One Labor Market, Two Currencies: Evidence from the French-Swiss Border Region

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1. Motivation

Unified binational labor market
- 2002–2007 gradual abolition of all restrictions on labor mobility between France and Switzerland
- French are free to move to Switzerland or live in France and work in Switzerland **as cross-border workers (CBW)**
- As of 2016:
  – 172,065 French CBW in Switzerland (3.5% of labor force)
  – 95,930 French CBW in canton Geneva (29.2% of labor force)

Substantial wage differences
- Average monthly wage in France in 2014: 2,775 EUR
- Average monthly wage in Switzerland in 2014: 6,011 EUR

Two currencies
Wage differential fluctuates due to exchange rate swings:
- 2002–2007: −17%
- 2008–2015: +59%

2. Research question

- UI benefits of unemployed CBW are much higher than those of unemployed who have worked in France **(Tab.1)**
- Changes in the exchange rate cause exogenous changes in the level of UI benefits of CBW
- **How does the level of UI benefits affect unemployment duration of French CBW?**

|	Unemployed who have worked	
	as CBW in Switzerland	in a French border region
Daily wage in reference period (EUR/d)	125.25	56.67
UI benefits (EUR/d)	71.42	33.81
Unemployment duration on benefits (d)	12.7	9.3
N	131,699	6,781,044

Table 1: Comparison of unemployed who have worked as CBW in Switzerland and unemployed who have worked in France
This table compares unemployed who have worked as cross-border workers in Switzerland and unemployed who have worked in a French region bordering Switzerland previous to unemployment. It includes all unemployed who lost their job between 2002q1 and 2017q2. *Source: Own calculations, FNA, Unédic.*

3. Institutional background

UI benefits for French CBW who lose their job in Switzerland:
- Benefits in France according to French regulations
- Level of benefits based on earnings during last 12m of employment in Switzerland and – if any – in France
- Conversion of Swiss earnings to Euro at the beginning of the unemployment spell according to the following rules **(Fig.1)**:
  – Until 2014/03/31: Quarterly exchange rate set by the EU.
  – Since 2014/04/01: Daily exchange rate published by the European Central Bank (ECB).
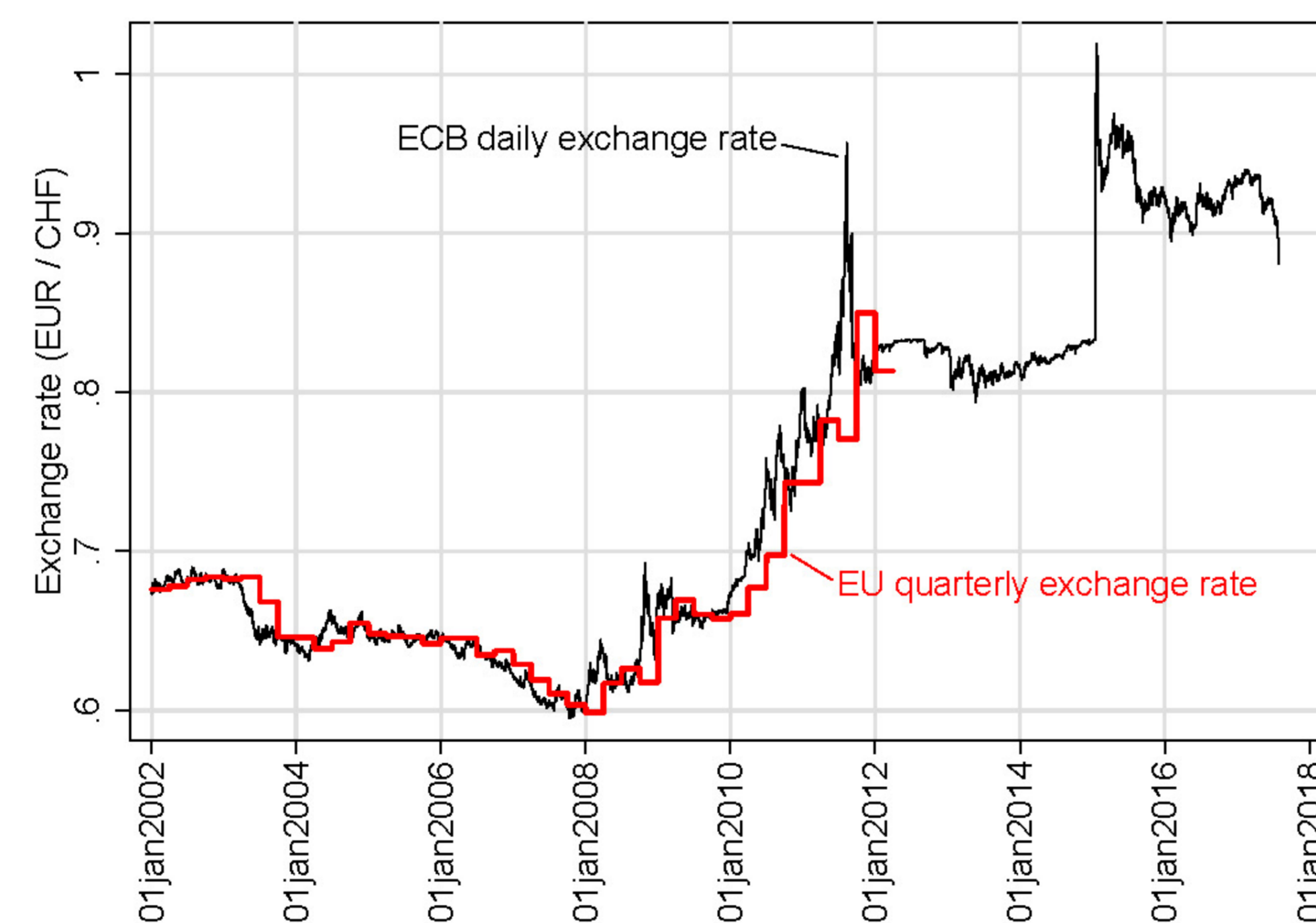
**Figure 1: Exchange rates used to convert wages of CBW**
Exchange rate used to convert the Swiss salaries of former CBW to EUR. Until 2014/03/31 the relevant exchange rate is set quarterly by the EU (red line); since 2014/04/01 the daily exchange rate published by the ECB is applicable (black line). *Sources: Unédic Circulaires; ECB.*

3. Empirical Strategy

- We estimate the effect of the level of UI benefits, *b*, on days on benefits, *d*, of unemployment spell *s* of individual *i*.
- We use the applicable exchange rate as an instrument for *b*.
- We control for individual characteristics, *X*; unemployment rates in Switzerland, u^S, and France, u^F; Swiss exports, y^S; and a set of dummies for applicable UI rules, *R*.

$$d_{is} = \alpha + \beta \log(b_{is}) + \gamma' X_{is} + \delta_1 u^S + \delta_2 u^F + \theta y^S + \rho' R_{is} + \epsilon_{is}$$

5. Exchange rate, UI benefits, and unemployment duration

Panel (a)

Panel (b)
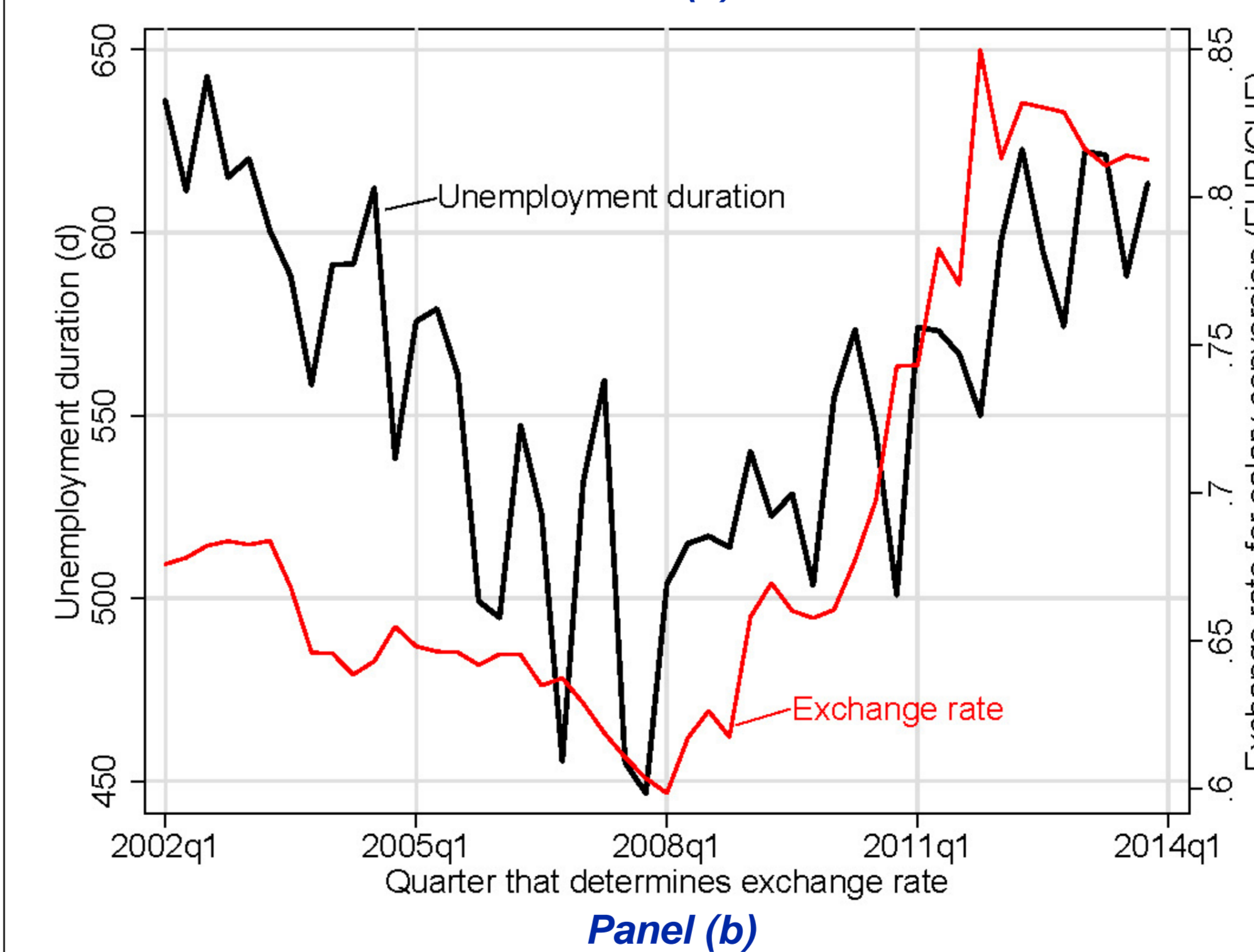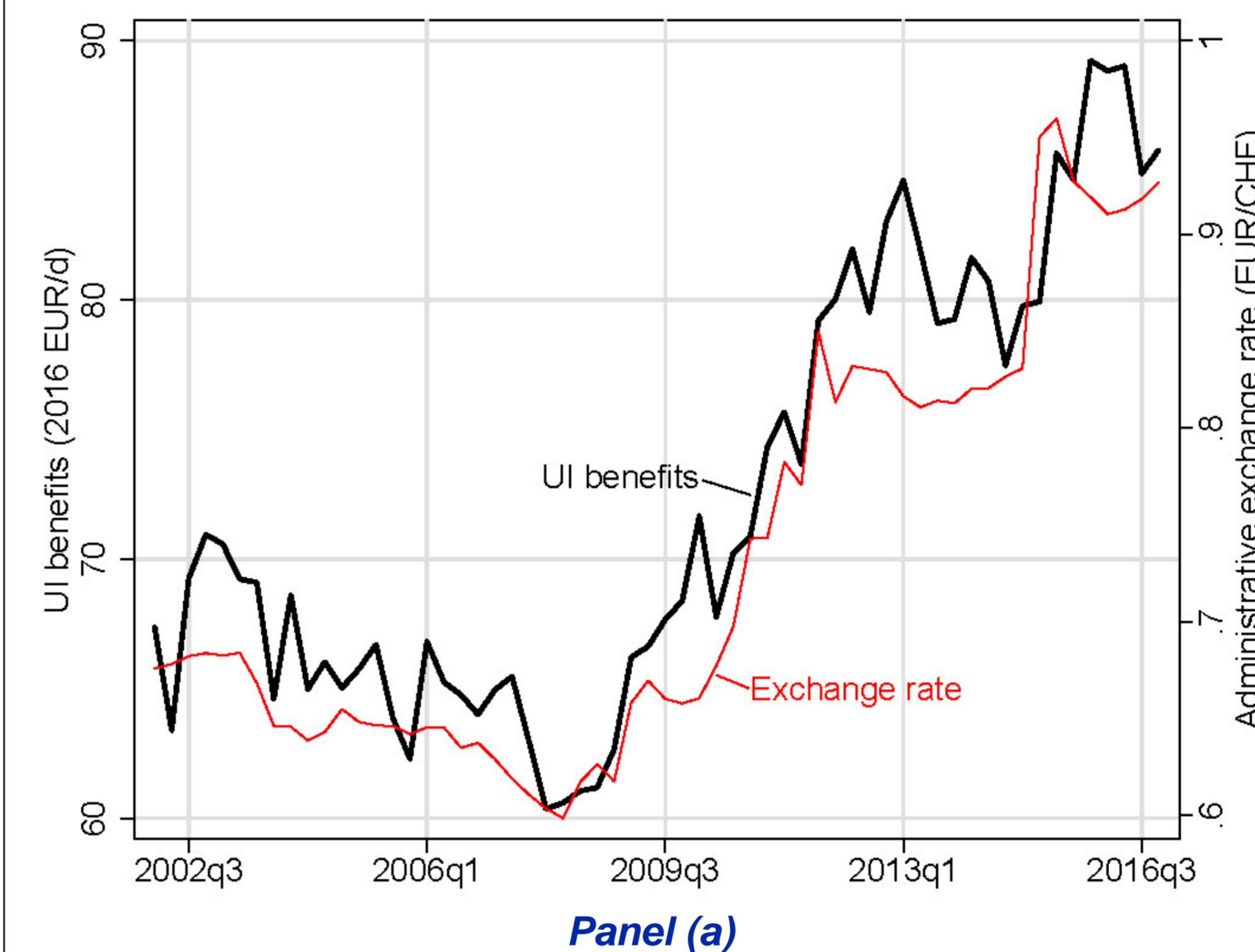
Figure 2: Exchange rate, UI benefits and unemployment duration of CBW who enter unemployment
The red line shows the exchange rate used to convert Swiss salaries to Euro. The black line shows the quarterly average of the unemployment benefits of CBW who enter unemployment in that quarter **(Panel (a))** and their average unemployment duration **(Panel (b))**. *Sources: Own calculations, FNA, Unédic; Unédic Circulaires; ECB.*

Conclusion

- UI benefits of unemployed who have worked as French cross-border workers (CBW) in Switzerland are much higher than those of unemployed who have worked in France and they are highly correlated with the exchange rate.
- The higher unemployment benefits of CBW translate into a longer unemployment duration on benefits. Our preferred estimate implies that benefit duration increases by 4.3 days when the benefit levels increases by 1%.

6. The causal effect of a change in the level of UI benefits

	(1)	(2)
Exchange rate used for salary conversion	1.168	0.999
	(0.015)	(0.034)
Individual characteristics	No	Yes
Unemployment in CHE and FRA	No	Yes
Swiss exports	No	Yes
Dummies for applicable UI rules	No	Yes
Mean of dependent variable	4.167	4.167
N	114,195	114,195

Table 2: First stage regressions
Unemployment spells of CBW beginning 2002–2013. The log of daily UI benefits is regressed on the exchange rate used for the salary conversion and – in Column (2) – a set of controls. Standard errors in brackets.

	(1)	(2)
Log of UI benefits	268.3	430.2
	(15.4)	(44.7)
Individual characteristics	No	Yes
Unemployment in CHE and FRA	No	Yes
Swiss exports	No	Yes
Dummies for applicable UI rules	No	Yes
Mean of dependent variable	560.6	560.6
N	114,195	114,195

Table 3: Second stage regressions
Unemployment spells of CBW beginning 2002–2013. Unemployment duration on benefits (in days) is regressed on the log of daily UI benefits and – in Column (2) – a set of controls. The exchange rate used for salary conversion serves as an instrument for the log of UI benefits. Standard errors in brackets.