

Discussion of “Revisiting the Relationship Between Unemployment and Wages” by Galindo da Fonseca, Gallipoli and Yedid-Levi

Axel Gottfries

University of Cambridge

12th joint ECB/CEPR Labour Market Workshop Wage developments in the aftermath of the crisis

December 2016

Background and motivation

- Empirical evidence suggests that past unemployment rates matter for current wages
 - ▶ interpreted as evidence for history dependent wage setting (nominal wage rigidity etc)
- On-the-job search results in selection up the job ladder
 - ▶ job offer arrival rates are procyclical
- Match quality distribution depends on past labour market conditions
 - ▶ so the distribution of match quality is history dependent!
- Hagedorn and Manovskii (2013) thus argue that the observed history dependence in wages can be due to selection rather than history dependent wage setting
 - ▶ they find that once match quality is controlled for there is no evidence of history dependent wage setting

This paper

Galindo da Fonseca et al. (2016)

- 1 Break down the measure from Hagedorn and Manovskii (2013) into
 - ▶ duration
 - ▶ average labour market tightnessInclude the two measures separately
- 2 Estimate the regressions for different occupational types
 - ▶ find interesting differences between occupations

Paper methodology

Measure of selection

- Hagedorn and Manovskii (2013)
 - ▶ $\ln q_{st}$ sum of labour market tightness
- Galindo da Fonseca et al. (2016)
 - ▶ $\ln \bar{q}_{st}$ average market tightness
 - ▶ $\ln dur(q_{st})$ duration in calendar time
 - ▶ Hagedorn and Manovskii (2013) specification implies restriction $\beta_{\bar{q}} = \beta_{dur(q_{st})}$ as $\ln q_{st} = \ln \bar{q}_{st} + \ln dur(q_{st})$

Paper methodology

Measure of selection

- Hagedorn and Manovskii (2013)
 - ▶ $\ln q_{st}$ sum of labour market tightness
- Galindo da Fonseca et al. (2016)
 - ▶ $\ln \bar{q}_{st}$ average market tightness
 - ▶ $\ln dur(q_{st})$ duration in calendar time
 - ▶ Hagedorn and Manovskii (2013) specification implies restriction $\beta_{\bar{q}} = \beta_{dur(q_{st})}$ as $\ln q_{st} = \ln \bar{q}_{st} + \ln dur(q_{st})$
- Important to measure the match quality correctly
 - ▶ what is the theoretical motivation for this decomposition?

Measuring match quality - (measure of selection)

Selection is proportional to job offer arrival rate (λ_t)

- Cobb-Douglas matching function gives $\lambda_t = \theta_t^\alpha$
- Expected number of offers $\int_s^t \theta_r^\alpha dr = m_{st}$
- If θ remains **fixed** between s and t

Measuring match quality - (measure of selection)

Selection is proportional to job offer arrival rate (λ_t)

- Cobb-Douglas matching function gives $\lambda_t = \theta_t^\alpha$
- Expected number of offers $\int_s^t \theta_r^\alpha dr = m_{st}$
- If θ remains **fixed** between s and t

$$\ln m_{st} = \alpha \ln(\bar{q}_{st}) + \ln(\text{dur}(q_{st}))$$

- **Both** terms provide information about selection
- We expect that the coefficient on $\text{dur}(q_{st})$ to be **larger**
 - ▶ elasticity with respect to time is 1
 - ▶ elasticity with respect to labour market tightness is α

Measuring match quality - (measure of selection)

- If θ varies over the period

$$\ln m_{st} = \alpha \ln(\bar{q}_{st}) + \ln(\text{dur}(q_{st})) + \ln\left(\int_s^t \left(\frac{\theta_r^\alpha}{\text{dur}(q_{st})\bar{q}_{st}^\alpha}\right) dr\right)$$

- The **blue** term captures curvature in the matching function
 - ▶ if variations in labour market tightness are small then the term is small

Minor comment

- If this is the motivation why not include $\ln\left(\int_s^t \theta_r^\alpha dr\right)$ as a separate measure?
 - ▶ the **job finding rate** or **matching function** accounts for the concavity of the matching function and there is no **blue term**

Measuring match quality - (sufficient statistic)

Gottfries and Teulings (2016)

- We derive a sufficient statistic for selection ($m_{eh} + m_{hm}$) Distribution
- The expected number of offers is $m_{eh} + m_{hm} + 1$
 - ▶ 1 should be added for the **initial offer**
- The **distribution** determined the **functional form**
 - ▶ we find evidence that the distribution is Gumbel which corresponds to the logarithm

Minor comment

- Are the results for the different **occupational types** affected by using this **measure**

Performance pay

Variables	PPJ=1	PPJ=0
	(1)	(2)
U	-1.591*** [0.586]	-1.181 [0.799]
u^{min}	-3.290** [1.297]	-0.659 [1.202]

Performance pay

- Creates a link between labour market conditions and the wage
 - ▶ discretionary pay
 - ▶ indexation of pay (stock options, ect)
 - ▶ proxy for unobservables
- These mechanisms do not (necessarily) originate from the need to reward effort
 - ▶ what is the key friction or mechanism you have in mind?
- The results suggest that the first points can not be the full story

Interpreting the results by the type of occupation

Wage rigidity

- Point estimates of the effect of the minimum unemployment rate is
 - ▶ larger for manual than cognitive occupations
 - ▶ larger for routine than non-routine occupations

Interpreting the results by the type of occupation

Wage rigidity

- Point estimates of the effect of the minimum unemployment rate is
 - ▶ larger for manual than cognitive occupations
 - ▶ larger for routine than non-routine occupations
- What is the motivation for looking at different occupations?
 - ▶ differences in the type of wage setting? Performance pay?
 - ▶ differences in human capital accumulation?
 - ★ a constraint that the nominal wages can not be lowered binds less often if the growth rate in human capital is higher
 - ★ seems to be consistent with the results in this paper
 - ▶ does comparing different occupations help us understand the frictions?

Performance pay

- Wages for occupations with performance pay are more sensitive to current conditions
 - ▶ Is there a nominal friction that performance pay can alleviate?
 - ★ Is performance pay is linked to market conditions?
 - ★ Or is it discretionary?
 - ▶ Or are these just different types of jobs?

Interesting and thought-provoking paper!

- GALINDO DA FONSECA, J. A., G. GALLIPOLI, Y. YEDID-LEVI,
ET AL. (2016): “Revisiting the Relationship Between Unemployment
and Wages,” Tech. rep.
- GOTTFRIES, A. AND C. N. TEULINGS (2016): “Returns to on-the-job
search and the dispersion of wages,” .
- HAGEDORN, M. AND I. MANOVSKII (2013): “Job Selection and Wages
over the Business Cycle,” *The American Economic Review*, 103, pp.
771–803.

Measuring match quality - (functional form)

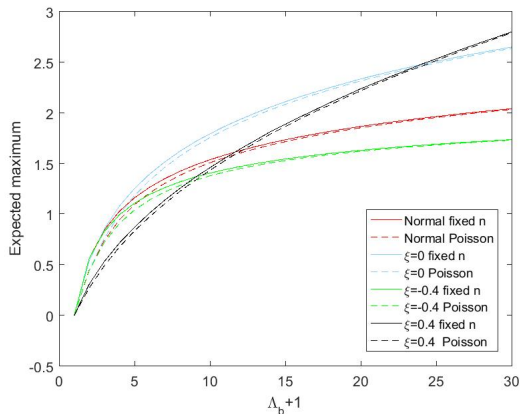


Figure 1 : Expectation of the GEV distribution (Gottfries and Teulings (2016))

Measuring match quality - (sufficient statistic)

$$\begin{aligned}\Pr(F|m_{eh} + m_{hm}) &= ((m_{eh} + m_{hm})F + 1) \exp[-(m_{eh} + m_{hm})(1 - F)] \\ \Pr(F|m_{eh} = 0, m_{hm},) &= \frac{m_{hm} \exp[-m_{hm}(1 - F)]}{1 - \exp[-m_{hm}]} \\ \Pr(F|m_{eh} = 0, m_{hm},) &= \frac{(m_{eh} + m_{hm})F \exp[-(m_{eh} + m_{hm})(1 - F)]}{1 - (m_{eh} + m_{hm})^{-1} (1 - \exp[-(m_{eh} + m_{hm})])}\end{aligned}$$

Return