

Job Search Intensity over the Business Cycle

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Motivation

During recessions, millions of people lose their jobs and those who were already unemployed find it more difficult to get a job.

Some of them may get discouraged and spend less time looking for work. Others may not afford being unemployed for a long spell and would allocate more time to the job search.

How does the unemployed in the U.S. allocate time to the job search over the business cycle? And why?

Why should we care? Consider a slow economic recovery in retrospect:

One view: it is the result of people not searching for work hard enough (supply side).

Alternative view: it has occurred despite people making higher efforts to find a job. The culprit is the lack of jobs (demand side).

Policies aiming at helping the unemployed differ across views.

Two take-aways

1. The unemployed in the U.S. appear to allocate time to job search activities regardless of the state of the economy. They increase their search intensity only slightly if at all during recessions.

Why could that be?

$$\underbrace{\text{current marginal costs of searching}}_{\text{non-procyclical based on the evidence}} = \underbrace{\text{marginal increase in the job finding probability}}_{\text{procyclical in the data}} \times \underbrace{\text{expected value of a job}}_{\text{procyclical if wages and UI benefits are given a key role}}$$

Need an argument to counterbalance the discouragement effect (driven by the drop in the job finding probability during recessions. See Fig. 3).

Hypothesis:

The unemployed will search more intensely during recessions because they foresee a decline in consumption and dislike these fluctuations.

2. The unemployed will need to be highly risk averse over consumption fluctuations. Much more than what it is assumed in the typical economic models.

Description of the data

I construct annual representative estimates on time-use in job search activities by using data from the American Time Use Survey (ATUS), 2003-2014. See Fig. 1.

Sample is people unemployed and looking for work, aged 25 and over

Alternatively, I construct quarterly representative estimates on the number of job search methods by using data from the Current Population Survey (CPS), 1994-2014. See Fig. 2.

I construct event-studies of unemployment to assess the fall in family food consumption due to unemployment shocks. I use data from the Panel Study of Income Dynamics (PSID), 2003-2013.

Non-procyclical search intensity

This figure shows the average time in hours per week the unemployed allocate to the job search during the period 2003-2014. Confidence intervals are shown in red.

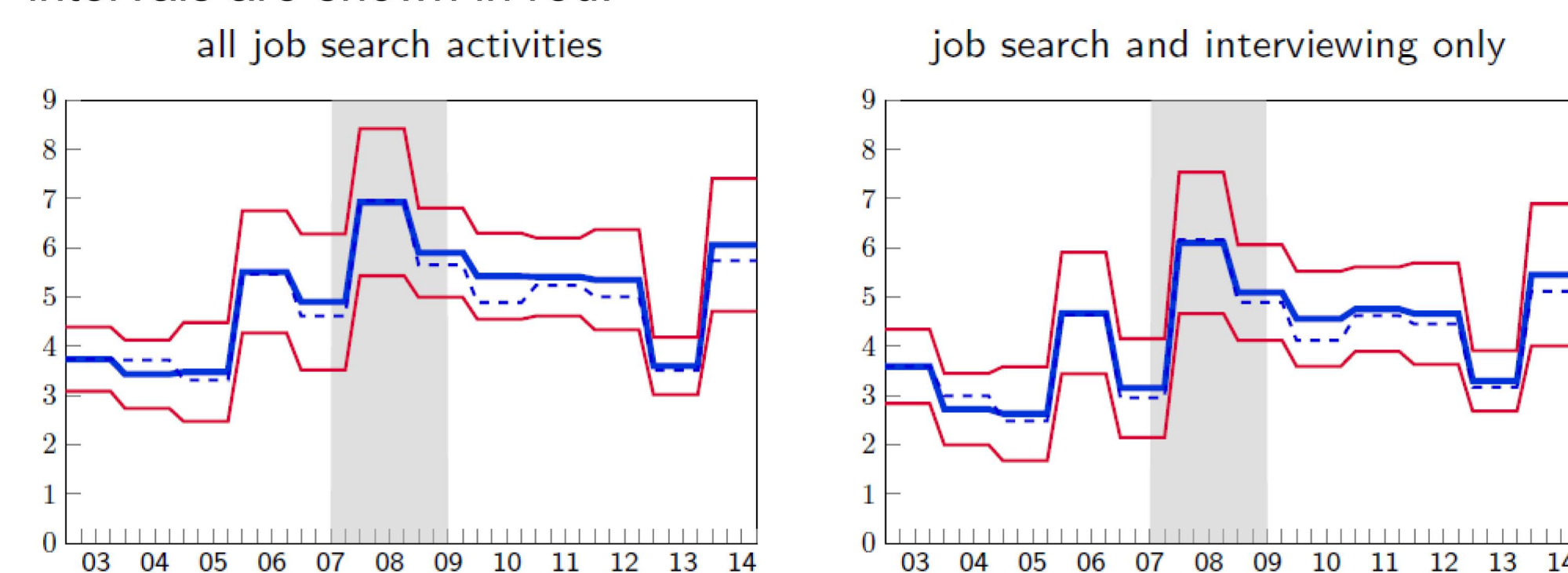


Figure 1: Time-use in job search activities in the U.S.

This figure shows the cyclical components of U.S. GDP (red) and the average number of search methods (blue) over the periods 1976-1993 and 1994-2014

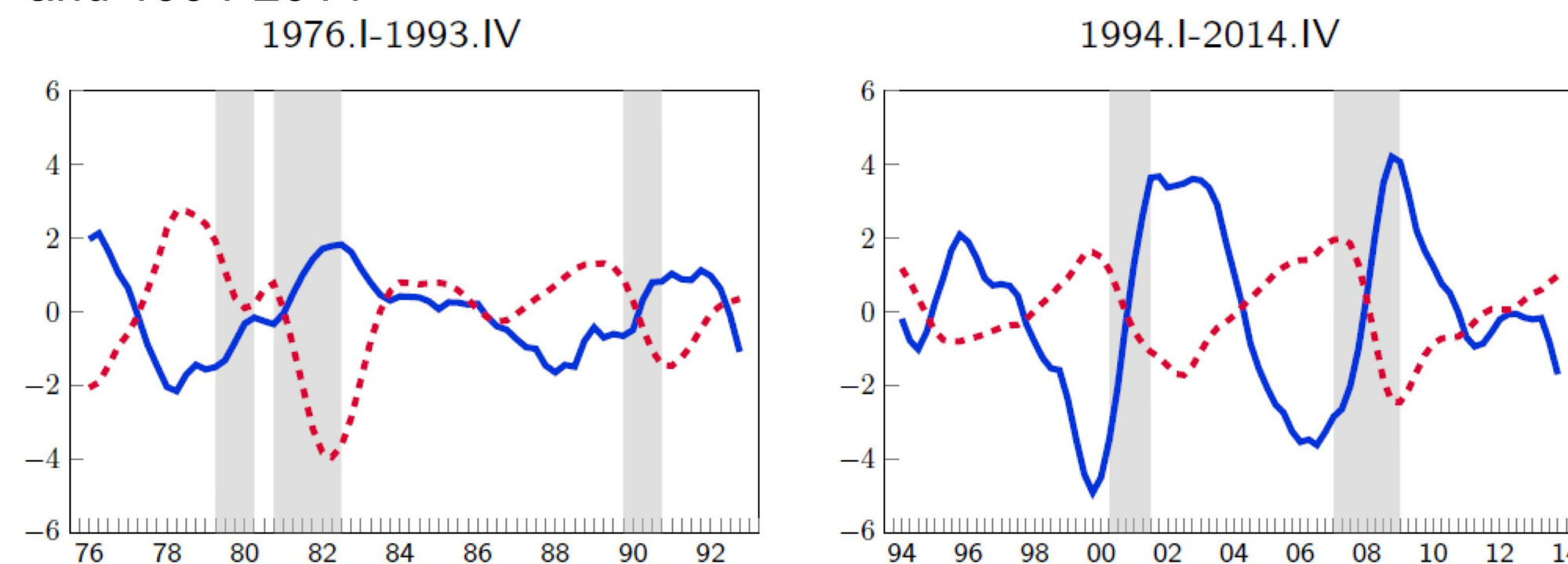


Figure 2: Cyclical components of the average number of search methods

Against all odds ...

What could make the unemployed spend more time looking for work even when it is against the odds?

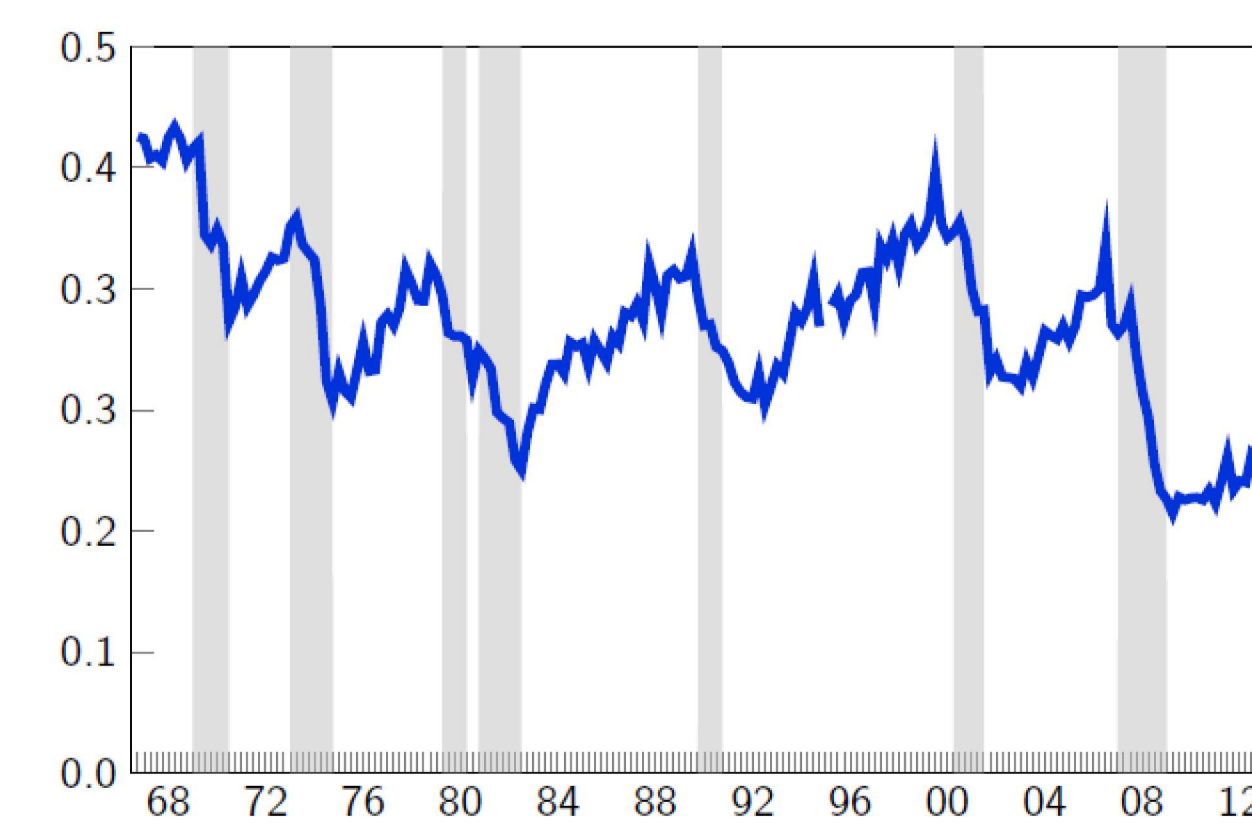


Figure 3: Job finding probability in the U.S.

Testing the hypothesis (1)

I develop a model in the spirit of Merz (1995) and Andolfatto (1996).

Business cycles: the economy is hit by **shocks** to the tightness of the labor market.

Search intensity: workers choose time allocated to job search activities (**effort**)

I test the hypothesis by means of the following proposition.

Proposition:

Search intensity is not procyclical if

$$\underbrace{\frac{f_{s\theta}}{f_s f_\theta}}_{\text{complementarity between search effort } s \text{ and shocks } \theta = 3.23} \leq \underbrace{\frac{u \int_{\Theta} B_{uu}(u', \theta') Q(\theta, d\theta')}{\int_{\Theta} B_u(u', \theta') Q(\theta, d\theta')}}_{\sigma_u: \text{risk aversion over } u}$$

Risk aversion over unemployment fluctuations could be naturally linked to the risk aversion over consumption:

$$\frac{\sigma_u}{\sigma_c} = - \underbrace{\varepsilon_{c,u}}_{\text{elasticity of } c \text{ w.r.t. } u} \underbrace{\left(\frac{y^u(\theta) - y^n(\theta)}{B_u(u, \theta)/U_c(c^*)} \right)}_{\text{relative size of the foregone wage net of UI to the total costs of unemployment } \in (0.51, 1.77)}$$

Testing the hypothesis (2)

To make the test operational three inputs are needed:

1. How important the foregone wage is in the total cost of unemployment. If the opportunity costs of employment and searching are ignored, this fraction will be 1. When acknowledging the role of these costs, this fraction is around

$$\frac{y^u - y^n}{B_u/U_c} \in (0.51, 1.77)$$

2. The complementarity is measured at 3.23 using data from Fig. 3.
3. The elasticity of consumption to unemployment shocks. I construct event-studies of unemployment using data from PSID. The annual percentage increase in the unemployment rate in the period 2007-2010 is 0.34%. Food consumption drops by 4.5% during the year of unemployment in the period 2003-2013

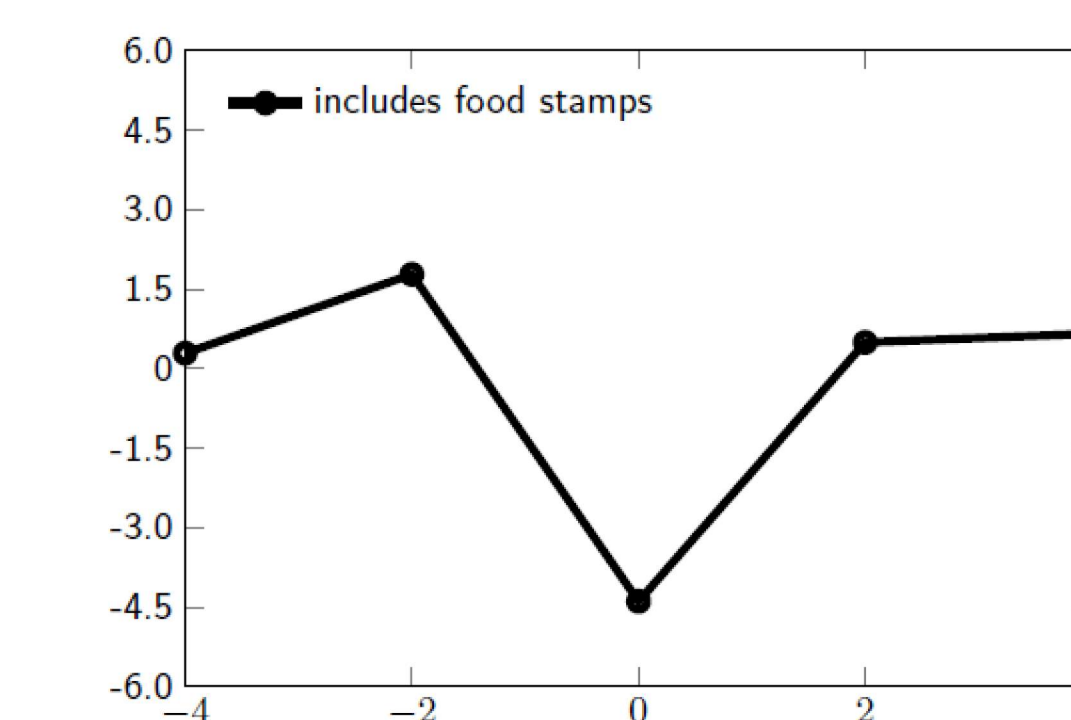


Figure 4: Percentage drop in food consumption at the year of unemployment (t=0)

Conclusion: The unemployed will need to be risk averse in a degree that at least 14 times the conventional number used in the business cycle literature.

Acknowledgements

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