2021-05-19

Contents

1 **5**

2 **7**

3 **9**

3.1 9

3.2 9

4 **11**

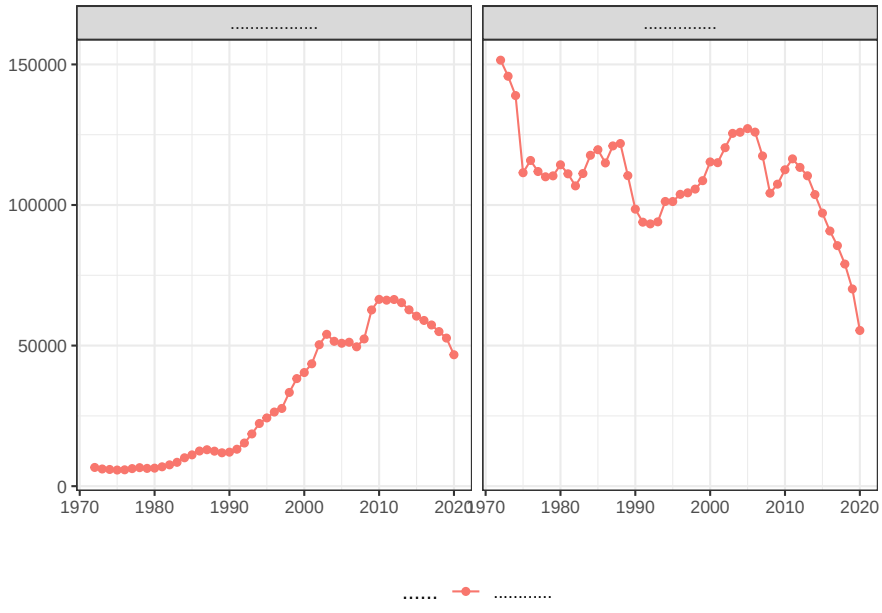
4.1 11

4.2 Aggregate mismatch 12

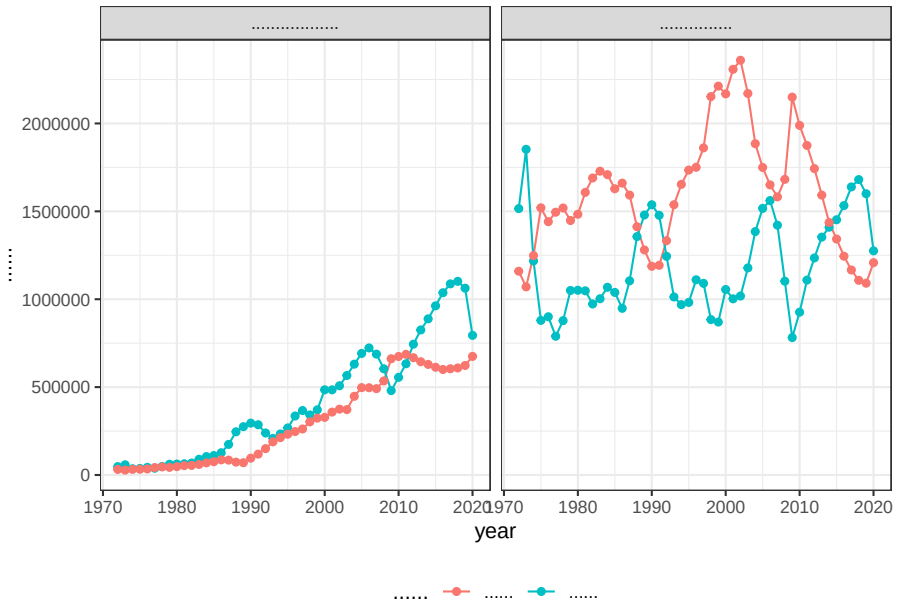
Chapter 1

Chapter 2

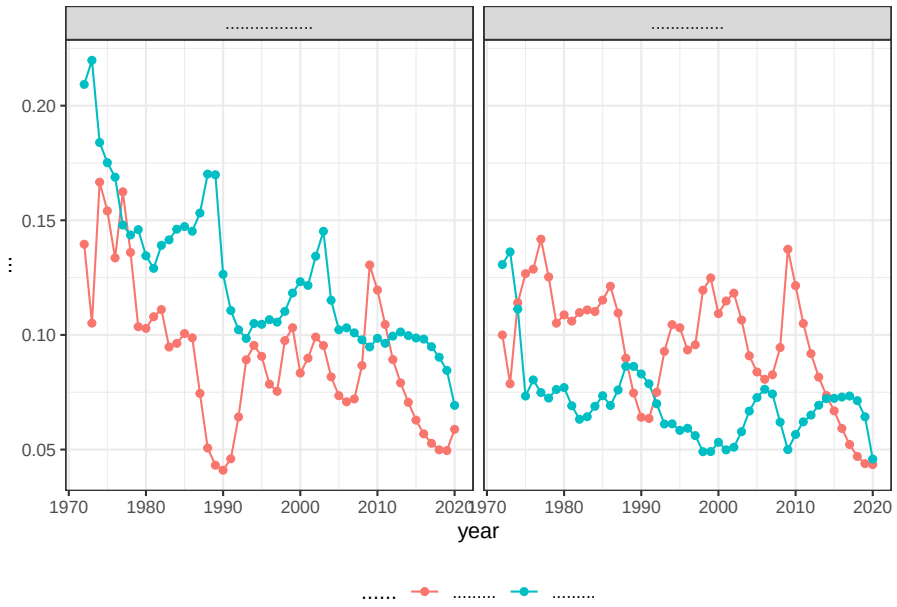
- 1963 2020
-



-


.....
.....
2000000
1500000
1000000
500000
0
1970
1980
1990
2000
2010
2020
year
.....
.....
.....

•


.....
.....
0.20
0.15
0.10
0.05
1970
1980
1990
2000
2010
2020
year
.....
.....
.....

Chapter 3

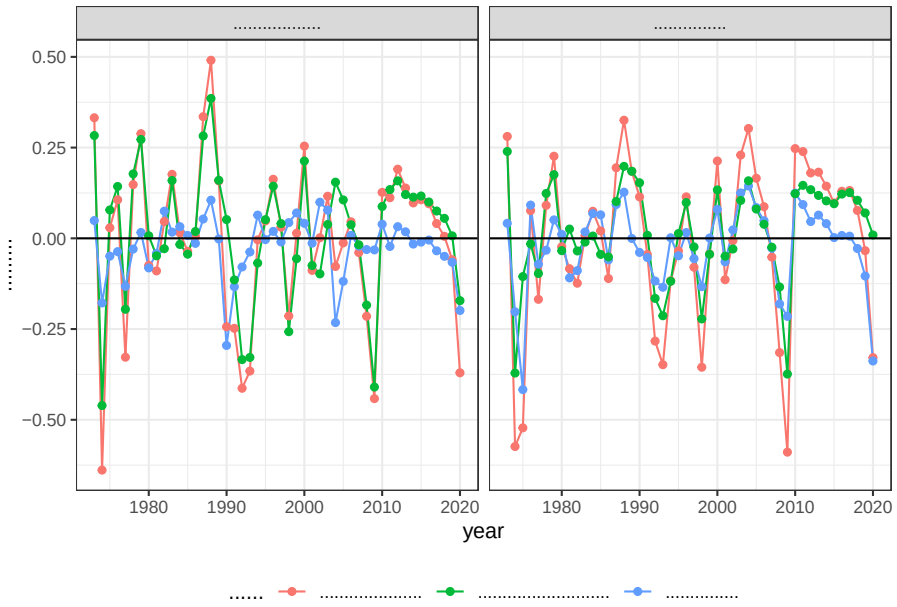
3.1

- Kawata and Sato (2021)

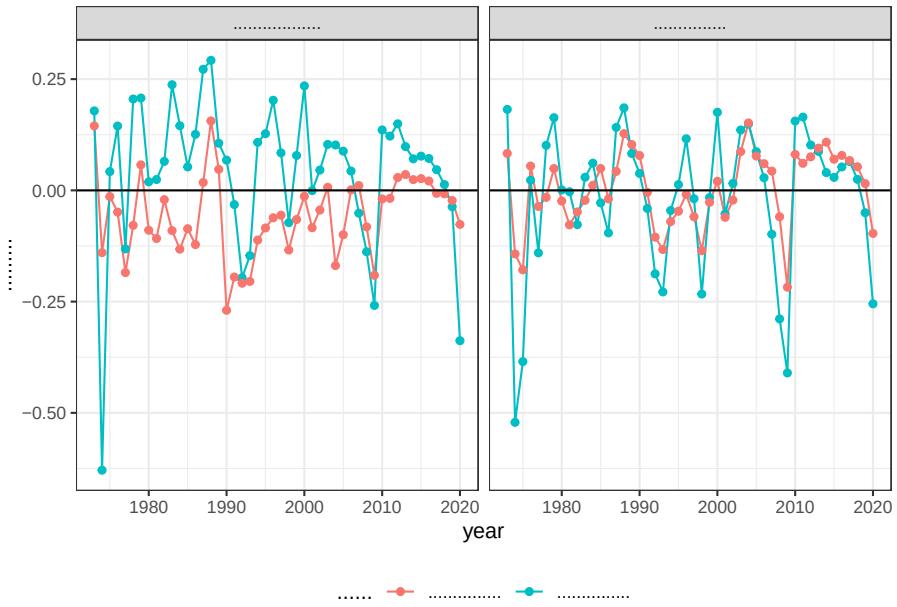
3.2

- 1963　2020

-


0.50
0.25
0.00
−0.25
−0.50
1980
1990
2000
2010
2020
year

•


0.25
0.00
−0.25
−0.50
1980
1990
2000
2010
2020
year

Chapter 4

4.1

- Apply the mismatch index proposed by Şahin et al. (2014).
- The mismatch index, M_t, is defined as

$$M_t = \frac{h_t^* - h_t}{h_t},$$

where h_t and h_t^* are actual and counter-factual numbers of new employment, respectively.

- The counter-factual numbers is a solution of planner problem. The planner problem is to maximize the number of new employment, given the making function $\mu_{jt}(u_{jt}, v_{jt})$, the number of vacancy v_{jt}, and the total number of job seeker u_t.
- Formally,

$$h_t^* = \max_{u_{jt}} \sum_j h_{jt},$$

subject to

$$h_{jt} = \mu_{jt}(u_{jt}, v_{jt}), \quad (matching\ function)$$

and

$$\sum_j u_{jt} = u_t. \quad (Resource\ constrint)$$

- The estimation process is follows

1. Suppose a parametric specification on the matching function as $\mu_{jt}(u_{jt}, v_{jt}) = A_{jt} u_{jt}^{1-\beta} v_{jt}^{\beta}$, where $A_{jt} = exp(f_t, f_j, \epsilon_{jt})$, f_t and f_j are time and sector fixed-effects, respectively. The parametric assumption obtains the closed solution of the planner problem;

$$h_t^* = \max_{u_{jt}} \sum_j exp(f_t, f_j, \epsilon_{jt}) \times v_{jt}^{\beta} \times (u_{jt}^*)^{1-\beta},$$

where

$$u_{jt}^* = \frac{A_{jt}^{1/\beta} v_{jt}}{\sum_{j'} A_{j't}^{1/\beta} v_{j't}} u_t. \quad (optimal\ allocation)$$

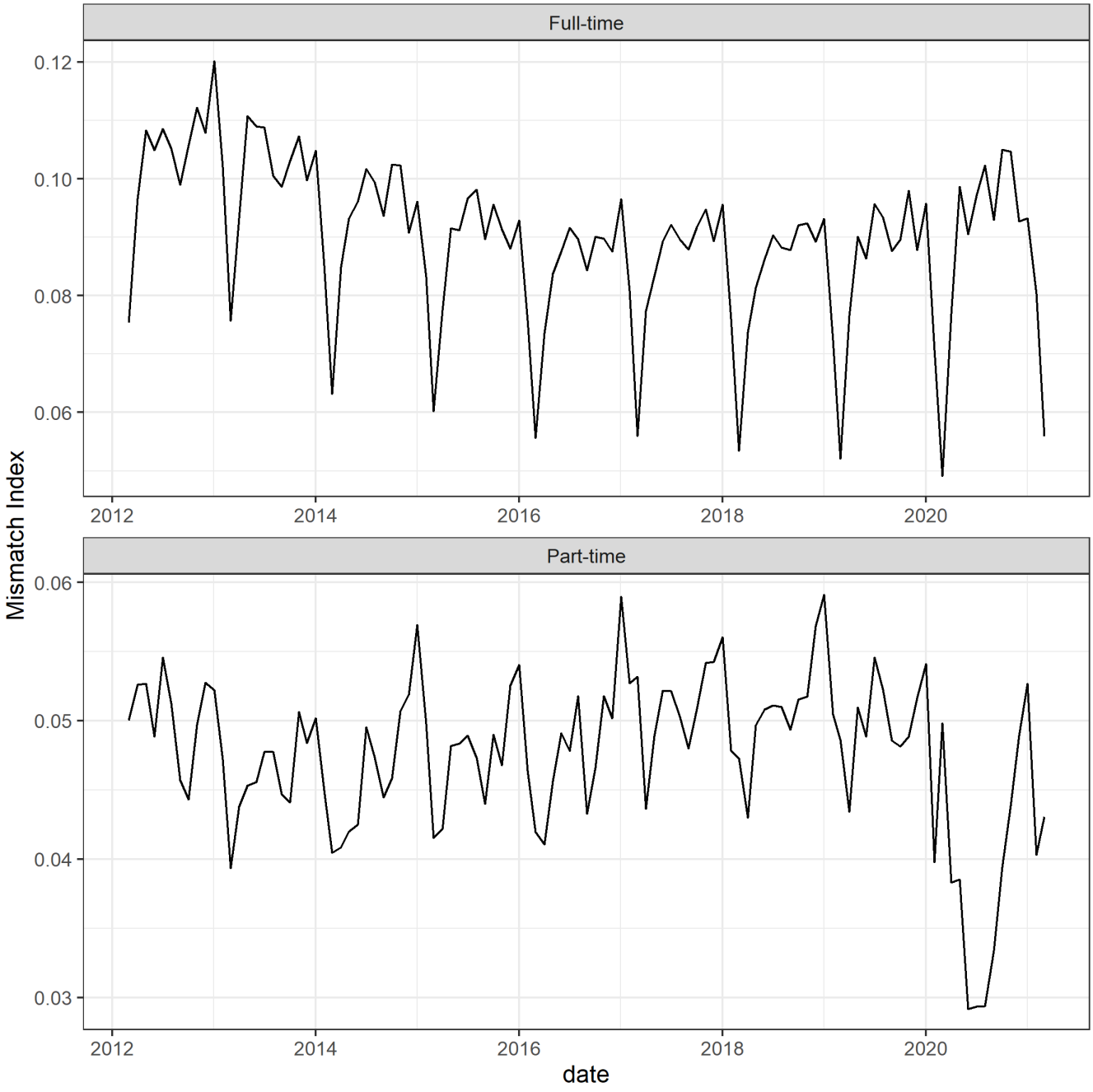
2. Estimate the log-transfer matching function

$$\log(h_{jt}/u_{jt}) = f_j + f_t + \beta \times \log(v_{jt}/u_{jt}) + \epsilon_{jt}.$$

3. Calculate the mismatch index with estimated parameters in Step 2.

4.2 Aggregate mismatch

- Occupational mismatch by March, 2021.


Full-time
Part-time
Mismatch Index
0.12
0.10
0.08
0.06
0.05
0.04
0.03
2012
2014
2016
2018
2020
date

Bibliography

Kawata, K. and Sato, Y. (2021). A first aid kit to assess welfare impacts. Technical report, CIRGE.

Şahin, A., Song, J., Topa, G., and Violante, G. L. (2014). Mismatch unemployment. *American Economic Review*, 104(11):3529–64.