to-job transitions and the inflation rate. Acknowledging that both objects are equilibrium outcomes, we try to unpack which shocks might be behind the positive correlation and their aggregate implications.

In the first part of the paper, we provide three main pieces of evidence that suggest the positive correlation between inflation and the job-to-job transition rate is partly driven by the positive effect of the shocks to the former on the latter. First, we run vector autoregressions on the aggregate U.S. data. While inflation helps predict future job-to-job transition rates, job-to-job transitions do not help predict future inflation movements. Second, we use the estimates of structural monetary policy shocks and OPEC oil shocks as instruments for inflation. This analysis allows us to look beyond the reverse causality argument, as these shocks are arguably exogenous to economic conditions. Our results suggest that a 1 pp shock to the inflation rate causes an increase in the job-to-job transition rates by 2.9-4.2%. Third, we provide indirect evidence of the mechanism using individual-level survey data on inflation expectations and on-the-job search behavior. We find that a one standard deviation increase in yearly inflation expectations is associated with a 4.3% higher probability of searching. Furthermore, it increases the hours spent searching by 9% and the number of offers received within the next month by 16% among searchers.

In the second part, we build a model of competitive on-the-job search with endogenous search effort and nominal wage contracts. The agents respond to an unexpected positive inflation shock by increasing their search effort (effort channel) because the option value of searching increases.[2] Simultaneously, the agents respond by searching in markets with lower posted wages (selectivity channel) as their current situation becomes more desperate. Hence, they trade a higher wage for a higher probability of finding a new job. Both channels lead to more frequent job-to-job transitions, which, by itself, would increase aggregate productivity and output. However, the reduced asking wage makes these transitions less productivity-enhancing, creating a force that decreases average pro-

[2]See Faberman et al. (2022) for evidence on search effort decreasing with income and Christensen et al. (2005) and Mueller (2010) for evidence on job search effort decreasing as workers move up the job ladder.

ductivity. In short, inflationary shocks increase job-to-job transitions while their effect on productivity is ambiguous.

The calibrated model confirms the non-monotone response of the output. When the unexpected increase in inflation is bigger than a threshold value, the selectivity channel starts to dominate, and the output decreases in the short run.

The proposed mechanism has important implications. First, it explains how output response may be non-monotonic in the size of the inflation shock. Thus, it provides a bridge between seemingly disparate estimates of the literature on the real effects of monetary policy shocks.[3] Second, it provides a novel mechanism for how monetary policy can affect the real economy in the short run. The monetary authority can improve labor allocation in the economy through monetary policy shocks, thus increasing productivity. Third, it provides a novel channel explaining why some recessions are associated with a more pronounced 'cleansing' effect than others.: the size of the unexpected price movement affects both the speed and the effectiveness of job reallocation during recessions.

This paper is closely related to the literature that analyzes the interaction between inflation and the efficiency of labor markets. In particular, the idea that inflation helps reduce labor market frictions and increase productivity was first proposed by Tobin (1972) and empirically tested by Card and Hyslop (1997). According to this idea, a positive inflation rate prevents nominal downward wage rigidity from translating to a real rigidity.[4] In our baseline model, we shut this channel down to flesh out our novel channel.

The most closely related work to ours is by Moscarini and Postel-Vinay (2019) (MPV henceforth), who incorporate a random on-the-job search framework into a New Keynesian DSGE model. When there is a positive shock to the efficiency of on-the-job search, employees receive more offers, some of which are matched by the incumbent firm. Matched

[3]See Wolf (2019) for an overview of these findings.

[4]Lunnemann and Wintr (2010) confirm that the real wage rigidity is more substantial in Luxembourg, which has a state-imposed automatic wage indexation.

offers are essentially cost shocks to the firm, and it responds by raising prices. Hence, a higher-than-average job-to-job transition rate is followed by higher-than-average price inflation. The mechanisms in MPV and ours are complementary. MPV shows how a shock to job-to-job transition rates brings wage inflation and, therefore, price inflation. We show how a shock to price inflation increases job-to-job transitions. Thus, our contribution is three-fold. First, our mechanism, in combination with theirs, explains how labor demand shocks can be amplified through offer matching and changing search behavior. Second, shocks to price inflation can also trigger this cycle. Third, the monetary policy recommendations could change once our channel is taken into account. Our mechanism suggests there is a direct link between monetary policy shocks and job-to-job transition rates. Hence, the monetary authority needs to consider the job-switching response to predict the response of the real economy. MPV assumes the on-the-job search effort is fixed, hence shuts down our channel by assumption.[5] Faccini and Melosi (2021) and Birinci et al. (2022) build on MPV. The former allows the search intensity to vary over time in a random search environment. We endogenize the search effort and the effectiveness of job-to-job transitions to respond endogenously to the economic environment. The latter extends MPV into a heterogeneous-agent incomplete-markets environment and characterizes the changes in MPC to discipline aggregate demand responses.

Our modeling is closely in line with Faberman et al. (2022), who investigate how endogenous search effort plays a role in a model of random search with aggregate shocks. Our model endogenizes some of the differences in the search behavior of the unemployed and the employed via directed search. Furthermore, our analysis of the relationship between inflation expectations and search behavior builds on their results to help explain

[5] Incorporating the search effort channel in a sequential auctions environment is not trivial. In MPV, only the distribution of productivities across jobs is a state variable, while adding the search effort makes the joint distribution of wages and productivities a state variable. Then, the surplus function is no longer sufficient to characterize the transitions because the search effort choice is inefficient due to the restricted contract space. Hence, the tricks in Lise and Robin (2017) cannot be used to simplify the problem. Our model avoids this issue by utilizing the block-recursivity of competitive search where the distributions are no longer state variables.

the search heterogeneity across respondents.[6]

This paper also contributes to the literature on the efficiency of job reallocation. This literature asks when reallocation is productivity-enhancing and when it is not. A broad finding is that U.S. recessions were accompanied with productivity-enhancing job reallocation until the great recession[7] while the reallocation during the great recession was both slower and less productivity-enhancing (Mukoyama (2014) and Foster et al. (2016)). Haltiwanger et al. (2018) asks whether the decline is due to a decreased number of transitions or a smaller productivity gain conditional on making a transition and find most of the decline comes from the latter. Caballero and Hammour (1994) discusses potential frictions that may create inefficient job reallocation during recessions. Barlevy (2003) emphasizes increased credit market frictions. In contrast, Ouyang (2009) suggests early exits as mechanisms large enough to reverse the 'cleansing' effect of the recessions[8]. Gautier et al. (2010), in a model with on-the-job search, analyzes which wage-setting mechanisms generate socially efficient job switches. They conclude that for social efficiency, the hiring premium (to induce the worker to search) should equal the no-quit premium (to prevent the worker from making a job switch later). The equality is satisfied in wage posting with commitment but not in wage bargaining or the sequential auctions of Postel-Vinay and Robin (2002). The competitive search framework we use also satisfies the efficiency requirement posited here; the inefficient switches in our setting are purely due to nominal frictions. The closest papers to ours in this literature are by Moscarini (2001), and Barlevy (2002). Moscarini (2001) considers a trade-off similar to ours. In his model, similar to the competitive search models, workers decide between a good match with a long queue and a mediocre match with a short queue. Thus, in tight labor markets, the initial matches are of higher quality, and the reallocation is slow. Barlevy (2002) shows that decreasing

[6]In a contemporaneous paper, Pilossoph and Ryngaert (2022) document similar correlations between inflation expectations and job search activities.

[7]See e.g. Davis and Haltiwanger (1992), Caballero and Hammour (1994), Davis et al. (2006) and (Davis et al., 2012).

[8]Foster et al. (2008) shows if pricing decisions are not taken into account, the effect of demand and productivity shocks on profitability can be confounded. Thus, the reallocation that only enhances profitability can be mislabeled as productivity-enhancing.

job-to-job transitions during recessions can generate an effect large enough to offset the 'cleansing' effect of recessions. In his model, after a bad productivity shock, firms post fewer vacancies, which reduces the rate of job-to-job transitions, thus, the productive reallocation of workers in the economy. In contrast, our model focuses on the effect of the inflationary shocks and generates productivity drops even when the reallocation rate is higher.

Lastly, our mechanism is also related to the literature that analyzes how the extent of wage flexibility affects the output response to monetary policy shocks. Olivei and Tenreyro (2007) shows that the effects of monetary policy shocks depend on their timing during the year, which is consistent with the fact that many firms renegotiate wage contracts at the end of the year. Björklund et al. (2019), using data on collective wage agreements in Sweeden, find that the output response to monetary policy is bigger when a larger fraction of wage contracts are nominally fixed.

We proceed with the description of the data used. Section 2 provides the empirical analysis. Section 4 lays down the model and provides the theoretical results. Quantitative results of the model are presented in Section 5. Section 6 concludes.

2 Empirical Analysis

This section presents three types of evidence to argue that the positive correlation between inflation and job-to-job transitions stems from the causal effect of inflation on job-to-job transitions. First, subsection 2.1 uses time-series data to show that a high inflation today predicts a high job-to-job transition rate in the future. In contrast, a high job-to-job transition rate today does not predict high inflation in the future. Second, subsection 2.2 uses estimates of monetary policy and global oil shocks as instruments to get a causal estimate of the effect of inflation on job-to-job transitions. Third, subsection 2.3 provides direct evidence on how inflation increases the job search effort of the employed from survey data by comparing individuals with different inflation expectations. We later use the estimates from this subsection to discipline the structural model.[9]

The raw data also suggests a potential role for inflation. Figure 1 shows that the job-to-job transition rate took a big hit in all three recessions in our sample. While it took several years for the rate to recover after the 2001 and 2008 recessions, it immediately recovered in the 2020 recession. The 2020 recession was also the only inflationary recession: while the inflation rate decreased after the previous recessions, it went up to historical levels after the COVID crisis. These patterns suggest a potential role for inflation in post-recession recovery.[10]

2.1 Predictive Regressions

We use the series made available by Fujita et al. (2024)[11] that covers the period from September 1995 to June 2022 for the monthly job-to-job and unemployment-to-employment transition rates. We utilize three measures of inflation. First, over-the-year changes in the Consumer Price Index (CPI) provide price inflation. Second, inflation expectations are taken from the Survey of Professional Forecasters.[12] Third, we define a variable 'inflation surprise' as the discrepancy between the forecasted and the realized inflation for a one-year period. At a time t, this measures the accumulated unexpected prices moves since time $t-1$. We seasonally adjust and HP filter all variables with a smoothing parameter of

[9] See Appendix B.1 and B.2 for analyses utilizing state-level and country-level variation in job-to-job transition rates. Although both analyses are suggestive for the role of our channel, we don't have state-level data on inflation expectations, and the country-level data is too infrequent (yearly) to draw a causal interpretation.

[10] Although unexpected inflation movements have been relatively small for the U.S., they have led to large drops in real wages once accumulated. Figure 6 in Appendix E summarizes this idea by showing the real wage losses of a worker who signed a contract according to SPF inflation forecasts. The losses during the post-Covid inflation period reach 9% while they approach 2% several times after 1981. Given that the average wage increase accompanying a job-to-job transition is around 2% (Jinkins and Morin, 2018), a 2% decline in real wages increases the wage gains by 100%. See Appendix Figure 7 for the same plot with the Michigan Consumer Survey inflation forecasts.

[11] See Appendix A for details on the data sources used throughout the empirical analysis.

[12] The results are robust to using the Michigan Survey of Consumers forecasts.

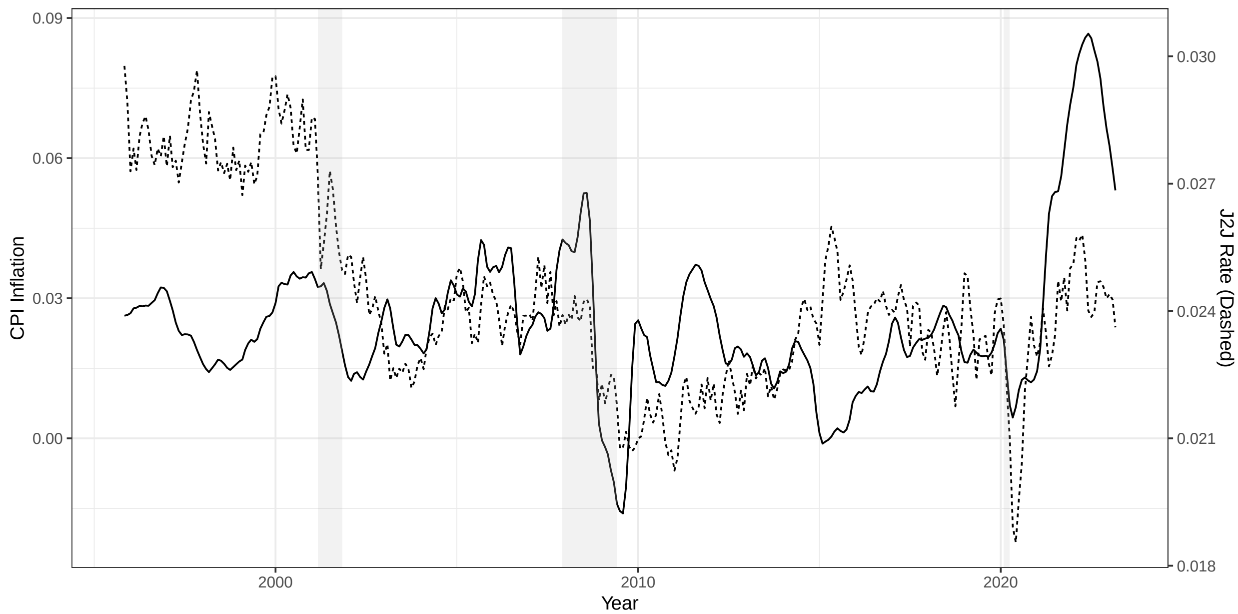

Figure 1: CPI Inflation and Monthly Job-to-job Transition Rates 10/1995 to 06/2022 The dashed line represents the three-month moving average of the seasonally adjusted monthly job-to-job transition rate (Fujita et al., 2024). The solid line represents the CPI inflation. The shaded regions represent NBER recessions.

$1600 * 3^4$.

In our main specification, we run a VARX(n) with a measure of inflation and J2J transition rate:

$$y_t = \sum_{L=1}^{n} (\beta_{yL} y_{t-L} + \beta_{xL} x_{t-L} + \beta_{ZL} z_{t-L}) + \epsilon_t \tag{1}$$

where y and x are the J2J rate and one of the inflation measure and Z represents additional controls. In this exercise, we ask whether the shocks to the job-to-job transition rate precede the shocks to inflation or follow them.

Table 1 presents the results from a simple VAR(2) exercise with one-month and twelve-month lags. The one-month lag of all three inflation-related measures have a significant positive coefficient for predicting subsequent job-to-job transition rates. On the other

Table 1: VAR(2) Estimates

	J2J Rate	CPI Infl	J2J Rate	SPF Infl Surprise	J2J Rate	SPF 1-yr Ahead Infl
	(1)	(2)	(3)	(4)	(5)	(6)
$Infl_{t-1}$	0.03***	0.92***	0.03***	0.92***	0.19***	0.97***
	(0.01)	(0.03)	(0.01)	(0.03)	(0.04)	(0.02)
$Infl_{t-12}$	0.00	−0.14***	0.00	−0.13**	−0.02	−0.05**
	(0.01)	(0.05)	(0.01)	(0.05)	(0.04)	(0.03)
$J2J_{t-1}$	0.26***	0.03	0.26***	−0.01	0.22***	−0.00
	(0.07)	(0.15)	(0.07)	(0.17)	(0.06)	(0.03)
$J2J_{t-12}$	0.07	0.00	0.08	−0.08	0.03	−0.02
	(0.05)	(0.14)	(0.05)	(0.15)	(0.05)	(0.03)
Observations	319	318	319	319	319	319
Adjusted R^2	0.15	0.88	0.15	0.88	0.19	0.93

Notes: The measure use for $Infl$ is CPI year-to-year inflation in columns (1) and (2), inflation surprise from SPF forecasts in columns (3) and (4), and SPF inflation forecasts in column (5) and (6). The columns (1), (3), and (5) have the job-to-job transition rate at time t as the dependent variable while the others have the inflation measures at time t. All variables are seasonally adjusted and HP-filtered. *p<0.1; **p<0.05; ***p<0.01

hand, the coefficients for job-to-job transition for predicting inflation-related variables are generally negative and insignificant.[13] Although the predictive relationship is suggestive, the mechanism might be through the demand side, i.e., the inflation might be changing hiring incentives of firms rather than the search effort of workers. We add unemployment-to-employment transition rates as a control for demand side channels as in Moscarini and Postel-Vinay (2019). Table 10 in Appendix E shows that the results are similar.[14]

[13]We further conduct Granger Causality tests to formalize the predictive ability of both variables. The Granger Causality test rejects if the lags of variable x help predict variable y above and beyond the lags of variable y. The results with all 12-month lags indicate that SPF forecasts Granger-causes job-to-job transition rates with 5% significance, while the test cannot reject the lack of predictive ability for the remaining inflation variables and the other direction.

[14]The results are also robust to excluding the COVID period, adding a third lag, using Personal Consumption Expenditures (PCE) Deflator or core PCE Deflator (excluding food and energy) for price index instead of CPI, and using Michigan Consumer Survey instead of SPF for inflation forecasts. See Tables 11, 12 and 13 in Appendix E.

2.2 Instrumental Variable Analysis with Monetary Policy and Oil Shocks

Section 2.1 shows that unexpectedly high inflation predicts higher job-to-job transition rates in the future. Here, we use structural estimates of monetary policy and oil supply shocks as instruments for the inflation level to establish a causal relationship.

We use several popular monetary policy shock estimates in the literature. The first measure is computed from narrative records of FOMC meetings and internal forecasts of Federal Reserve by Romer and Romer (2004) and updated further by Wieland and Yang (2016). The second measure is by Barakchian and Crowe (2013) who use Fed Funds futures to see exogenous changes in policy. The third measure is by Sims and Zha (2006), who use structural VAR estimates to identify shocks to monetary policy. Fourth, fifth, sixth, and seventh measures are by Gertler and Karadi (2015), Nakamura and Steinsson (2018), Bauer et al. (2021), and Bauer and Swanson (2023) who use high-frequency movements in financial series during FOMC announcements to identify monetary policy shocks[15]. The measures differ not only in their methodologies but also in their time coverage. However, the results are robust in the choice of measure. Lastly, we use the oil supply shocks by Känzig (2021), which utilizes high-frequency identification around OPEC announcements. See

In our main specification, we estimate the following equation in the second stage.

$$J2J_t = \beta_0 + \beta_1 CPI_t + \beta_2 CPI_{t-1} + \beta_3 UE_{t-1} + \beta_4 u_{t-1} + \epsilon_t \tag{2}$$

where t denotes a month, $J2J$, UE, and u are monthly job-to-job transition, unemployment-to-employment transition, and unemployment rates respectively, and $Infl_t$ is the percentage growth of CPI from $t-1$ to t. In the first stage, we estimate

[15] Readers should refer to Ramey (2016) for an excellent review on these and other monetary policy shock estimation methods.

$$CPI_t = \beta_0 + \sum_{i=1}^{24} \gamma_{1,i} MPS_{t-i} + \sum_{i=1}^{24} \gamma_{2,i} OSS_{t-i} \epsilon_t \quad (3)$$

where MPS is one of the monetary policy shock measures we have and OSS is the oil supply shock measure. The results from the second stage are given in Table 2.

Table 2: IV Estimates

	BC	GK	BLM	NS	NSFFR	RR	SZ	BS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Infl_t$	0.041*	0.044***	0.043***	0.057***	0.044***	0.071***	0.074***	0.046***
	(0.022)	(0.014)	(0.011)	(0.014)	(0.015)	(0.020)	(0.026)	(0.013)
$Infl_{t-1}$	0.018	0.018	0.021	0.025	0.016	0.027	0.012	0.029**
	(0.026)	(0.017)	(0.013)	(0.016)	(0.016)	(0.022)	(0.032)	(0.013)
u_{t-1}	−0.058*	−0.022	−0.024	−0.024	−0.025	−0.066*	−0.053	−0.021
	(0.034)	(0.021)	(0.017)	(0.020)	(0.020)	(0.036)	(0.065)	(0.018)
UE_{t-1}	0.001	0.008	0.008	0.006	0.008	−0.001	0.005	0.008
	(0.008)	(0.007)	(0.006)	(0.006)	(0.006)	(0.008)	(0.011)	(0.006)
Const.	0.000	0.000	0.000	−0.000	−0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Range	'95-'08	'95-'12	'95-'18	'95-'14	'95-'14	'95-'08	'95-'03	'95-'18
Obs	131	179	245	200	200	125	68	245
Adj R^2	0.200	0.203	0.142	0.172	0.193	0.222	0.161	0.123

Notes: Each column represents the source used for the monetary policy shock. The controls are the unemployment rate and the unemployment-to-employment transition rate. The instruments are 1 to 24-month lags of monetary policy and oil supply shocks. All variables are seasonally adjusted and HP-filtered. See Appendix A for the data sources and details of how each variable is constructed. *p<0.1; **p<0.05; ***p<0.01

Table 2 shows that contemporaneous inflation has a significant and positive impact on J2J transitions. Inflation in the previous year has a positive coefficient in all specifications, but is generally insignificant. Furthermore, the magnitude of the effect is similar across specifications. In particular, a one p.p. exogenous increase in inflation leads to a contemporaneous increase in J2J transitions by 4.2 to 7.4 basis points, which translates to a 1.7%-3.1% increase on average. The results are qualitatively and quantitatively robust to removing the controls and using only the monetary policy shocks as instruments.[16] These results further add to the evidence in support of our theory, that is, higher price inflation leads to higher job-to-job transitions.

2.3 Survey Evidence on Search Effort and Selectivity

So far, we have shown a connection between the inflation rate and job-to-job transition rates at the aggregate level. This subsection supplements the previous ones by providing evidence at the individual level and forming a connection between inflation, direct measures of search effort, and selectivity.

The analysis here utilizes the publicly available micro-data from the Federal Reserve Bank of New York Survey of Consumer Expectations (SCE) between 2013 and 2019. The core survey in the SCE is a 12-month panel and asks individuals about their inflation expectations each month. The Labour Survey supplement of the SCE asks respondents about their work status, including their reservation wages[17] and basic questions on their job search activity thrice in April, July, and November. Lastly, the Job Search supplement of the SCE asks more detailed questions on job search activities once in October. We combine these surveys to measure how inflation expectations are related to job search and selectivity. See Table 20 in Appendix E for summary statistics on search-related variables.

In our main specification, we regress measures of job search activities, outcomes, and selectivity on contemporaneous inflation expectations of respondents, controlling for the survey date. We run regressions of the form:

$$y_{jt} = \alpha \hat{i}_{jt} + \gamma_t + \sum \beta X_{jt} + \epsilon_{jt} \tag{4}$$

[16] See Table 18 and Table 19 in Appendix E.

[17] The exact wording in the survey is: "Suppose someone offered you a job today. What is the lowest wage or salary you would accept (BEFORE taxes and deductions) for the type of work you are looking for?"

where j indexes respondents, t indexes survey dates, y_{jt} and $\hat{i}_{jt}$ represent job search activities (or selectivity) and inflation expectations, respectively, for respondent j measured at survey t.[18] Lastly, the vector X represents additional controls and always includes survey fixed effects. In addition, we control for demographic and job-related variables (natural logarithms of age, tenure, and annual earnings, dummies for sex and marital status, five dummies for race, four dummies for education, and fixed effects for state, job start-year, and two-digit industries) that can correlate with both inflation expectations and job search behavior. We exclude respondents who are, at the time of the survey, not between the ages 18 and 64, non-employed or self-employed, have less than six months of tenure, and are searching for non-job related reasons or a firing notice.

2.3.1 Search Effort

Table 4a shows the results on various measures of job search effort. In particular, the respondents who expect inflation to be higher in the next year are more likely to have searched in the past month. Furthermore, conditional on having searched, they spent more hours in the past week, tried more methods, and applied to more employers. Table 4b shows the results on various measures of job search outcomes. The respondents who expect inflation to be higher in the next year have received more interviews and more offers in the past months. We find no significant impact on the number of employers respondents heard from, which may or may not have been solicited by job search activities. Adding several available controls reduces the magnitude of the coefficients, yet the qualitative results are generally robust.

Even though there is a robust relationship between inflation expectations and job search behavior, the former might be capturing the agent's expectations on the broader state of the economy and be unrelated to the real wage erosion mechanism we propose.

[18] Some dependent variables are observed more than once for each individual, which theoretically allows using within-individual variation. However, there is little variation in inflation expectations over the year for a given individual.

We estimate (4), replacing the inflation expectations with three alternative expectation measures regarding stock markets, interest rates, and unemployment rates.[19] The results are summarized in Figure 8 in Appendix E. In short, none of these alternate expectations measures consistently predict job search behavior as inflation expectations do.

Table 3 confirms an intuitive pattern: the larger a worker's wage increase in their existing job, the more the worker reduces their search activity. This is consistent with the cross-sectional pattern documented by Faberman et al. (2022) that lower-wage workers exert more search effort. We use this relationship to motivate our modeling: firms will willingly increase the wages of their workers to disincentivize them from searching on the job. Formally, we run a regression of the form:

$$y_{jt} = \alpha \hat{\Delta E}_{jt} + \gamma_t + \sum \beta X_{jt} + \epsilon_{jt} \tag{5}$$

where j indexes respondents, t indexes survey dates, y_{jt} and ΔE_{jt} represent the search effort variables and the increase in annual earnings ((Earnings Now - Earnings Prior)/ Earnings Prior), respectively, for respondent j measured at survey t.

[19]These variables represent the answers to the following questions: "What do you think is the percent chance that 12 months from now, on average, X will be higher than they are now?" where X varies between "stock prices in the U.S. stock market", "average interest rate on saving accounts", and "the unemployment rate in the U.S.". See Table 21 in Appendix E for summary statistics on the relevant expectation measures.

Table 3: Earnings Growth and Job Search

	Search(1M)	Search(1M)	Hours(1W)	Hours(1W)	#Methods	#Methods
	(1)	(2)	(3)	(4)	(5)	(6)
Earnings Growth	−0.05	−0.08*	−0.08	−0.28	−0.79***	−0.83***
	(0.04)	(0.04)	(0.36)	(0.33)	(0.19)	(0.20)
Survey FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
Observations	8,335	8,312	8,334	8,311	8,335	8,312
R^2	0.00	0.02	0.00	0.04	0.00	0.02

Notes: Each double-column represents a different measure of job search activity as the dependent variable, with and without additional controls. The main independent variable is the relative change ((Earnings Now - Earnings Prior)/ Earnings Prior) in the respondent's annual earnings since their last response. All regressions have survey date fixed effects. The additional controls are natural logarithms of age, tenure, and annual earnings, dummies for sex and marital status, five dummies for race, four dummies for education, and fixed effects for state, job start-year, and two-digit industries. The standard errors are clustered at the individual level. See Appendix A for the data sources and details of how each variable is constructed. *p<0.1; **p<0.05; ***p<0.01

Table 4: Direct Evidence on Search Effort

(a) Inflation Expectations and Job Search Activities

	Search(1M)	Search(1M)	Hours(1W)	Hours(1W)	#Methods	#Methods	#Apply(1M)	#Apply(1M)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i	0.37***	0.22**	12.35***	7.41***	2.94**	2.67**	5.56***	4.37***
	(0.11)	(0.10)	(2.90)	(2.83)	(1.21)	(1.19)	(1.23)	(1.11)
Survey FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	13,515	13,488	3,113	3,110	2,498	2,495	3,531	3,530
R^2	0.01	0.07	0.04	0.15	0.05	0.15	0.02	0.12

(b) Inflation Expectations and Job Search Outcomes

	#Heard(1M)	#Heard(1M)	#Interviews(1M)	#Interviews(1M)	#Offers(1M)	#Offers(1M)	#Offers(4M)	#Offers(4M)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i	−0.174	0.223	0.632**	0.576***	0.529**	0.299	0.315	−0.079
	(0.511)	(0.570)	(0.246)	(0.195)	(0.238)	(0.221)	(0.258)	(0.249)
Survey FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	3,531	3,530	3,057	3,056	3,529	3,528	8,851	8,835
R^2	0.003	0.087	0.010	0.093	0.006	0.090	0.003	0.059

Notes: Each double-column represents a different measure of job search activity as the dependent variable, with and without additional controls. The main independent variable is the inflation expectation for the next 12 months. All regressions have survey date fixed effects. The additional controls are natural logarithms of age, tenure, and annual earnings, dummies for sex and marital status, five dummies for race, four dummies for education, and fixed effects for state, job start-year, and two-digit industries. The standard errors are clustered at the individual level. See Appendix A for the data sources and details of how each variable is constructed. $^{*}p<0.1$; $^{**}p<0.05$; $^{***}p<0.01$

3 A Simple Model of Wage Adjustment

In this section, we describe a dynamic game between a worker who does an on-the-job search and a firm that chooses a wage that can manipulate the search behavior. We characterize the Markov-perfect equilibria of the game and show how the worker and the firm would react to a sudden decline in the real wage. In Section 4, we incorporate this game into a general equilibrium model and investigate how the economy as a whole responds to an inflationary shock.

3.1 Environment

Preferences and Technology Time is discrete with a firm and a worker that are infinitely lived. They both maximize the present value of their income with a discount factor β. Firm and worker together produce a random amount of $y \in \{y^0, ..., y^N\}$, which follows a Markov chain with transition matrix Π. The worker also has access to a continuum of outside options with value $V \in \mathcal{V} = [\underline{V}, \bar{V}]$, which can be obtained with probability $p(V) > 0$ where p is twice continuously differentiable with p' and p'' representing first and second derivatives. The worker can only try accessing one V value each period, and higher values are less likely to be obtained, i.e., $dp/dV < 0$. We assume the outside options are strictly preferred to what the firm could possibly offer, that is, $\underline{V} > \frac{\max_i\{y^i\}}{1-\beta}$. Suppose the initial contract indicates a wage level $w_0 > 0$.

Contract Space Firm commits to paying any current wage w^- as long as the worker stays. The firm can increase the wage but cannot commit to future increases. The commitment ends when the worker leaves for an outside option. For simplicity, we bound the wage choice of the firm w^* with $\max_i\{y^i\}$ from above. We define $\mathcal{W} = [w_0, \max_i\{y^i\}]$. Then, the optimal wage choice of the firm $w^*(w^-, y) \in \mathcal{W}$ for all w^- and y. Lastly, the firm needs to pay a menu cost for adjusting wages that equals $\frac{\gamma}{\sigma}(w - w^-)^\sigma$ where $\gamma > 0$, $\sigma > 1$, w^- is the old wage and w is the new wage.

Timing Each period starts with the realization of y. First, the firm chooses the continuation wage $w \geq w^-$, and then, the worker chooses which V to target after observing w. The worker leaves for the outside option if successful; if not, the production happens, and the firm pays w to the worker.

3.2 Markov Perfect Equilibrium

We limit our attention to Markov Perfect Equilibria (MPE), in which the firm's and workers' strategies depend only on the payoff-relevant states: current productivity y and wage rate w^-. We denote a Markov strategy for the firm with $w^*(y, w^-)$ and for the worker with $V^*(y, w^-)$.

The firm's problem can be represented by the following Bellman Equation:

$$F(y, w^-) = y - w^- + \beta \sum_{y'} \Pi_{y,y'} \left[\max_{w \geq w^-} (1 - p(V^*(y', w))) F(y', w) - \frac{\gamma}{\sigma}(w - w^-)^\sigma \right], \quad (6)$$

with the associated policy function $w^*(y', w^-)$ while the worker's problem can be represented as:

$$A(y, w^-) = w^- + \beta \sum_{y'} \Pi_{y,y'} \left[\max_{V \in \mathcal{V}} p(V) \left(V - A(y', w^*(y', w^-)) \right) + A(y', w^*(y', w^-)) \right], \quad (7)$$

with the associated policy function $V^*(y', w^-)$.

Definition 1. *$F(y, w^-)$, $A(y, w^-)$, $w^*(y', w^-)$, and $V^*(y', w^-)$ constitute a Markov Perfect Equilibrium where*

1. *$F(y, w^-)$ and $w^*(y', w^-)$ solve the firm's problem in (6) given $V^*(y', w^-)$, and*

2. *$A(y, w^-)$ and $V^*(y', w^-)$ solve the firm's problem in (7) given $w^*(y', w^-)$.*

3.3 Comparative Statics

We move on to characterize the policy functions of the firm and the worker. In particular, we provide sufficient conditions for the policy functions to be increasing in the current wage w^-.

Proposition 1. *Let p be sufficiently concave, $\sigma < 2$, and the menu costs (γ) be sufficiently large. Then, $w^*(y, w^-)$ and $V^*(y, w^-)$ are increasing in w^-.*

Proof. Notice that both $F(y, w^-)$ and $A(y, w^-)$ are bounded and continuous in w^- since their Bellman equations map the set of bounded and continuous functions into itself. This follows from the theorem of the maximum as (1) the choice sets are compact-valued and continuous, and (2) the objective functions in the maximization problems are bounded and continuous if the value functions are bounded and continuous. To simplify the proof, we will assume the value functions are also twice differentiable with respect to w^-, even though the main idea would go through with non-differentiable value functions.

$w^*(y, w^-)$ behaves differently based on whether the constraint binds or not. In the regions where the constraint is binding, w^* is trivially increasing in w^- since $\frac{\partial w^*}{\partial w^-} = 1 > 0$. The more interesting case is when the constraint isn't binding. In that region, w^* satisfies the firm's first-order condition:

$$\frac{\partial F(y', w^*)}{\partial w^*} - \gamma(w^* - w^-)^{\sigma-1} = 0,$$

Differentiating both sides with respect to w^- and rearranging terms would give

$$\frac{\partial w^*}{\partial w^-} = \frac{\gamma(\sigma-1)(w^* - w^-)^{\sigma-2}}{-\frac{\partial^2 F(y', w^*)}{\partial (w^*)^2} + \gamma(\sigma-1)(w^* - w^-)^{\sigma-2}}$$

As γ grows, the term from the menu cost grows without bound for $\gamma < 2$ and eventually dominates the term with F's partial derivative as the latter would decline.[20] Also, notice that for $\sigma \in (1, 2)$, $\frac{\partial w^*}{\partial w^-}$ would approach 1 as w^- approaches w^* from the left, i.e., w^* would be continuous in w^-. Therefore, the behavior of w^* in the immediate surroundings of the constraint would be consistent with its behavior

$V^*(y, w^-)$ satisfies the firm's first-order condition:

$$(V^* - A(w^*(w^-)))\frac{dp}{dV}\Big|_{V=V^*} + p(V^*) = 0$$

Differentiating both sides with respect to w^- and rearranging terms would give

$$\frac{\partial V^*}{\partial w^-} = \frac{\frac{dp}{dV}\Big|_{V=V^*}\frac{\partial A}{\partial w^*}\frac{\partial w^*}{\partial w^-}}{2\frac{dp}{dV}\Big|_{V=V^*} + (V^* - A(y', w^*(y', w^-)))\frac{d^2p}{dV^2}\Big|_{V=V^*}}$$

p is strictly decreasing in V by assumption. It is straightforward to show A is strictly increasing in its second argument. The first part of the proof established that w^* is strictly increasing in w^-. Hence, the numerator is always negative. Furthermore, $V^* - A(y', w^*(y', w^-))$ is bounded above by $\bar{V} - w_0/(1-\beta)$. Then, $\frac{\partial V^*}{\partial w^-} > 0$ if for all $V \in \mathcal{V}$,

$$\frac{d^2p/dV^2}{dp/dV} > -\frac{2}{\bar{V} - w_0/(1-\beta)}.$$

□

Proposition 1 provides insights into how individual workers and firms would respond to an inflationary shock, i.e., an unexpected drop in the real wage w^-. Firms would not respond one-to-one to an inflationary shock by bringing the wages to their original level. Hence, the inflationary shock can have a lasting impact on the real wage of the worker. The workers would respond by changing their search behavior; they would target outside

[20] As an extreme version of this idea, as γ approaches infinity, $\frac{\partial w^*}{\partial w^-}$ would approach one since the constraint would bind everywhere.

options that provide less value but with a higher probability. In other words, they'd be less selective. The probability that the match would break down with the worker's departure would increase.

This simple firm-worker structure provides the main insights of our channel. In the next section, we build a general equilibrium model that endogenizes the outside options of the worker through the free entry of profit-maximizing firms. We further allow workers to endogenously select their search effort, which provides an additional channel through which inflationary shocks would impact worker allocation across firms. This structure provides a mapping between the inflationary shocks, allocative efficiency, and aggregate output.

4 The General Equilibrium Model

In this section, we provide a general equilibrium model of competitive search that encapsulates the dynamic game in Section 3. We use the model to quantify the short-run output response to an unexpected inflationary shock: a sudden permanent decline in existing real wages. The model exhibits monetary neutrality in the long run: the economy goes back to its original stochastic steady state through firms increasing incumbent workers' wages and workers' switching jobs. However, depending on the parameter values and the size of the inflationary shock, the model allows the aggregate productivity and output to increase or decrease in the short run. In section 5, we calibrate the model to the U.S. economy and quantify its response to inflationary shocks of various sizes.

4.1 Environment

The model generates monetary non-neutrality due to two key frictions: non-state-contingent contracts and search frictions. Because contracts are not state-contingent,[21] an inflationary shock lowers the real wages of workers. To restore their real wages, workers must find a new firm and sign a new contract. However, search frictions prevent them from doing so immediately, delaying the adjustment. As a result, inflation affects labor reallocation through workers' search behavior and, in turn, impacts the real economy. Our model would exhibit monetary neutrality if all labor contracts were inflation-adjusted or labor markets were competitive.

We describe an environment in which all variables are expressed in real terms. Inflation shocks are introduced through their impact on the real wages of existing employees. We match these shocks to the gap between forecasted and realized inflation observed in the data. By modeling inflation in this way, we avoid the use of nominal variables, framing the model as a limiting case of the classical New Keynesian framework where pricing frictions go to zero.

4.1.1 Preferences

The economy consists of a continuum of individuals with measure one and a continuum of firms with positive measure. Workers are risk-averse and want to maximize their lifetime utility. Firms are risk-neutral and want to maximize their discounted profits. Time is discrete, and both parties use the same discount factor, $\beta \in (0, 1)$.

[21] Nominal frictions in wage setting have long been documented. See Appendix C for a broad overview of the evidence regarding the extent of wage indexation.

4.1.2 Production Technology

There is a single homogeneous consumption good in the economy. When a worker and a firm match, they produce $y + z$ units of output. The first component, y, is the aggregate productivity, and it is identical across all firms. Let $Y \subset \mathbb{R}_+$ denote the set of possible aggregate states. The second component, z, is the firm productivity. It is chosen by firms before they enter the market. The cost of choosing productivity z is given by $\kappa(z)$, which is strictly increasing and strictly convex, i.e., $\kappa' > 0$ and $\kappa'' > 0$. Once chosen, z remains constant throughout the worker's tenure at the firm. Let $\mathbb{Z} \subset \mathbb{R}_+$ denote the set of possible firm productivity levels.

Unemployed workers produce b units of output.

4.1.3 Meeting Technology

Workers and firms must find each other to produce output. Search is directed, meaning workers and firms target specific submarkets indexed by the minimum wage and market tightness. The wage is considered a minimum wage because firms can raise it later based on the state of the economy, but they cannot reduce it. For example, firms may increase wages during a boom to retain employees. Let $w \in \mathbb{R}_+$ denote the wage rate offered by the firm and the associated submarket. The market tightness is defined as the vacancy-to-total search effort ratio and denoted by θ.

Both unemployed and employed workers can search for a job. After selecting a submarket, workers choose their search effort, e. The cost of exerting effort is given by $c(e)$, and it is a strictly increasing and convex function with the following properties: $c(0) = 0, c'(0) = 0$[22].

Each firm posts one vacancy. After paying the cost associated with its chosen produc-

[22] We treat the search cost as a utility cost, so it does not appear in the output calculations.

tivity level, $\kappa(z)$, the firm selects a submarket to post the vacancy.

Within a submarket, the matching probability depends on market tightness, θ.A worker who exerts e units of effort finds a job with probability $ep(\theta)$, where $p : \mathbb{R} \to [0,1]$ is a strictly increasing and concave function with the following properties: $p(0) = 0, p(x) \to 1$ as $x \to \infty$. Meanwhile, a vacancy matches with a worker with probability $q(\theta)$, where $q : \mathbb{R} \to [0,1]$ is a strictly decreasing function that satisfies the following condition: $\theta q(\theta) = p(\theta)$[23].

4.1.4 Timeline

Each period is divided into five sub-periods. In the first sub-period, aggregate productivity y is realized. In the second sub-period, exogenous separations occur with probability $\delta \in (0,1)$. For the remaining matches, the firm adjusts the wage upward if it finds it optimal. In the third sub-period, vacant firms choose their productivity level z, pay the cost, and choose where to post their vacancy. In the meantime, workers choose where to search and how much effort to exert. In this stage, workers who were separated from their job in the current period cannot search for a job; they remain unemployed with probability one. In the fourth sub-period, workers and firms meet and decide whether to form a match. In the last sub-period, production takes place, and wages are paid.

4.1.5 Discussion of the Model Elements

While setting the environment, we make four main simplifications. Three of these are relatively innocuous, while the fourth carries more significant implications.

First, we express all variables in real terms, conceptualizing this as a limiting case of the classical New Keynesian model where pricing frictions in the goods market are re-

[23]This relationship can be microfounded through a constant returns to scale matching function with inputs given by the total number of vacancies and total search effort.

duced to zero. This approach isolates the effects of inflation on the labor market without involving other complicating factors. Additionally, including pricing frictions would require dynamically optimizing firms, which would break block-recursivity.

Second, we avoid modeling a detailed inflation process by assuming rational expectations. In principle, we could focus on nominal wages and introduce an inflation process following an AR(∞) structure, with time-based contracts that account for expected future inflation. In such a setup, firms and workers would design wage contracts to adjust nominal wages over time, keeping real wages constant in the absence of inflation or productivity shocks. However, focusing on real wages allows us to abstract from nominal variables and concentrate solely on inflation shocks, simplifying the model without affecting the core results.

Third, we assume that firms cannot make counteroffers to retain employees who are poached by other firms. While this could theoretically result in workers moving to less productive jobs, which wouldn't occur if incumbent firms could respond, we make this assumption for computational simplicity. Importantly, in our quantitative exercise, such behavior does not occur with the calibrated parameters, so allowing firms to respond would not change the quantitative results.

The fourth simplification—treating inflation as an exogenous shock—has more serious implications. In a full New Keynesian framework, both output and monetary shocks jointly influence inflation, meaning that treating inflation shocks as independent from output shocks is not entirely accurate. However, allowing firms to dynamically adjust prices would break block-recursivity in the equilibrium. To address this limitation, we focus not on the inflation series alone but on the discrepancy between inflation expectations and realized inflation, remaining agnostic about how these expectations are formed. This approach allows us to draw more robust conclusions from the data.

4.2 Equilibrium

4.2.1 Problem of a Firm

A firm operates with a single vacancy, choosing the productivity level z and deciding in which submarket to post the vacancy. Let $K(w, z, \psi)$ be the value function of a filled vacancy with match productivity z, current wage rate w, and aggregate state ψ.

Once the match is formed, the firm only decides to make an upward wage adjustment. Specifically, the problem of a filled vacancy is:

$$
\begin{aligned}
K(w, z, \psi) = {} & y + z - w - \phi(\psi, z) \\
& + \beta(1-\delta)\mathbb{E}\left[\max_{w' \geq w}(1 - \bar{p}(w', z, \psi')) \cdot (K(w', w, \psi') - g(w', w))\right].
\end{aligned} \tag{8}
$$

The first component is the flow profit, $y + z - w$. The second component, $\phi(\psi, z)$, is the operating cost. We use operating costs as a reduced form for the capital cost. The firm only pays this cost if it employs a worker. We assume that this payment goes to capital owners, who are not engaged in the labor market and supply capital inelastically. Therefore, they are included in GDP calculation but not part of workers' welfare. As provided evidence by Gouin-Bonenfant (2022) and Kehrig and Vincent (2021), the labor share of firms is declining with firm productivity. Hence, ϕ can be a function of firm productivity and aggregate state. The third component is the discounted value of the firm. With probability δ, the worker separates exogenously, leaving the vacancy with zero value. With probability $1 - \delta$, exogenous separation does not occur. At this stage, the firm chooses a new wage that is weakly larger than the current one. After the wage adjustment, the worker searches for a new job and leaves the firm with probability $\bar{p}(w', z, \psi')$. This is an equilibrium object, but the firm, anticipating the worker's optimal behavior, accounts for this in its decisions. With the remaining probability $(1 - \bar{p}(w', z, \psi'))$, the worker remains at the firm, and the value of the firm becomes $K(w', z, \psi')$. The last term, g, represents the wage adjustment cost. This enables us to have a smooth wage adjustment process. It is possible to have $g(w', w) = 0$ for any w', w. Let $w^{\star}(w, z, \psi)$ be the optimal wage adjustment.

Notice that without on-the-job search, the firm always wants to set the wage equal to the unemployment benefit. This is because the firm posts a high wage to attract the workers. Once the match is formed, the firm's only incentive to pay wages is to prevent workers from leaving the job. In this case, the firm would only pay the unemployment benefit. Therefore, the current wage might be a binding constraint for the firm. When workers search on-the-job search, the firm might be willing to pay more than the unemployment benefit to distort the workers' job search behavior. In this case, the firm might be willing to increase the current wage. One possible reason for the adjustment is to have a positive aggregate shock that increases the workers' outside options. In this case, the firm might be willing to adjust the wage to retain the worker at a higher rate.

There are many firms, each with a single vacancy. The free-entry condition ensures that, in equilibrium, the expected profit of posting a vacancy with productivity z and wage w must be non-positive:

$$\kappa(z) \geq q(\theta)K(w, z, \psi), \tag{9}$$

The left-hand side is the cost of z, and the right-hand side is the expected value of a vacancy, which is the product of the probability of finding a worker and the expected value of a filled vacancy. This condition holds with equality whenever there is a positive mass of workers searching for a job in submarket (w, θ) and firms posting vacancies in this market have productivity z. Otherwise, this equation holds with strict inequality.

Because there are free entry conditions for each productivity z, there is no direct one-to-one relationship between w and θ. However, for a given w, only one active market can exist. This is because workers will always search in the market with the highest θ among those offering the same wage, maximizing their probability of finding a job. Therefore, the relevant market tightness is determined by the upper envelope of θ values that satisfy the free-entry condition. Let $\bar{\theta}(w, z)$ be the solution to equation (9). Then, define the upper envelope of it as

$$\theta(w, \psi) = \max\{\theta | \kappa(z) = q(\theta) K(w, z, \psi), z \in \mathbb{Z}\}.$$

The firm productivity associated with this submarket is is:

$$z^\star(w, \psi) = \{z | \kappa(z) = q(\theta(w, \psi) K(w, z, \psi)\}.$$

This structure allows us to index submarkets using the wage w and to define corresponding market tightness $\theta(w, \psi)$.

4.3 Job Search Problem of a Worker

Let $H(w, z, \psi)$ be the lifetime value of a worker with wage rate w employed at a firm with productivity z when the aggregate economy is ψ. Similarly, let $U(\psi)$ be the lifetime value function of an unemployed worker when the aggregate economy is ψ.

Consider a worker with a current lifetime utility of V. The worker chooses both where to search for a job and how much effort to exert. With probability $ep(\theta(w, \psi))$ the worker finds a job at a firm with productivity $z^\star(w, \psi)$, and their lifetime utility becomes $H(w, z^\star(w, \psi), \psi)$. With the remaining probability, hey do not find a job, and their lifetime utility stays at V.Regardless of the outcome, the worker incurs a search effort cos $c(e)$ independent of the outcome. Thus, the worker's job search problem can be expressed as:

$$\max_{w,e} e \cdot p(\theta(w, \psi)) H(w, z^\star(w, \psi), \psi) + (1 - e \cdot p(\theta(w, \psi))) \cdot V - c(e).$$

This problem can be decomposed into two parts:[24].

$$R(\psi, V) = \max_{w} p(\theta(w,\psi))(H(w, z^{\star}(w,\psi),\psi) - V) \tag{10}$$

$$\max_{e} e \cdot R(\psi, V) - c(e). \tag{11}$$

The first part involves choosing the optimal wage w to maximize the value of finding a job, considering the difference between the lifetime value of a new job and the current lifetime value. The second part involves selecting the optimal search effort e to maximize the expected gain from the search, net of the search cost $c(e)$.

An unemployed worker consumes b in the current period. The utility of consuming c is given by a concave utility function $u(c)$. In the next period, the worker decides where to search for a job and how much effort to exert. Thus, the value function of an unemployed worker is:

$$U(\psi) = u(b) + \beta \mathbb{E}\left[\max_{e} eR(\psi', U) - c(e) + U(\psi')\right], \tag{12}$$

An employed worker consumes w in the current period. In the next period, with probability δ the worker becomes unemployed, and with probability $1-\delta$, , they remain employed. If they remain employed, the firm adjusts the wage after the realization of the aggregate state. At that point, the worker's lifetime utility becomes $H(w^{\star}(w,z,\psi'), z, \psi')$, and they decide where to search and how much effort to exert. Thus, the value function of an employed worker is given by:

$$\begin{aligned} H(w,z,\psi) = u(w) + \beta \mathbb{E}\Big[\delta U(\psi') + (1-\delta)\max_{e}(eR(\psi', H(w^{\star}(w,z,\psi'), z, \psi')) - c(e) \\ + H(w^{\star}(w,z,\psi'), z, \psi'))\Big]. \end{aligned} \tag{13}$$

[24]Since a worker is infinitesimally small (measure zero), their choice of effort does not affect θ and, therefore, does not impact the submarket selection.

4.3.1 Equilibrium Definition

Following Menzio and Shi (2011), we consider block recursive equilibria. In a block-recursive equilibrium, policy functions do not depend on the distribution of workers across jobs. Hence, the only relevant aggregate variable is aggregate productivity y, implying $\psi = y$.

A block-recursive equilibrium consists of a market tightness function $\theta : Y \times \mathbb{R} \to \mathbb{R}_+$, firm productivity within a market $z^\star : \mathbb{R}_+ \times Y \to \mathbb{Z}$, a value function for the unemployed $U : Y \to \mathbb{R}$, a value function for the employed $H : \mathbb{R}_+ \times \mathbb{Z} \times Y \to \mathbb{R}$, a value function for the firm $K : \mathbb{R}_+ \times \mathbb{Z} \times Y \to \mathbb{R}$, optimal choice of submarket $m : \mathbb{R}_+ \times \mathbb{Z} \times Y \to \mathbb{R}$, optimal choice of search effort $e : \mathbb{R}_+ \times \mathbb{Z} \times Y$, optimal wage adjustment $w^\star : \mathbb{R}_+ \times \mathbb{Z} \times Y \to \mathbb{R}_+$

1. $H(w, z, \psi)$ satisfies (13), $U(\psi)$ satisfies (12), $K(w, z, \psi)$ satisfies (8) where probability that a worker finds a job is $\bar{p}(w, z, \psi) = e(m(H(w, z, \psi), \psi))p(\theta(m(H(w, \psi), \psi), \psi))$,
2. $e(V, \psi)$ and $m(V, \psi)$ solve worker's problem,
3. $w^\star(w, z, \psi)$ solves filled vacancy's problem,
4. $\theta(w, \psi)$ is the upper envelope free entry conditions (equation (9)) for each $z \in \mathbb{Z}$, and $z^\star(w, \psi)$ is the associated firm level productivity.

4.3.2 Inefficiency of Market Equilibrium

The market equilibrium is inefficient due to non-state-contingent contracts. To illustrate, consider two workers employed at firms with identical productivity levels but earning different wages. This outcome can arise if the matches were formed at different stages of the business cycle. If firms do not adjust wages, workers' optimal choices become independent of firm productivity. However, for the socially optimal allocation, both workers—who generate the same surplus—should exhibit identical job search behavior. In contrast, under market equilibrium, workers base their decisions on wages, leading to differences in search behavior.

4.3.3 Impact of Inflationary Shock on Job Search Behavior

After an inflationary shock, the real income of workers declines. As we defined our model in real terms, this is represented by a decline in the wage rate without an impact on output. In other words, inflationary shock alters the share of surplus that goes to firms and workers.

A decline in the real wage increases the workers' outside option. They respond by adjusting two margins. First, workers search for a job at a lower wage rate. This can be seen from the equation (10). A decline in V increases the return to finding a job. Hence, the workers choose a lower w to find a job at a higher rate. The second adjustment is through the search effort. Since return to search, $R(\psi, V)$ is increasing, workers exert higher effort.

Both margins imply that there will be more job-to-job transition after an inflationary shock, as observed in the data. As workers move to more productive at a higher rate, this impacts the aggregate output in a positive way. However, because workers are directed in their search for lower wages, the productivity gain associated with job-to-job transitions will be lower compared to transitions before the inflationary shock. As workers become less selective, the aggregate output might decline.

The overall impact is a quantitative question. In the next section, we calibrate our model to quantify the impact of inflationary shock on output through labor market adjustment.

5 Quantitative Analysis

In this section, we calibrate the model to match the U.S. economy circa 2005. The calibration is designed to ensure that the model accurately replicates key features of the labor market, including flow rates and the surplus sharing between firms and workers under typical business cycle conditions. We then assess the aggregate impact of an unexpected inflationary shock using these calibrated parameters.

5.1 Functional Forms and Externally Calibrated Parameters

We adopt a telephone-line matching function[25] which leads to job finding probability function $p(\theta) = \theta\left(1+\theta^{\gamma}\right)^{-1/\gamma}$. We define the search cost function for the employed as $c(e) = ((1-e)^{-\eta_1} - \eta_1 e - 1)$ and for the unemployed as $c^u(e) = \eta_0 c(e)$. This functional form ensures $c(0) = 0$, $\lim_{x\to 1} c(x) = \infty$, and $\partial c(x)/\partial x$ is invertible, ensuring smooth optimization of effort decisions. We choose the operating cost function, $\phi(\psi, z)$, based on the labor shares across firm productivity distribution, estimated by Gouin-Bonenfant (2022). Specifically, we set the $\phi(y, z) = \tilde{\phi}(z)\cdot(z+y)$, and choose $p\tilde{h}i(z)$ as the $1-$ labor share. $\tilde{\phi}(z)$ is given by the following table:

Table 5: Operating Cost

z Percentile	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
$\tilde{\phi}$	0	0	0.064	0.089	0.142	0.198	0.239	0.258	0.333	0.561

Note: Functional form for $\phi(\psi, z) = \tilde{\phi}(z)(z+y)$. It is extracted from Table D.II of the Online Appendix of Gouin-Bonenfant (2022) with the labor share capped at 1.

The full set of parameters necessary to compute the model is the vector:

[25] The telephone-line matching function, introduced by Stevens (2007), is a flexible matching function that has the Cobb-Douglas as a special case.

$$\Omega = \{b, \gamma, \beta, \delta, \eta_0, \eta_1, \{z_i, \kappa_i\}_{i=1}^{\mathcal{Z}}, \rho_y, \sigma_y\} \tag{14}$$

We set the model period to one month and normalize unemployment benefits to the average level of aggregate productivity, and set $\gamma = 1$. We externally calibrate the discount factor β, the exogenous separation rate δ, the search cost parameter for unemployed workers η_0, and the persistence of aggregate productivity ρ_y. The remaining parameters are calibrated internally to ensure the model replicates key labor market features. The internal calibration is performed in the presence of aggregate shocks, as these shocks play a crucial role in driving both job transitions and wage dynamics.

We set the monthly discount factor $\beta = 0.95^{1/12}$ and the exogenous separation rate $\delta = 0.015$ consistent with the average separation rate in 2004 (Shimer et al. (2005)). We set $\eta_0 = 3.22$ consistent with the relative offer yields per search effort of employed and unemployed estimated in Faberman et al. (2022). Lastly, we set $\rho_y = 0.788^{1/3}$, which equals the implied monthly persistence of the logged and HP-filtered GDP series from the U.S. data.

5.2 Calibration Strategy for the Internally Calibrated Parameters

For the model predictions on output response to be accurate, two implied elasticities should be plausible: (1) the response of job-to-job transitions to an inflationary shock and (2) the response of aggregate output to job-to-job transitions. We measure the former elasticity from micro-data that documents how workers adjust their search behavior with inflationary shocks (see Section 2). The latter can be inferred from wage increases following job switches and a measure of how surplus is shared between firms and workers. Although matching these two elasticities is necessary for pinning down the output response, it is not sufficient. The response of the aggregate output to job-to-job transitions depends on the underlying reasons for these transitions. The output response following increased transitions due to a labor demand shock does not necessarily equal the response due to an inflationary shock. Thus, it is crucial to model these two together instead of stitching two elasticities that are computed separately.

The model doesn't admit an analytic expression for the steady-state distribution of workers across jobs. Hence, we stick to discussing the broad intuition of how the moments inform the parameter values. The calibration uses all moments to discipline all parameters since general equilibrium effects through market tightness prevent isolating the response of different moments.

5.3 Calibration of the Productivity Distribution

Our calibration strategy for the distribution of productivity is meant to tackle two main challenges raised by the directed search structure: (1) a wage level is only observed in equilibrium if it is the ideal wage to target for some worker, and (2) a productivity level is only observed in equilibrium if it can generate the most profits (among all productivity levels) while posting an equilibrium wage.

In terms of generating a particular equilibrium wage, directed search models are more demanding than random search models. In a random search model, any wage within an interval can be made to appear by workers randomly bumping firms with such an offer. The worker may choose to accept the wage offer and keep searching for the next period. In the directed search model, however, for a particular wage to appear in equilibrium, it needs to be the optimal wage to search for in the equilibrium.

In addition, given the free entry condition, for a particular productivity level, z_i, to appear in equilibrium, there must exist a non-empty set of wages $\mathcal{W}$ where the firms with z_i would have 0 expected returns in posting wages there, and all other z_i would have negative expected returns. Furthermore, some workers must find it optimal to search for a wage in $\mathcal{W}$.

Our calibration strategy for the distribution of productivity and the associated vacancy costs is meant to tackle these challenges. In particular, we use a heuristic that transforms the problem of estimating $\{z_i, \kappa_i\}_{i=1}^{\mathcal{Z}}$ to estimating an appropriate wage grid and choosing $\{z_i, \kappa_i\}_{i=1}^{\mathcal{Z}}$ to divide the wage grid between firms of different productivities appropriately.

We start by defining the wage space. We set the middle of the wage grid to be 2.5 times the unemployment benefit, b, which is the average replacement rate reported by the U.S. Department of Labor in 2005. Then, we internally calibrate the width of the wage grid (w_{wid}) to match the average wage gain from a job-to-job transaction. Afterward, we divide the wage space into $\mathcal{Z}$ equal pieces and associate each piece with a particular productivity level. Let $w_0, w_1, ..., w_{\mathcal{Z}}$ be denote the edges of these grid pieces, where w_0 and $w_{\mathcal{Z}}$ are the lower and the upper bounds of the grid, respectively. We set z_i such that the average period payoff becomes zero at w_{i+2}, guaranteeing a positive period payoff for wages in piece i. Then, we set $\{\kappa_i\}_{i=1}^{\mathcal{Z}}$ such that $\kappa_i = c \cdot z_i^{\alpha}$, for some $c > 0, \alpha > 1$. Appropriately chosen κ values not only allow each firm of productivity z_i to have a positive period payoff in grid piece i but also ensure (i) the ex-ante payoff from posting a vacancy at the grid piece i is positive and (ii) there are at least some wage values within piece i such that the ex-ante payoff from posting a vacancy is the greatest for a firm of productivity z_i. We choose κ_0 and equate $\kappa_{\mathcal{Z}}$ to the present value of a filled vacancy with productivity $\mathcal{Z}$ at the highest wage rate. Given the minimum and maximum cost, we pin down the level, c, and curvature, α, of the vacancy cost function. We use the aggregate labor share to discipline κ_1. A higher labor share implies a low κ since the firm must be compensated with sufficiently large flow profits to be willing to put up a high fixed cost.

The employment-to-employment (EE) and unemployment-to-employment (UE) transition rates together inform the search effort cost parameter η_1 and elasticity of the matching function, γ. Higher transition rates imply a lower cost of effort.

We assume workers have CRRA utility function with risk aversion parameter 4. Specifically, the utility function is given by: $u(c) = (c^{1-\sigma_u} - 1)/(1 - \sigma_u)$, where σ_u is the risk aversion parameter.

Lastly, we use the variance of the logged and filtered output to discipline the variance of the aggregate productivity shocks σ_y.

5.4 Calibration Results

The exogenously and endogenously calibrated parameters, together with the matched moments, are given in Tables 6 and 7.

Table 6: Exogenously set parameters

Parameter	Role	Value	Source
b	Unemployed Endowment	1.0	Normalized
β	Discount Factor	$0.95^{1/12}$	Common
η_0	Relative (U/E) Search Efficiency	3.22	Faberman et al. (2022)
δ	Separation Rate	0.015	Shimer et al. (2005)
ρ_y	Agg Shock Persistence	$0.788^{1/3}$	US GDP Persistence

Table 7: Internally Calibrated parameters

Parameter	Value	Moment	Data	Model	Source
κ_1 Vacancy Cost Par	0.0022	UE Transition Rate	24.7%	26.11%	FMP (2024)
γ Elasticity of Matching Function	0.25	EE Transition Rate	2.4%	2.07%	FMP (2024)
η_1 Effort Cost Curvature	0.0947	Labor Share	0.67	0.81	Common
w_{wid} Wage Grid Width	0.0496	J2J Wage Gain	9%	9.12%	Birinci et al. (2022)
y_{var} Variance of Agg Shock	0.022	Variance of Output	0.1	0.09	Autor et al. (2008)

Note: All parameters in the table are jointly calibrated to match all the moments. FMP (2024) is an abbreviation for Fujita et al. (2024).

5.5 Model Validation

In this section, we show the model fit for some untargeted moments. In particular, we argue that the model does a good job of predicting the search elasticities of workers and the distribution of productivities across worker-firm pairs.

For the model to accurately quantify the output response to counterfactual inflationary shocks, the productivity distribution implied by the model should be consistent with the distribution of marginal products of labor in the data. The latter is difficult to measure; yet, the distribution of job tenures is a good indicator of the match qualities as previously argued by Menzio and Shi (2011).

Figure 2 compares the tenure distribution simulated from our calibrated model to the empirical distribution generated from the 2005 CPS Occupational Mobility and Job Tenure Supplement. The model distribution (dashed line) matches the data counterpart (solid line) very well, even though only one bin (3 years) was explicitly targeted. This becomes clearer once the two distributions are compared with the counterfactual distribution that would arise if all matches were destroyed with equal probability. Our model does a good job of matching how the job destruction rate declines with tenure in the cross-section. This would not be possible if the productivity distribution in the model was unrealistic.

In addition, the model successfully matches the correlation between wage levels and job tenures. The correlation between the job tenures and hourly wages of the employed is 0.24, while the simulated correlation is 0.27. This wouldn't be possible if the relationship between productivity and wages were not consistent with data.

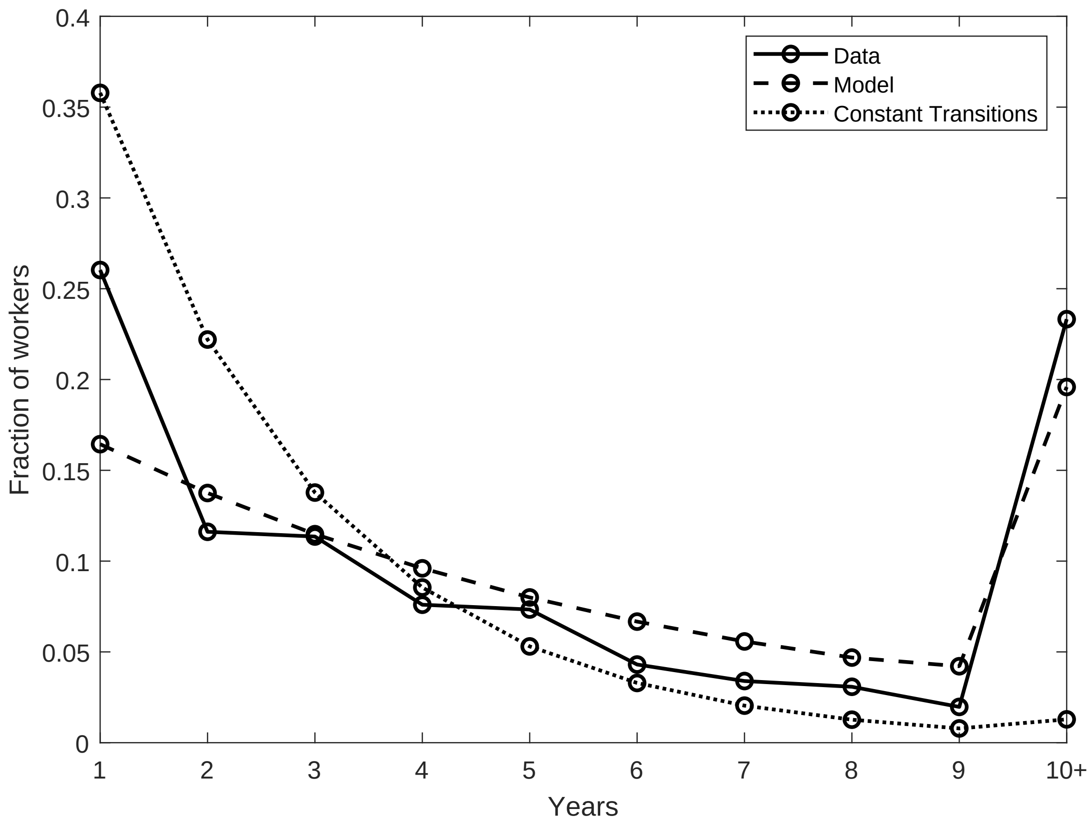

Figure 2: Job Tenure Distribution in the Model and the Data

Note All three lines represent job tenure distributions of the employed. The solid line is the distribution calculated from the 2005 Current Population Survey Occupational Mobility and Job Tenure Supplement. The dashed line is the distribution simulated from our calibrated model. The dotted line is a counterfactual distribution that would be implied by constant job-to-job transition rates.

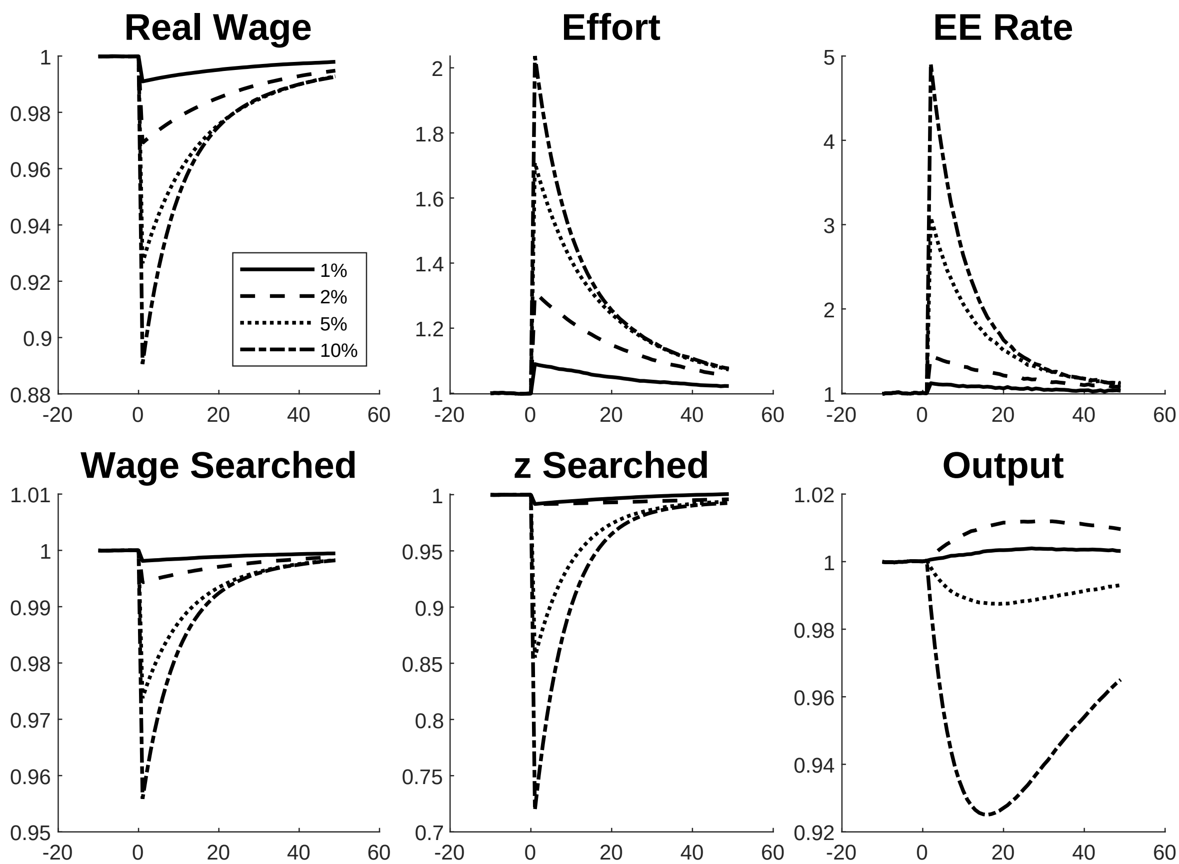

Figure 3

Impulse response to unexpected 1, 2.5, 5, and 10 p.p. increases in inflation. For each plot, the y-axis values indicate the percentage change relative to the baseline value.

5.6 Impulse Response to an Unexpected Inflation Shock

This section presents how the economy responds to an unexpected shock in inflation. For demonstrative purposes, we hit the economy with inflation shocks of 1%, 2.5%, 5%, and 10% and present the impulse responses in Figure 3. Through shocks of different magnitudes, we demonstrate the nonmonotonic response of output to inflation.

Let's start with analyzing the response of our economy to a 1% inflation shock (solid line), which is shown in Figure 3. The workers' average search effort goes up by 9% (search effort channel), and the EE rate goes up by around 12%, while the average wage they search for declines by 0.2%. In other words, the inflationary shock is not large enough for the selectivity channel to matter in a meaningful way. Therefore, we observe an increase in output thanks to increasing job-to-job transition rates. The increase in output is 0.4%, i.e., much smaller than the increase in the J2J rate, indicating these new transitions are not as productivity-enhancing as those in the steady state. When the inflation increases by 2.5% (dashed line), the search effort goes up by 30% (search effort channel), and the EE rate goes up by around 45%, while the average wage they search for declines only by 0.6%. Hence, the output increase is even larger and reaches up to 1.2% within a year.

The picture starts to change when we move on to shocks of size 5% and 10%. As the size of the shock grows, the decline in the average wage and productivity targeted by the searchers becomes larger and starts to play a significant role. The output declines in the short run as new matches come with smaller productivity enhancements. Together, they demonstrate a scenario where the selectivity channel dominates the search effort channel. As the shock grows, the relevance of the selectivity channel vis-a-vis the search effort channel becomes larger; hence, the short-run output decline grows as the inflationary shock grows. In particular, a 5% (10%) inflationary shock leads to a decline in the searched real wage by about 2.7% (4.5%) and a decline in output by about 1.1% (7.5%).

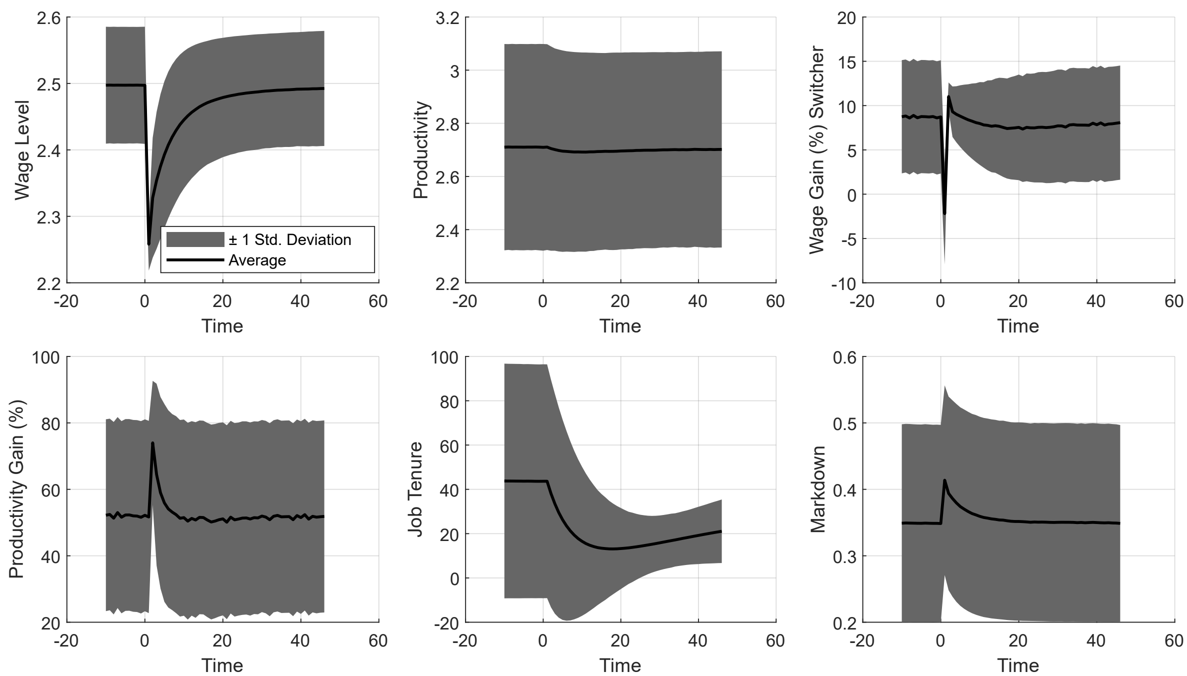

Figure 4: Distributional Responses to a 10% Inflationary Shock
Impulse response to an unexpected 10 p.p. decline in wages. The solid line represents the average value of the statistic, while the band represents 1 standard deviation around the mean.

Lastly, since the wages of new hires are perfectly flexible, job switches undo the effects of the one-time inflation shocks. Therefore, the model exhibits money neutrality in the long run, even though the effect of shocks can last for more than 5 years. Overall, the impulse response exercise confirms our theoretical analysis of the channels in Section 4.

5.7 Distributional Implications of the Inflationary Shocks

Now, we shift our attention from aggregate variables to distributional structure of our model, focusing on wage and productivity distributions. Here, we restrict attention to a 10% shock to make distributional changes easier to spot.

Figure 4 provides the responses of average values together with a one standard deviation band around them. The first two panels in Figure X show how the wage and productivity distributions change with a 10% inflationary shock. The shock tightens the wage distribution on impact but the distributions widens back quickly. The productivity distribution, on the other hand, remains unchanged, except for a level decline.

The third and fourth panels of Figure 4 focus on the distribution of wage and productivity changes associated with job switches. As shown previously, both take a hit on average. Furthermore, while the wage gain distribution tightens around the main and slowly goes back to the pre-inflation dispersion, the productivity gain distribution becomes wider than before.

The fifth and sixth panels of Figure 4 present how the tenure and the markdown distributions respond. The job tenure distribution tightens around the mean as people all around the tenure distribution change jobs and start from scratch. While the average markdown goes up, its dispersion is unaffected by the shock.

Figure 5: Cross Sectional Correlation Responses to a 10% Inflationary Shock
Impulse response to an unexpected 10 p.p. decline in wages. Each series represents the estimated cross-sectional correlation coefficient from the model simulation.

Figure 5 shows how the cross-sectional correlation between wage and tenure, and wage and percentage of wage gain change with inflation. While, in the steady state, workers with higher tenure have higher wages, this pattern reverses with a large enough inflationary shock. Workers with high tenure become those stuck at the old wage levels. Workers with low tenure who have signed their contracts after the inflationary shock tend to have higher wages. In addition, workers with higher wages tend to earn a smaller wage gain (in percentage terms) changing jobs in the steady state. However, this correlation disappears with the inflationary shock, as people of all nominal wages start applying similar nominal wage levels to get back to their pre-inflationary real wage levels.

6 Conclusion

This paper explores the positive correlation between inflation and job-to-job transitions in the economy. We start by providing reduced-form evidence that supports a causal link from unexpectedly high inflation to a higher job-to-job transition rate. First, we find that inflation shocks precede shocks to job-to-job transition rates: inflation lags are good predictors of job-to-job transitions, while the opposite is not true. Second, using several monetary policy and oil price shocks as instruments, we show that there is a causal link from inflation to job-to-job transition rates. Third, using survey data, we show that individuals with higher than average inflation expectations are (1) more likely to search and (2) exert more effort and get better results conditionals on searching.

We proceed by constructing a model that captures two primary channels through which unexpected inflation impacts worker behavior. Higher-than-expected inflation rates increase the benefit of receiving a new offer in a setting with rigid wages. Hence, workers respond to inflationary shocks by searching more intensively and being less selective. As a result, more job-to-job transitions occur. However, because workers are less selective than before, each transition leads to a smaller boost in aggregate productivity. Hence, labor allocation across firms might improve or deteriorate in the short run.

Lastly, we use the model to quantify the regions of monetary policy shock magnitudes that lead to a positive versus a negative output response in the short run. Numerical results confirm the non-monotonic response of output to inflationary shocks in the short run while the calibrated economy suggests a positive short-run output response even for large inflationary shocks.

The mechanism carries important implications for monetary policy: an expansionary monetary policy shock can improve the allocation of resources in the economy and increase productivity in the short run.

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Appendices

A Data Sources

A.1 Monthly Data

Job-to-Job Transitions: In sections 2.1 and 2.2, we use the series made available by Fujita et al. (2024).[26] It is an adjusted measure of employment-to-employment transition rates in the US computed from the Current Population Survey (CPS) at the monthly level. In section 2.1, we use data from October 1995 to June 2022 for inflation and job-to-job transition measures, and control variables. In section 2.2, the sample varies depending on the availability of monetary policy shock measures. All monthly data are seasonally adjusted and filtered using a smoothing parameter of $1600 * 3^4$.

Inflation: We use Consumer Price Index (CPI) inflation in the US from the Bureau of Labor Statistics. As an alternative measure of inflation, we also use Personal Consumption Expenditures (PCE) inflation from the St. Louis Federal Reserve. Both measures describe year-over-year inflation, reported monthly.

Inflation Forecasts: To construct the measures of inflation shocks we use in sections 2.1 and 2.2, we use quarterly data from the Survey of Professional Forecasters (SPF) by the Philadephia Fed.[27] Professional forecasters are surveyed quarterly and asked to predict various measures of the economy, including inflation. We use the one-year-ahead inflation forecast (INFCPI1YR), constructed by taking the mean of the median quarter-

[26]This series is based on the method introduced by Fallick and Fleischman (2004) It corrects for selection into responding to the employment-to-employment question brought on by changes to the survey methodology in 2007 (`https://sites.google.com/site/fabienpostelvinay/working-papers/EEProbability.xlsx?attredirects=0&d=1`). We repeat our empirical exercises using the original series by Fallick and Fleischman (2004) as a robustness check. The results are BLANK and are presented in Appendix BLANK.

[27]https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/survey-of-professional-forecasters

over-quarter forecast of the next four quarters.[28] We take the linear interpolation of quarterly forecasts to construct monthly forecasts. We then take the difference between actual inflation and the corresponding forecast to construct our shock measure. For robustness, we also use inflation expectations from the Survey of Consumers from the University of Michigan.[29] These are the median expected price change for the next 12 months.

Monetary Policy Shocks: In our instrumental variable analysis in section 2.2, we use monetary policy shocks as an instrument for inflation. The first measure of monetary policy shocks we use is from Romer and Romer (2004) and extended by Wieland and Yang (2016). They first obtain a series of intended funds rate changes from meetings of the Federal Open Market Committee (FOMC) and the Weekly Report of the Manager of Open Market Operations. They then regress these intended changes on the Federal Reserve's internal forecasts of inflation to account for changes to monetary policy in anticipation of future economic developments. The residuals from this regression should reflect idiosyncratic changes in monetary policy. These are available roughly monthly from January 1969 to December 2007.

The second measure of inflation shocks we use is from Barakchian and Crowe (2013). They use the difference in private sector beliefs about the Fed's policy stance before and after FOMC meetings, indicted by Fed Funds futures contracts, as a measure of monetary policy shocks. This series is available roughly monthly (in line with FOMC meetings) from 1969 to 2007. The third measure is from Sims and Zha (2006), who use a structural VAR model to estimate monetary policy shocks. This series is available monthly from January 1959 to March 2003. The fourth measure is from Gertler and Karadi (2015) and uses futures rate surprises on FOMC dates. They study one month and three month Fed Funds future rates, as well as six month, nine month, and one year ahead futures on three month Eurodollar deposits. It is available monthly from January 1991 through June

[28]The data and methodology can be found here: https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/inflation-forecasts

[29]https://fred.stlouisfed.org/series/MICH

2012. The fifth and sixth measures are from Nakamura and Steinsson (2018), and similarly use Fed Funds futures and Eurodollar futures to estimate monetary policy shocks. The first series is available roughly monthly (around FOMC meetings) from January 1995 to March 2014. The second excludes unscheduled meetings and those around the height of the Financial Crisis, avaiable from February 2000 to September 2019. The seventh and final measure is from Bauer et al. (2021). They use changes in Eurodollar futures around FOMC meetings to derive a measure of monetary policy shocks in their analysis. This series is available from January 1994 to September 2020 at the FOMC meeting frequency.

Oil Shocks: We also use oil price shocks from Känzig (2021) as an instrument in section 2.2. He constructs oil price shocks by observing the difference in oil futures prices surrounding OPEC announcements. These shocks are available from 1983 to 2017. There were an average of 3.5 shocks per year during this time period. Shocks are set to 0 on months without OPEC annoucements.

Controls: We use unemployment-to-employment transition rates (UE) and the unemployment rate (U) as controls in the IV regressions in section 2.2. The unemployment-to-employment transition (UE) rates are from Fallick and Fleischman (2004), computed from the CPS[30]. The unemployment rate series is from the U.S. Bureau of Labor Statistics ((Seas) Unemployment Rate).[31]

A.2 Quarterly Data

Job-to-Job Transitions: In our state-level analysis in section B.1, we use job-to-job transition measures from the Longitudinal Employer Household Dynamics (LEHD) data by the U.S. Census[32]. They provide the number of hires and separations to (J2JHire) and from (J2JSep) employment quarterly. We divide these by the state labor force to construct mea-

[30] https://www.federalreserve.gov/pubs/feds/2004/200434/200434abs.html.
[31] https://beta.bls.gov/dataViewer/view/timeseries/LNS14000000
[32] https://lehd.ces.census.gov/data/

sures of transitions to and from employment, respectively. These series are available from 2000 onward. We seasonally adjust and filter all variables with a smoothing parameter of 1600 in the quarterly analysis.

Inflation: For our measure of state-level inflation rates, we use data made available by Hazell et al. (2022). They construct quarterly inflation measures for 34 states from 1978-2017. We focus on annual inflation (pi in the dataset), but we also repeat our analysis using annual inflation in the non tradeable and annual inflation inn the tradeable sector (pi.nt and pi.t, respectively).

Inflation Expectations: We use the same measure of inflation expectations from the SPF as in the monthly analyses. Because it is quarterly to begin with, no additional changes are required. We assume inflation expectations are uniform across states because state-level inflation expectations are unavailable.

Controls: We use the state unemployment to employment transition rate (NEHire) from the LEHD as a control in our state-level regressions. We construct this measure by dividing the number of individuals transitioning to employment from unemployment by the state labor force. This is available quarterly from 2000 onward as for our other state-level measures of job-to-job transitions. We also use state-level unemployment rates from Local Area Unemployment Statistics (LAUS) from the BLS as a control variable. These are available monthly from 2000 onward. To convert from monthly to quarterly, we take the value from the first month of each quarter. State-wide labor force data also come from LAUS.

A.3 Annual Data

Job-to-Job Transitions: In our country-level analysis in section B.2, we use yearly job-to-job transition measures from Donovan et al. (2022). They construct two variables: wage-to-wage transitions (WW) and employment-to-employment (EE) transitions. The former considers only transitions from wage employment to wage employment, whereas the latter also considers transitions to and from self-employment. The data spans 41 countries from 1994-2020.

Inflation: We use annual CPI inflation from the World Bank. It includes information on 266 countries from 1972 to 2021.

Inflation Expectations: To construct our measure of inflation shocks, we use inflation forecast data from the OECD (Total, Annual growth rate (%), 1961 – 2022)).[33] The forecasts are annual and cover up to 45 countries from 1961-2023. Inflation shocks are defined as the difference between actual inflation and expected inflation.

A.4 Job Search Survey Data

All variables used in the analysis in section 2.3 are from the Survey of Consumer Expectations (SCE) from the New York Fed.[34] The core survey in the SCE is a 12-month panel and asks individuals about their inflation expectations each month. The Labor Survey supplement of the SCE asks respondents about their work status, including basic questions on their job search activity, three times in April, July, and November. Lastly, the Job Search supplement of the SCE asks more detailed questions on job search activities once in October. We use the surveys from 2013 to 2019.

Inflation Expectations: Individuals surveyed are asked what they expect the inflation to be over the next 12 months (question Q8v2 in the survey). We use the response to this question as our measure of inflation expectations.

Job Search Activities: We use one job search activity variable from the Labor Survey Supplement. It is the response to the following: "Have you done anything in the last four

[33]https://data.oecd.org/price/inflation-forecast.htm
[34]https://www.newyorkfed.org/microeconomics/databank

weeks to look for new work?" (question L6). We code a positive response as a one and a no as a zero. The remainder of the job search activity variables we use come from the annual Job Search Supplement. These are the number of hours spent searching for work in the last four weeks (question JS7), the sum of the number of methods used to look for a job in the last four weeks (constructed from question JS6), and the number of applications sent to potential employers in the last four weeks (question JS14).

Job Search Outcomes: All but one job search outcomes we use come from the Job Search Supplement of the SCE. These are the number of potential employers that have contacted the individual in the last four weeks (question JS15), the number of job interviews the individual has had in the last four weeks (question JS18b), and the number of offers received in the last four weeks (question JS19). We access the number of offers received in the last four months from the Labor Survey supplement (question NL1).

Job Switches: There are two potential ways to identify job switches: through changes in reported primary job start dates and through the binary response of whether the respondent is still working for the same employer as the previous month. We found the latter to be much more reliable: in about half of the cases where the start date changed, yet the worker claimed they worked for the same main employer, the change in start dates was illogical: the worker would claim an earlier start date at a later survey. Using the binary response and intuitive checks for potential typos (e.g., a single digit of the start date being different in one of the responses), we apply a correction to the reported start dates. This correction matters for calculating job tenure, which is a control variable. Of the 9404 total observations, we could establish 346 as associated with switching jobs since the previous survey, 8835 as no job switches, and 223 as indeterminate. We discard the indeterminate observations in exercises that require tenure or job-switching information.

Control Variables: We use several control variables from the SCE in our analysis. These are the natural logarithms of age (Q32 in the survey), tenure (Q37), and annual earnings (Q47), dummies for sex (Q33) and marital status (Q38), five dummies for race

(Q35), four dummies for education (Q36), and fixed effects for the state (D5). Other controls from the Labor Survey supplement are dummies for job start-year (L1), and two-digit industries (LMtype and Lmind).

B Additional Empirical Analyses

B.1 Quarterly Analysis, State Level

Here we utilize the Longitudinal Employer Household Dynamics (LEHD) data by the U.S. Census which provides job-to-job transition rates in quarterly frequency at the state level starting from 2000. For inflation, we use the series by Hazell et al. (2022), who construct quarterly inflation measures for 34 states for 1978-2017.[35] We seasonally adjust and HP filter all variables with a smoothing parameter of 1600.

In our main specification, we run a fixed-effects regression with a measure of inflation and J2J transition rate:

$$y_{it} = \beta_x x_{i,t-1} + \beta_Z z_{i,t-1} + \gamma_i + \eta_t + \epsilon_{it} \tag{15}$$

where i and t represent state and quarter, y and x are one of the measures for J2J rate and inflation, γ_i and η_t are state and quarter fixed effects, and Z represents additional controls. The results are in Table 8. Again, a positive inflation surprise predicts higher inflation in the next quarter across various specifications.[36] Unlike the VAR analysis with monthly aggregate data, higher job-to-job transition rates also predict larger inflation sur-

[35]State-level inflation forecasts are not available, hence, we rely on the variation in realized inflation, assuming inflation expectations are uniform across states.

[36]See Table 15 in Appendix E for results with only state and only quarter fixed effects. Table 16 shows that once analyzed separately, only the rate of inflation for non-tradables have a significant effect on job-to-job transitions.

prises in the next quarter.

Table 8: State-Level Estimates

	$J2J_t$				$Infl_t$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Infl_{t-1}$	0.069***	0.014**	0.019***	0.014**				
	(0.007)	(0.006)	(0.006)	(0.006)				
NE_{t-1}			0.385***	0.135***			0.563***	−0.208***
			(0.069)	(0.038)			(0.168)	(0.052)
u_{t-1}			−0.262***	−0.067**			0.213***	0.191**
			(0.016)	(0.031)			(0.079)	(0.097)
$J2J_{t-1}$					0.645***	0.411*	0.740***	0.676***
					(0.067)	(0.225)	(0.173)	(0.236)
Controls	No	No	Yes	Yes	No	No	Yes	Yes
State-Quarter FE	No	Yes	No	Yes	No	Yes	No	Yes
Observations	2,162	2,162	2,162	2,162	2,129	2,129	2,129	2,129

Notes: The measure used for $Infl$ is inflation surprise from SPF forecasts. The columns (1)-(4) have the job-to-job transition rate at time t as the dependent variable while the others have the inflation measures at time t. All variables are seasonally adjusted and HP-filtered. The standard errors are clustered at the state level. *p<0.1; **p<0.05; ***p<0.01

B.2 Yearly Analysis, Country Level

Here we utilize the yearly cross-country job-to-job transition data from Donovan et al. (2022) kindly made available to us by the authors. The data is a panel from 41 countries between 1994-2020 and distinguishes all employment to employment (EE) transitions from wage employment to wage employment (WW) transitions.[37] We supplement the EE rates with CPI inflation data from the World Bank and inflation forecast data from the OECD. In our main specification, we run a fixed-effects regression with a measure of inflation and J2J transition rate:

[37]EE transitions include transitions from and to self-employment. Although our mechanism should not affect transitions from self-employment to wage employment, it predicts an effect on transitions from wage employment to self-employment. Hence, we use both measures in our analysis.

$$y_{it} = \beta_x x_{i,t} + \gamma_i + \eta_t + \epsilon_{it} \tag{16}$$

where i and t represent country and year, y is a measure of J2J rate, x is the inflation surprise, and γ_i and η_t are country and year fixed effects. The results are in Table 9. There is a positive correlation between inflation surprise and both the EE and WW rates. Controlling for the country and year fixed effects do not change the sign of the correlation, yet reduce the magnitude.[38]

Table 9: Country-Level Estimates

	WW		EE	
	(1)	(2)	(3)	(4)
$InflS_t$	0.048***	0.019*	0.063***	0.037
	(0.011)	(0.012)	(0.023)	(0.027)
State-Quarter FE	No	Yes	No	Yes
Observations	361	361	361	361

Notes: The measure used for $Infl$ is inflation surprise from OECD forecasts. The columns (1)-(2) have the WW transition rate at time t as the dependent variable while the others have the EE rate at time t. All variables are seasonally adjusted and HP-filtered. The standard errors are clustered at the country level. *p<0.1; **p<0.05; ***p<0.01

C Evidence on the Extent of Wage Indexation

Explicit measures of what fraction of wage contracts are indexed to inflation are unavailable for the U.S. economy. The measures that are based on the actual contract terms are restricted to collective agreements in the U.S., which varies in coverage over the years and does not apply to a random sample of the workers. Measures based on changes in the nominal wages are imperfect due to several other factors affecting the wage process. However, even the most conservative estimates imply a very low level of wage indexation (less than 25%) in developed countries. Here, we discuss the implications of prior

[38]See Table 14 in Appendix E for results with only state and only quarter fixed effects.

research on the extent of wage indexation.

C.1 Evidence Based on Contract Terms

The main papers on the prevalence of 'cost-of-living adjustment' (COLA) terms in contracts are Card (1990) for Canada and Ragan Jr and Bratsberg (2000) for the U.S. Card (1990) looks at the universe of manufacturing union contracts (with more than 500 employees) signed between 1968 and 1983. He finds that 26% of them have an 'escalation clause' on average while the explicit indexation is very rare. The fraction with 'escalation clause' peaks at 65% in a period where the inflation is over 10%. Ragan Jr and Bratsberg (2000) use the U.S. Bureau of Labor Statistics data on collective bargaining settlements to see the prevalence of COLA provisions. They document that even though 61% of the settlements had COLA provisions back in 1976, it has fallen all the way to 22% in 1996 when the data is no longer available. The COLA provisions are known to be much less prevalent among non-union workers. With the decline in unionization, collective agreements cover a smaller fraction of the labor force in either country today. We consider these measures as an upper bound on the extent of wage indexation. Druant et al. (2012) utilize a firm-level survey conducted in 17 European countries regarding wage adjustment practices. Across 15,000 firms from all industries, they document that only 11.5 % of the firms employ any formal indexation clause in employment contracts while only 10.9% have any informal inflation considerations in wage setting[39]. More importantly, the survey also asks about the frequency of wage adjustments. This gives us a back-of-the-envelope mapping between the degree of indexation and the frequency of wage adjustments. Wage adjustments happen either yearly or more frequently for 74.4% of the firms. Thus, even when firms adjust wages frequently, this does not imply an implicit wage indexation.

[39]There is still large variation across countries. In Belgium, 98.2% of the firms have automatic wage indexation while in Italy, only 5.8% of the firms have any form of wage indexation.

C.2 Evidence Based on Wage Movements

McLaughlin (1994), using PSID data, finds that the effect of unanticipated inflation on nominal wage growth is consistent with 42% indexation between 1970 and 1986. Hofmann et al. (2012), using a DSGE model, infers the extent of wage indexation in the economy from the time variation in U.S. wage dynamics. They estimate the degree of wage indexation to be 0.17 in 2000, compared to 0.91 in 1974, which is roughly in line with the time path of COLA coverage in collective bargaining agreements[40]. More recently, Grigsby et al. (2021), using data from a payroll processing company in the U.S., found that approximately 36% of job stayers experience no nominal wage changes in a one-year period. Once contrasted with the evidence in Druant et al. (2012), the implied wage indexation should be less than 11.5%.

C.3 Evidence Based on Wage Increase Expectations

Consistent with the lack of wage indexation, workers do not expect their wage income to catch up with price inflation. Using the U.S. and Canadian survey data, respectively, Hajdini et al. (2023) and Jain et al. (2022) report low levels of pass-through (ranging from 0.1 to 0.2) from price inflation expectations to expectations of their own wage growth.

D Solution Method

We use Value Function Iteration with 20 grid points for the distribution of z, 5 points for the distribution of y, 200 points for the grid for V, and 600 points for the grid for w. We define $\tilde{K}(V, y, z) = K(h(V, y), y, z)$ for convenience and start with an initial guess

[40] A major implication from the paper is that wage indexation is a response to increasing monetary policy uncertainty. Thus, the level of indexation should be endogenous to run counter-factual exercises that change monetary policy. Since we focus on one-time shocks, we abstract from endogenous indexation.

$\tilde{K}^0(V, y, z)$. The algorithm works sequentially. At step i, we compute

1. $J^i(V, y)$ given $\tilde{K}^{i-1}(V, y, z)$
2. $\underline{z}^i(V, y)$ and $\theta^i(V, y)$ given $J^i(V, y)$
3. $U^i(y)$, $e^i(V, y)$, $R^i(V, y)$, and $m^i(V, y)$ given $\underline{z}^i(V, y)$ and $\theta^i(V, y)$
4. $H^i(w, y)$ given $e^i(V, y)$, $R^i(V, y)$, $m^i(V, y)$, $\underline{z}^i(V, y)$, $\theta^i(V, y)$, and $U^i(y)$
5. $K^i(w, y, z)$ given $e^i(V, y)$, $m^i(V, y)$, $\underline{z}^i(V, y)$, and $\theta^i(V, y)$
6. $h^i(V, y)$ given $H^i(w, y)$
7. $\tilde{K}^i(V, y, z)$ given $K^i(w, y, z)$ and $h^i(V, y)$

We stop when $d_{max}(\tilde{K}^i(V, y, z), \tilde{K}^{i-1}(V, y, z)) < \epsilon$ where d_{max} gives the maximum distance between the two vectors.

E Additional Figures and Tables

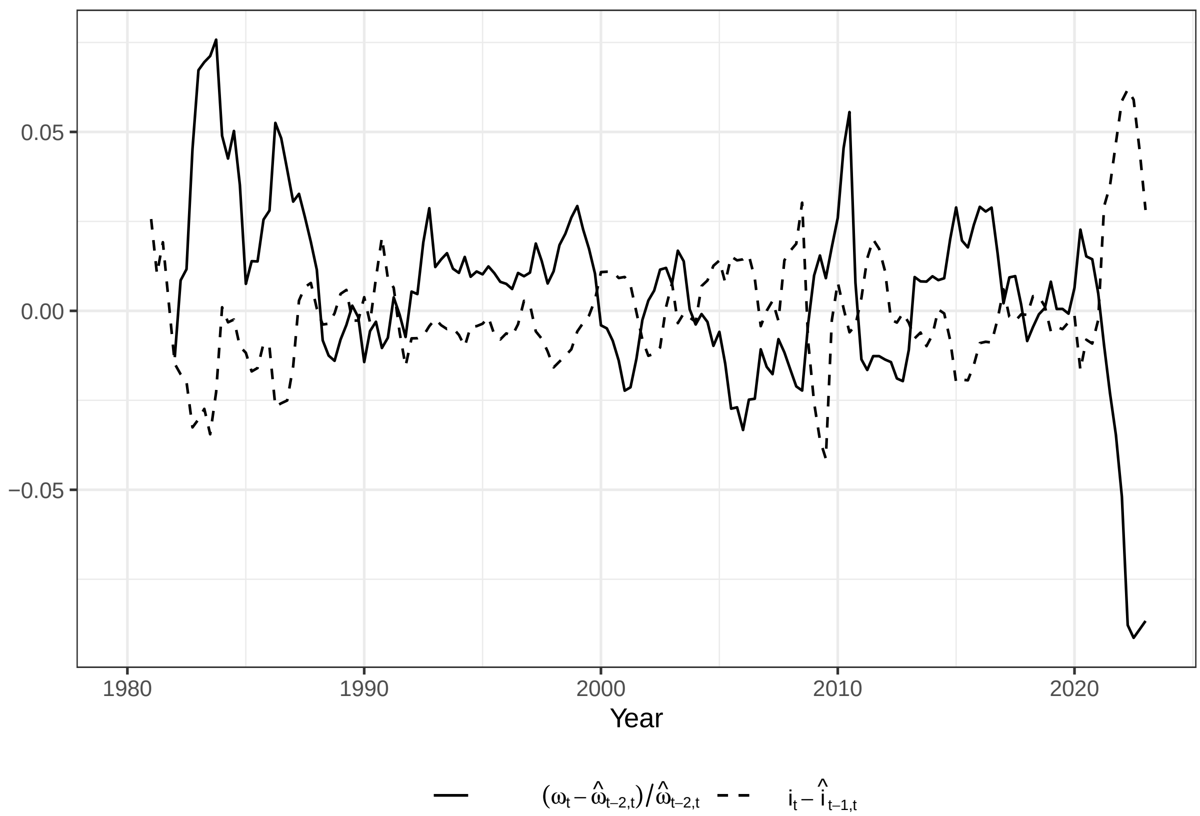

Figure 6: The Discrepancy Between the SPF Forecast and Realized Inflation The dashed red line represents the difference between the realized inflation (i_t) and the 1-year ahead SPF forecast ($\hat{i}_{t-1,t}$) in percentage points. The solid line represents the cumulative real wage loss (as a fraction of the intended wage ($\hat{w}_{t-2,t}$)) for a worker who signed his contract two years ago according to the SPF forecasts.

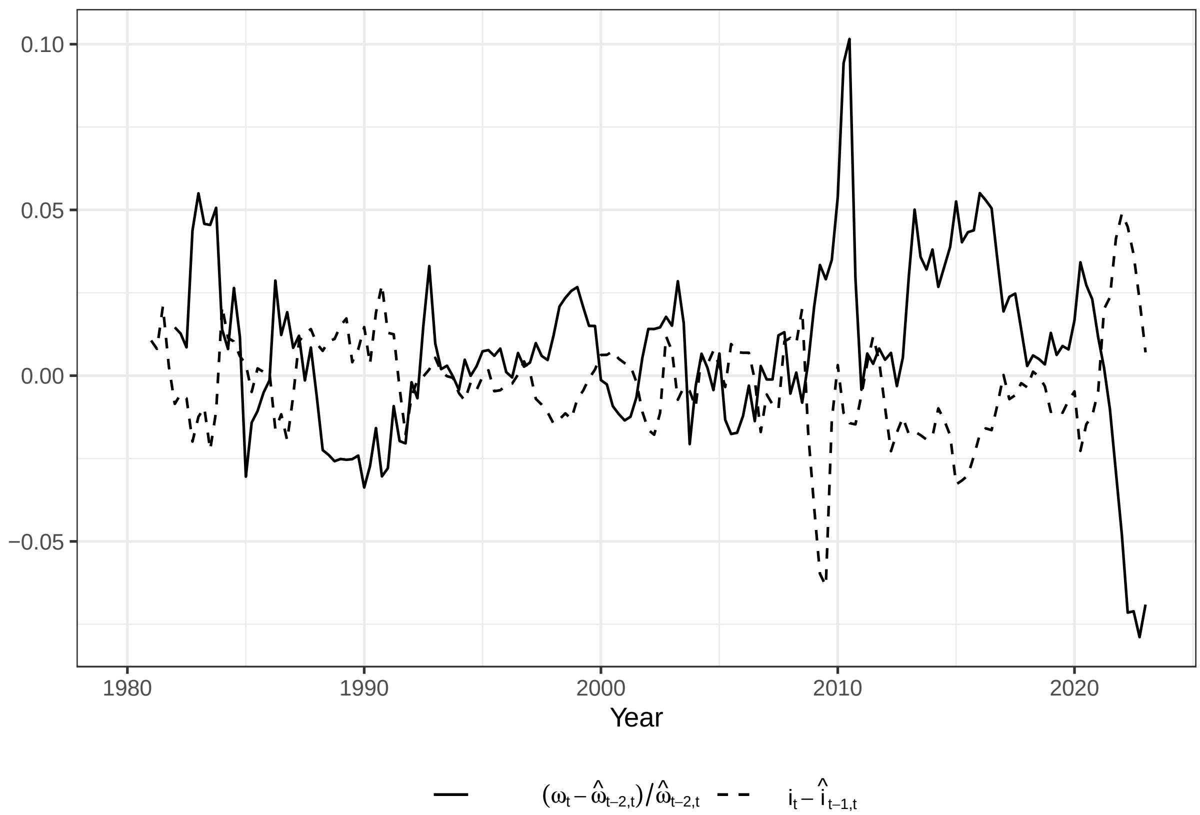

Figure 7: The Discrepancy Between the MCS Forecast and Realized Inflation The dashed red line represents the difference between the realized inflation (i_t) and the 1-year ahead forecasts by the Michigan Survey of Consumers ($\hat{i}_{t-1,t}$) in percentage points. The solid line represents the cumulative real wage loss (as a fraction of the intended wage ($\hat{w}_{t-2,t}$)) for a worker who signed his contract two years ago according to the Michigan forecasts.

Table 10: VARX(2) Estimates

	J2J Rate	CPI Infl	J2J Rate	SPF Infl Surprise	J2J Rate	SPF 1-yr Ahead Infl
	(1)	(2)	(3)	(4)	(5)	(6)
$Infl_{t-1}$	0.03***	0.91***	0.03***	0.91***	0.19***	0.97***
	(0.01)	(0.04)	(0.01)	(0.04)	(0.04)	(0.02)
$Infl_{t-12}$	−0.00	−0.15***	0.00	−0.13***	−0.07	−0.05**
	(0.01)	(0.05)	(0.01)	(0.05)	(0.04)	(0.03)
$J2J_{t-1}$	0.21**	−0.09	0.21**	−0.10	0.18**	−0.01
	(0.09)	(0.16)	(0.09)	(0.17)	(0.09)	(0.03)
$J2J_{t-12}$	−0.00	−0.10	−0.00	−0.14	−0.03	−0.02
	(0.06)	(0.16)	(0.06)	(0.17)	(0.06)	(0.04)
UE_{t-1}	0.00	0.02*	0.00	0.01	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)
UE_{t-12}	0.01**	0.01	0.01**	0.00	0.01**	−0.00
	(0.00)	(0.01)	(0.00)	(0.01)	(0.00)	(0.00)
Observations	319	318	319	319	319	319
Adjusted R^2	0.18	0.88	0.18	0.88	0.21	0.93

Notes: The measure use for $Infl$ is CPI year-to-year inflation in columns (1) and (2), inflation surprise from SPF forecasts in columns (3) and (4), and SPF inflation forecasts in column (5) and (6). The columns (1), (3), and (5) have the job-to-job transition rate at time t as the dependent variable while the others have the inflation measures at time t. All variables are seasonally adjusted and HP-filtered. *p<0.1; **p<0.05; ***p<0.01

Table 11: VAR(2) Estimates with Dummies for the COVID Period

	J2J Rate	CPI Infl	J2J Rate	SPF Infl Surprise	J2J Rate	SPF 1-yr Ahead Infl
	(1)	(2)	(3)	(4)	(5)	(6)
$Infl_{t-1}$	0.02***	0.89***	0.02***	0.90***	0.19***	0.97***
	(0.01)	(0.04)	(0.01)	(0.04)	(0.04)	(0.02)
$Infl_{t-12}$	0.00	−0.12*	0.01	−0.11*	−0.01	−0.03
	(0.01)	(0.06)	(0.01)	(0.06)	(0.04)	(0.02)
$Covid$	−0.00	−0.00**	−0.00	−0.00*	−0.00	−0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
$J2J_{t-1}$	0.23***	−0.08	0.23***	−0.13	0.18***	−0.03
	(0.06)	(0.17)	(0.06)	(0.18)	(0.06)	(0.04)
$J2J_{t-12}$	0.09	0.05	0.10*	0.01	0.05	−0.03
	(0.06)	(0.15)	(0.06)	(0.16)	(0.06)	(0.03)
$Infl_{t-1}xCovid$	0.02	0.07	0.02	0.08	−0.05	−0.03
	(0.02)	(0.07)	(0.02)	(0.07)	(0.07)	(0.04)
$Infl_{t-12}xCovid$	−0.02	−0.13*	−0.02	−0.12*	−0.10	−0.19***
	(0.01)	(0.08)	(0.01)	(0.07)	(0.09)	(0.06)
$J2J_{t-1}xCovid$	0.11	0.25	0.12	0.31	0.21	0.14
	(0.18)	(0.62)	(0.18)	(0.65)	(0.18)	(0.09)
$J2J_{t-12}xCovid$	−0.04	0.07	−0.04	−0.03	−0.03	0.15*
	(0.14)	(0.38)	(0.13)	(0.41)	(0.16)	(0.09)
Observations	319	318	319	319	319	319
Adjusted R^2	0.16	0.88	0.16	0.89	0.19	0.93

Notes: We designate the COVID period as 2020 March onward. The measure use for $Infl$ is CPI year-to-year inflation in columns (1) and (2), inflation surprise from SPF forecasts in columns (3) and (4), and SPF inflation forecasts in column (5) and (6). The columns (1), (3), and (5) have the job-to-job transition rate at time t as the dependent variable while the others have the inflation measures at time t. All variables are seasonally adjusted and HP-filtered. *p<0.1; **p<0.05; ***p<0.01

Table 12: VAR(3) Estimates

	J2J Rate	CPI Infl	J2J Rate	SPF Infl Surprise	J2J Rate	SPF 1-yr Ahead Infl
	(1)	(2)	(3)	(4)	(5)	(6)
$Infl_{t-1}$	0.03***	0.90***	0.03***	0.89***	0.23***	0.97***
	(0.01)	(0.04)	(0.01)	(0.04)	(0.04)	(0.02)
$Infl_{t-12}$	0.00	−0.14***	0.01	−0.13***	−0.02	−0.03
	(0.01)	(0.04)	(0.01)	(0.04)	(0.04)	(0.03)
$Infl_{t-24}$	0.00	−0.06*	0.00	−0.07**	0.03	−0.08**
	(0.01)	(0.03)	(0.01)	(0.03)	(0.04)	(0.03)
$J2J_{t-1}$	0.27***	0.03	0.27***	0.01	0.20***	−0.02
	(0.07)	(0.15)	(0.07)	(0.15)	(0.06)	(0.03)
$J2J_{t-12}$	0.06	0.07	0.07	0.01	0.02	−0.01
	(0.05)	(0.13)	(0.05)	(0.14)	(0.05)	(0.03)
$J2J_{t-24}$	−0.07	−0.09	−0.07	−0.12	−0.08	0.02
	(0.05)	(0.20)	(0.05)	(0.21)	(0.05)	(0.02)
Observations	297	297	297	297	297	297
Adjusted R^2	0.16	0.88	0.16	0.88	0.22	0.93

Notes: The measure use for $Infl$ is CPI year-to-year inflation in columns (1) and (2), inflation surprise from SPF forecasts in columns (3) and (4), and SPF inflation forecasts in column (5) and (6). The columns (1), (3), and (5) have the job-to-job transition rate at time t as the dependent variable while the others have the inflation measures at time t. All variables are seasonally adjusted and HP-filtered. *p<0.1; **p<0.05; ***p<0.01

Table 13: VAR(2) Estimates with Alternative Measures

	J2J Rate	PCE Deflator	J2J Rate	PCE exc. FE	J2J Rate	MSC 1-yr Ahead Infl	J2J Rate	MSC Infl Surprise
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Infl_{t-1}$	0.03***	0.93***	0.08***	0.93***	0.07***	0.78***	0.02***	0.88***
	(0.01)	(0.03)	(0.02)	(0.04)	(0.01)	(0.05)	(0.01)	(0.04)
$Infl_{t-12}$	0.00	−0.13***	−0.00	−0.12***	−0.00	−0.02	0.00	−0.13**
	(0.01)	(0.05)	(0.01)	(0.03)	(0.01)	(0.04)	(0.00)	(0.06)
$J2J_{t-1}$	0.26***	−0.03	0.25***	0.03	0.27***	0.09	0.29***	−0.13
	(0.07)	(0.11)	(0.06)	(0.06)	(0.07)	(0.12)	(0.07)	(0.21)
$J2J_{t-12}$	0.08	−0.00	0.07	0.05	0.07	−0.19	0.08*	−0.04
	(0.05)	(0.09)	(0.05)	(0.06)	(0.05)	(0.16)	(0.05)	(0.17)
Observations	319	319	319	319	319	319	319	319
Adjusted R^2	0.15	0.90	0.17	0.88	0.16	0.62	0.14	0.82

Notes: The measure use for $Infl$ is PCE deflator inflation in columns (1) and (2), PCE deflator inflation excluding food and energy in columns (3) and (4), inflation surprise from MSC forecasts in columns (5) and (6), and MSC inflation forecasts in column (7) and (8). The columns (1), (3), (5), and (7) have the job-to-job transition rate at time t as the dependent variable while the others have the inflation measures at time t. All variables are seasonally adjusted and HP-filtered. *p<0.1; **p<0.05; ***p<0.01

Table 14: Country-Level Estimates with Various Fixed Effects

	WW				EE			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$InflS_t$	0.048***	0.049***	0.019	0.019*	0.063***	0.064***	0.037	0.037
	(0.011)	(0.011)	(0.012)	(0.012)	(0.023)	(0.024)	(0.027)	(0.027)
Country FE	No	Yes	No	Yes	No	Yes	No	Yes
Year FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	361	361	361	361	361	361	361	361

Notes: The measure used for $Infl$ is inflation surprise from OECD forecasts. The columns (1)-(4) have the WW transition rate as the dependent variable while the others have the EE transition rate. All variables are seasonally adjusted and HP-filtered. The standard errors are clustered in the country level. *p<0.1; **p<0.05; ***p<0.01

Table 15: State-Level Estimates with Various Fixed Effects

	$J2J_t$				$Infl_t$			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Infl_{t-1}$	0.068***	0.014**	0.068***	0.014**				
	(0.007)	(0.006)	(0.007)	(0.006)				
$J2J_{t-1}$					0.644***	0.401*	0.644***	0.406*
					(0.067)	(0.223)	(0.067)	(0.225)
Quarter FE	No	Yes	No	Yes	No	Yes	No	Yes
State FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	2,162	2,162	2,162	2,162	2,129	2,129	2,129	2,129

Notes: The measure used for $Infl$ is inflation surprise from SPF forecasts. The columns (1)-(4) have the job-to-job transition rate at time t as the dependent variable while the others have the inflation measures at time t. All variables are seasonally adjusted and HP-filtered. The standard errors are clustered in the state level. *p<0.1; **p<0.05; ***p<0.01

Table 16: State-Level Estimates with Alternative Inflation Measures

	pi	pi	pit	pit	$pint$	$pint$
	(1)	(2)	(3)	(4)	(5)	(6)
$Infl_{t-1}$	0.014**	0.015**	−0.006	−0.006	0.011**	0.011***
	(0.006)	(0.006)	(0.005)	(0.004)	(0.004)	(0.004)
NE_{t-1}		0.135***		0.134***		0.134***
		(0.038)		(0.038)		(0.038)
u_{t-1}		−0.067**		−0.067**		−0.068**
		(0.031)		(0.032)		(0.031)
Controls	No	Yes	No	Yes	No	Yes
State-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,162	2,162	2,162	2,162	2,162	2,162

Notes: The measure used for $Infl$ is inflation surprise from SPF forecasts. The columns (1)-(2) use aggregate inflation, (3)-(4) use inflation for tradables, and (5)-(6) use inflation for non-tradables. The columns (1)-(4) have the job-to-job transition rate at time t as the dependent variable, while the others have the inflation measures at time t. All variables are seasonally adjusted and HP-filtered. *p<0.1; **p<0.05; ***p<0.01

Table 17: Summary Statistics on Monetary Policy and Oil Price Shocks

Variable	Mean	SD	Min	Median	Max
BC	0.031	0.716	-2.931	0.000	3.260
GK	-0.013	0.052	-0.345	-0.002	0.112
BLM	-0.001	0.064	-0.537	0.000	0.367
NS	0.000	0.036	-0.243	0.000	0.099
NSFFR	-0.009	0.056	-0.413	0.000	0.125
RR	-0.004	0.143	-0.588	0.000	0.437
SZ	-0.131	1.111	-4.813	0.118	1.974
Oil Surprise	-0.002	1.378	-9.901	0.000	7.906

Notes: Each row represents the source used for the monetary policy and oil price shocks. The values are before the HP filtering. See Table 2 for the time coverage of each variable.

Table 18: IV Estimates, No Controls

	BC	GK	BLM	NS	NSFFR	RR	SZ	BS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Infl_t$	0.064***	0.050***	0.040***	0.058***	0.035*	0.070***	0.091***	0.040***
	(0.019)	(0.014)	(0.012)	(0.015)	(0.018)	(0.021)	(0.024)	(0.014)
$Infl_{t-1}$	0.048**	0.041**	0.040***	0.048***	0.033**	0.048**	0.040	0.044***
	(0.022)	(0.016)	(0.012)	(0.014)	(0.015)	(0.020)	(0.025)	(0.014)
Constant	0.000	0.000	0.000	−0.000	−0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Range	’95-’08	’95-’12	’95-’18	’95-’14	’95-’14	’95-’08	’95-’03	’95-’18
Obs.	131	179	245	200	200	125	68	245
Adj. R^2	0.178	0.130	0.052	0.082	0.100	0.181	0.162	0.042

Notes: Each column represents the source used for the monetary policy shock. The instruments are 1 to 24-month lags of monetary policy and oil supply shocks. See Appendix A for the data sources and details of how each variable is constructed. *p<0.1; **p<0.05; ***p<0.01

Table 19: IV Estimates with only MPS Shocks

	BC	GK	BLM	NS	NSFFR	RR	SZ	BS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Infl_t$	0.101***	0.065***	0.074***	0.098***	0.083***	0.107***	0.069*	0.084***
	(0.030)	(0.018)	(0.015)	(0.019)	(0.021)	(0.030)	(0.036)	(0.018)
$Infl_{t-1}$	0.092**	0.090*	0.022	−0.000	−0.033	−0.000	−0.021	0.006
	(0.039)	(0.046)	(0.019)	(0.034)	(0.045)	(0.034)	(0.076)	(0.024)
u_{t-1}	−0.003	0.021	−0.011	−0.058*	−0.073*	−0.078*	−0.088	−0.016
	(0.040)	(0.037)	(0.019)	(0.031)	(0.038)	(0.040)	(0.097)	(0.015)
UE_{t-1}	−0.001	0.006	0.012**	0.000	0.002	−0.003	0.006	0.011***
	(0.008)	(0.008)	(0.006)	(0.007)	(0.007)	(0.009)	(0.011)	(0.004)
Constant	0.000	0.000	0.000	−0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Range	’95-’08	’95-’12	’95-’20	’95-’14	’95-’14	’95-’08	’95-’03	’95-’23
Observations	131	179	278	200	200	125	68	307
Adjusted R^2	0.093	−0.113	0.126	−0.015	−0.028	0.147	0.147	0.046

Notes: Each column represents the source used for the monetary policy shock. The controls are the unemployment rate and the unemployment-to-employment transition rate. The instruments are 1 to 24-month lags of monetary policy shocks. See Appendix A for the data sources and details of how each variable is constructed. *p<0.1; **p<0.05; ***p<0.01

Table 20: Summary Statistics Search Effort and Outcomes

Variable	N	Mean	SD	Min	Median	Max
SearchedM	14990	0.23	0.42	0.00	0.00	1.00
HoursSearchedW	3477	3.62	4.83	0.00	2.00	30.00
NMethodsTried	3481	2.77	2.62	0.00	2.00	13.00
EmpApplied1M	4241	0.69	2.18	0.00	0.00	15.00
EmpHeardFrom1M	4242	0.64	1.61	0.00	0.00	10.00
NInterviews1M	3578	0.09	0.34	0.00	0.00	2.00
NOffersReceived1M	4239	0.14	0.49	0.00	0.00	3.00
NOffersReceived4M	9669	0.34	0.86	0.00	0.00	5.00

Notes: Each row represents a different measure of job search activity. See Appendix A for details on how each measure is constructed.

Table 21: Summary Statistics Search Effort and Outcomes

Variable	N	Mean	SD	Min	Median	Max
inflrate	14966	0.04	0.05	-0.03	0.03	0.20
higherstock	14982	0.42	0.23	0.00	0.49	1.00
higherint	14981	0.33	0.26	0.00	0.30	1.00
higherunemploy	14980	0.37	0.23	0.00	0.39	1.00

Notes: Each row presents expectations of a different economic aggregate. The inflation expectations are continuous, while the rest are binary, indicating whether the economic aggregate is expected to be higher (=1) or lower(=0) than the previous year. See Appendix A for details on how each measure is constructed.

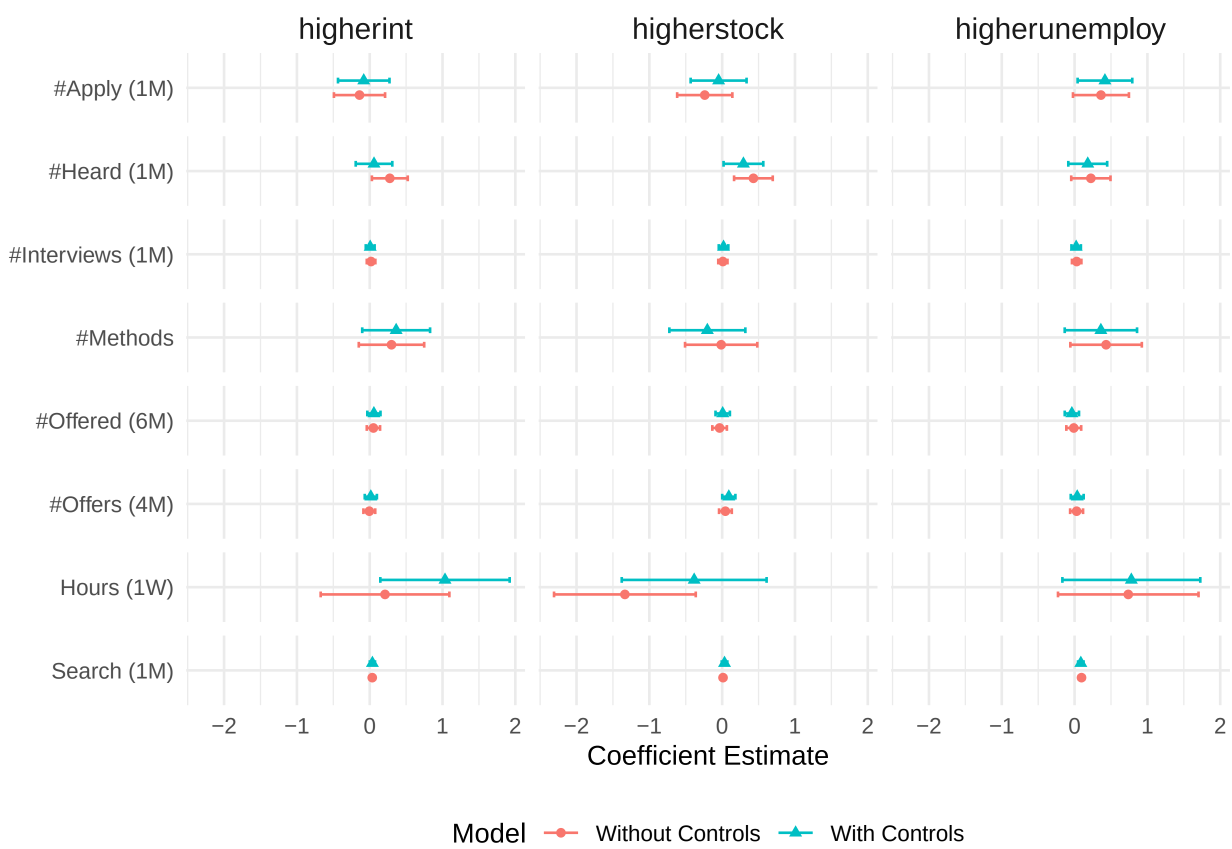

Figure 8: Job Search and Expectations of Other Economic Conditions Notes: Each column of plots represents expectations of a different economic aggregate. Each expectation is binary, indicating whether the economic aggregate is expected to be higher (=1) or lower(=0) than the previous year. The independent variables are represented by rows and include job search activities and outcomes. The bars indicate 99% confidence intervals. All regressions have survey date fixed effects. The additional controls are natural logarithms of age, tenure, and annual earnings, dummies for sex and marital status, five dummies for race, four dummies for education, and fixed effects for state, job start-year, and two-digit industries. The standard errors are clustered at the individual level. See Appendix A for the data sources and details of how each variable is constructed.

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