

Low wage growth and job-to-job transitions: Evidence from administrative data in New Zealand

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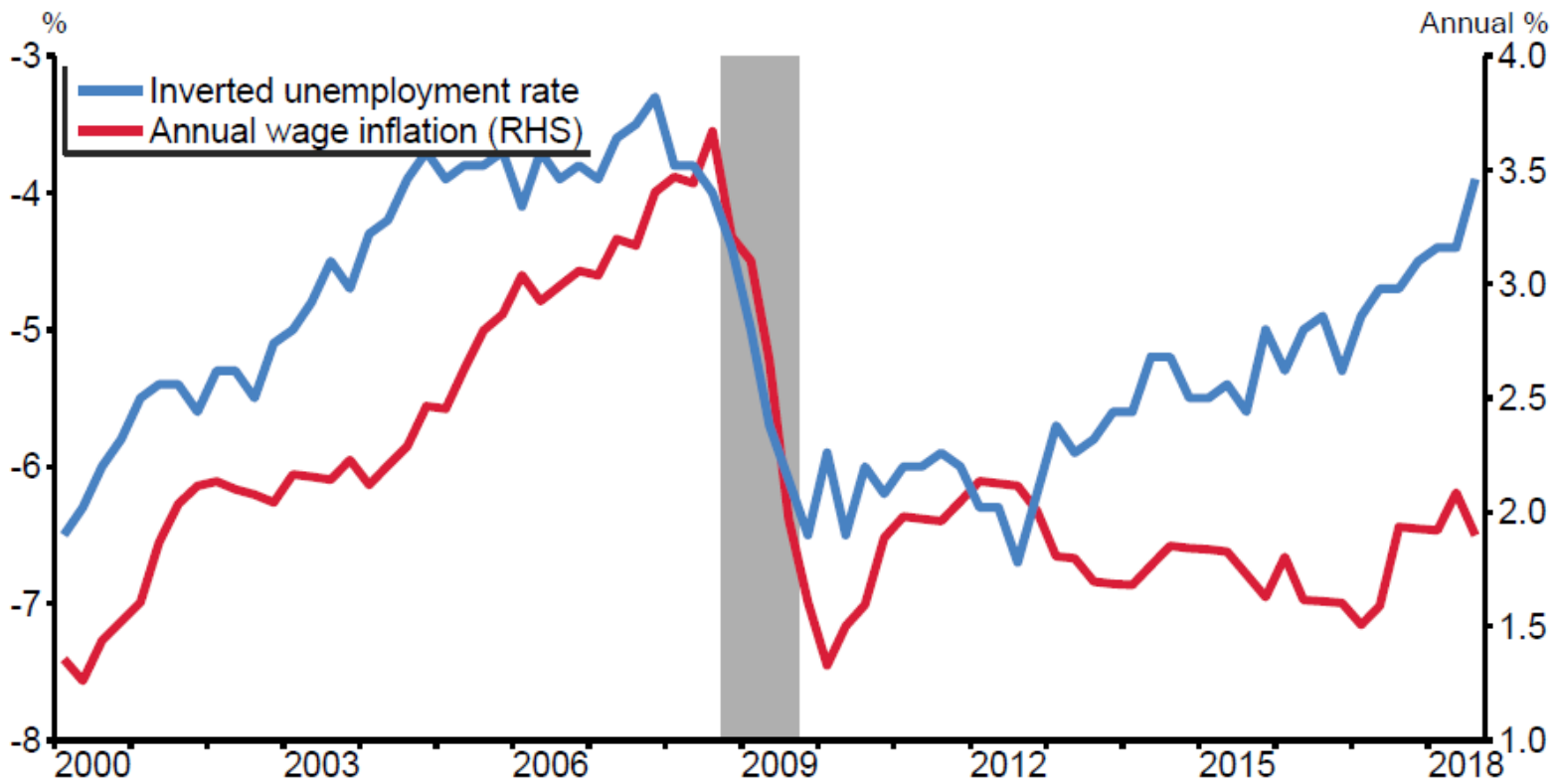
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Motivations

- RBNZ's new Dual Mandate – better understanding of labour markets
- What drives low wage growth post-GFC?



Literature

Faberman and Justiniano (2015)

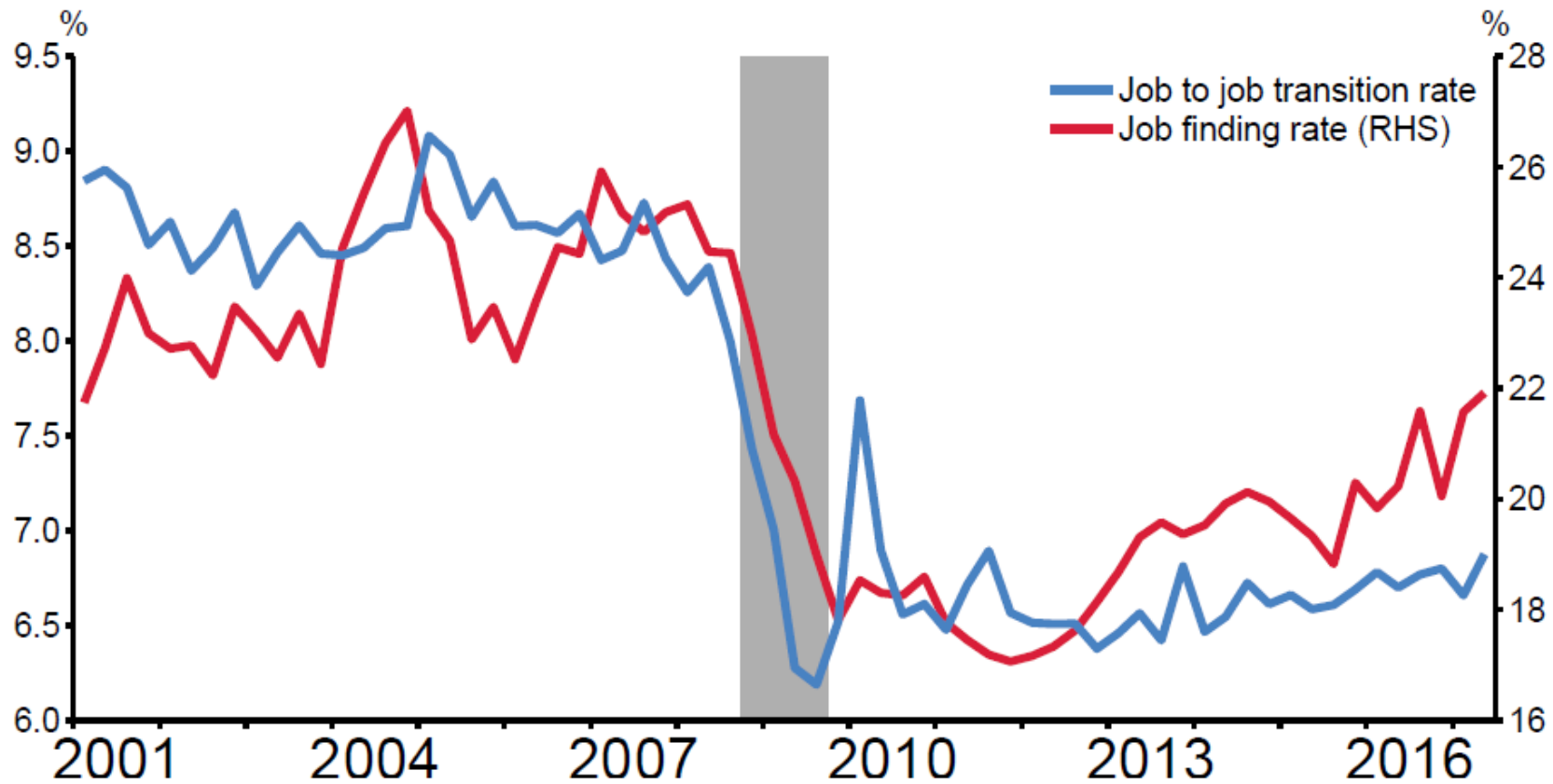
- Worker quit rate as a proxy for job switching rate
- Quit rate strong predictor of nominal wage growth

Moscarini and Postel-Vinay (2016, 2017)

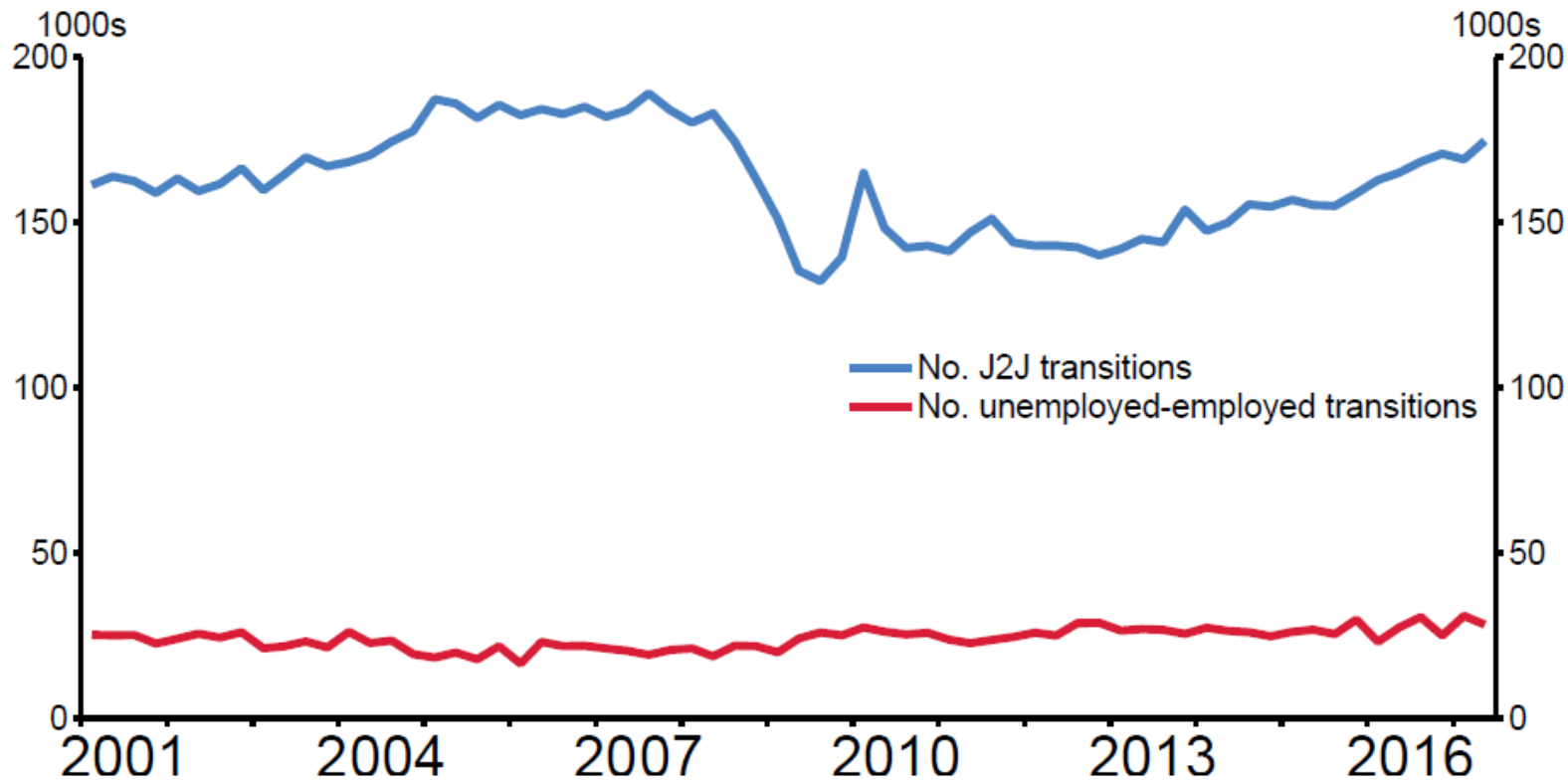
- Burdett-Mortensen wage-posting model
- J2J rate key driver for wage growth
 - Composition effect: job ladder
 - Strategic effect: more outside offers → wage rise

Literature (cont'd)

- Karahan et al (2017, AER)
 - Test predictions of two competing models for wage dynamics
 - Burdett-Mortensen: J2J rate is key driver
 - Diamond-Mortensen-Pissarides: Job-finding rate
 - Conditional on J2J rate, job-finding rate has no explanatory power
- Karagedikli (2018)
 - explores relation between J2J flows and inflation in NZ
 - J2J flows best forecaster of non-tradables inflation



Magnitudes of J2J vs UE flows



J2J flows larger than UE flows

2001-2016 average

EE	JJ (Switchers)	UE	EE-JJ (Stayers)
1451	150	24	1301

Regressions: Karahan et al. (2017)

$$1) \quad \log W_{it} = \alpha_i + \alpha_t + \beta_{it} + \alpha_u \Lambda_{it}^u + \varepsilon_{it}$$

$$2) \quad \log W_{it} = \alpha_i + \alpha_t + \beta_{it} + \alpha_u \Lambda_{it}^u + \alpha_e \Lambda_{it}^e + \varepsilon_{it}$$

W_{it} : earnings in region i in quarter t

α_i : regional fixed effect

α_t : time fixed effect

β_{it} : region-specific time trend

Λ_{it}^u : job finding rate

Λ_{it}^e : job-to-job transition rate

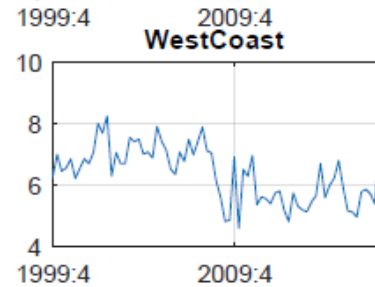
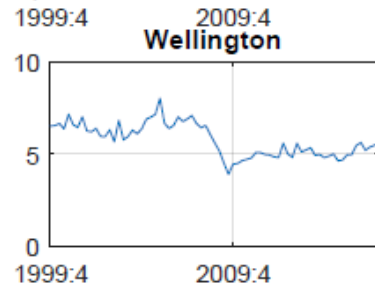
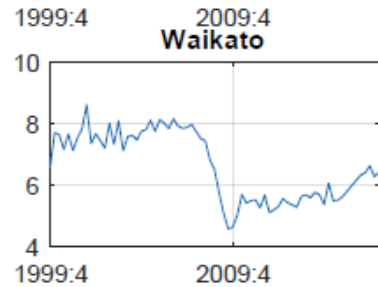
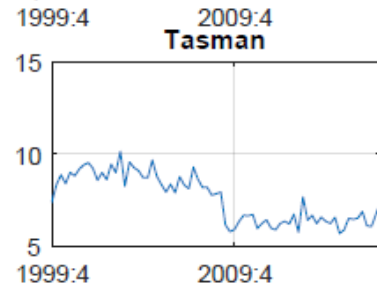
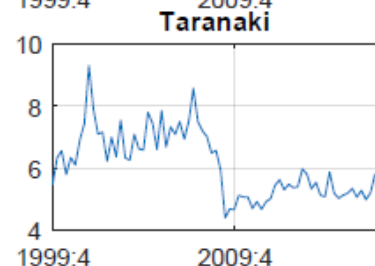
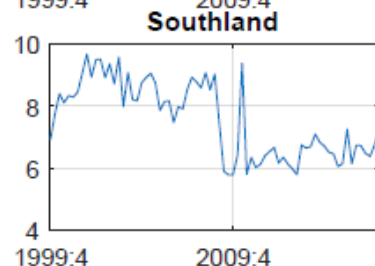
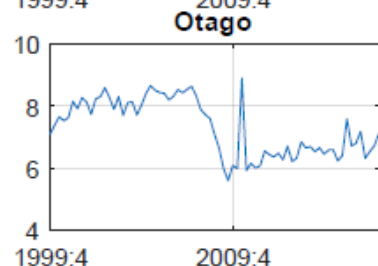
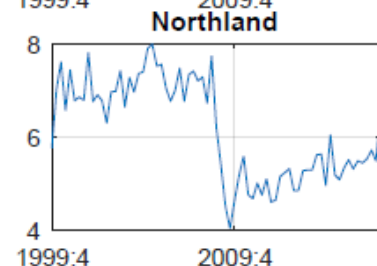
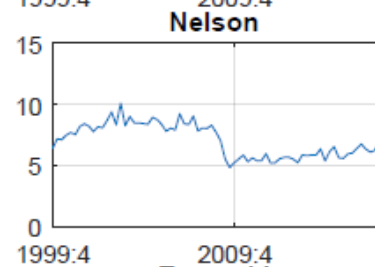
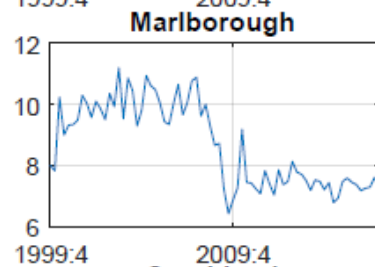
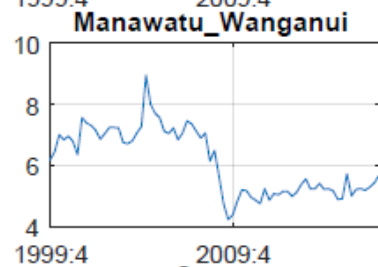
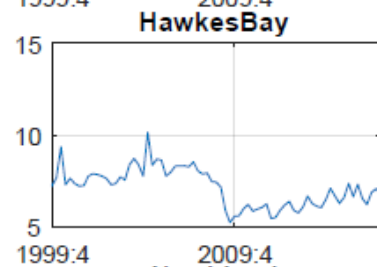
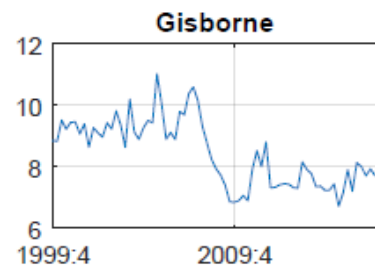
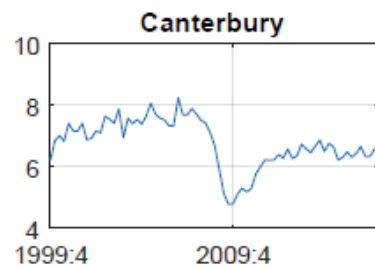
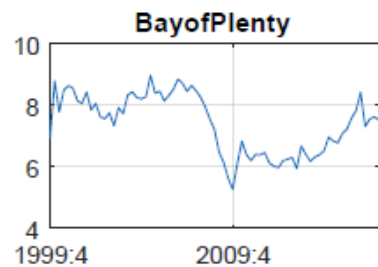
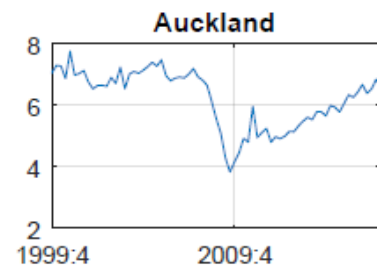
Measurement

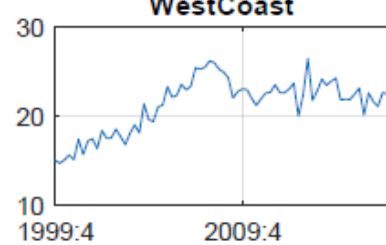
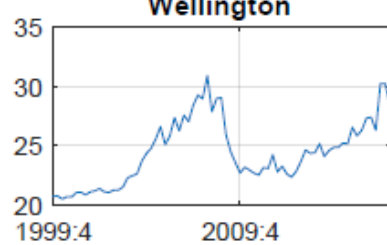
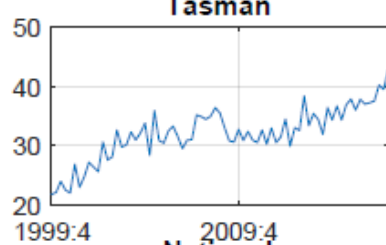
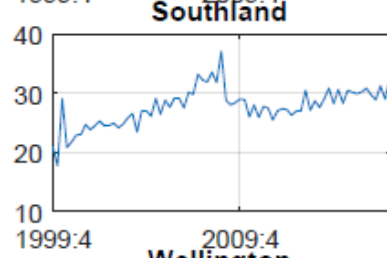
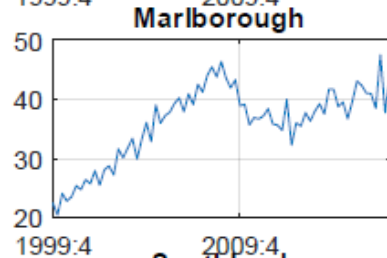
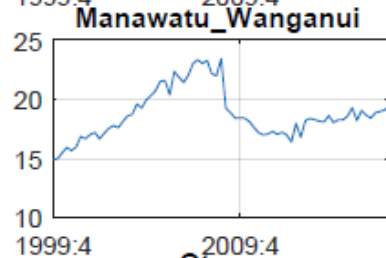
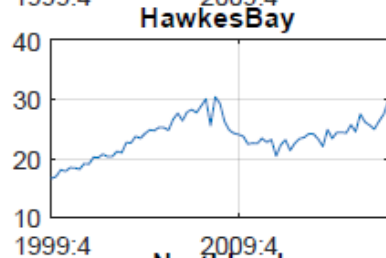
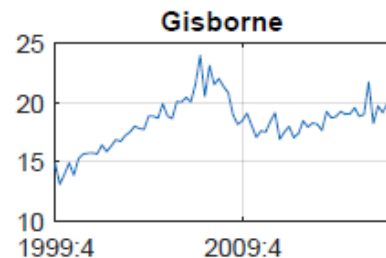
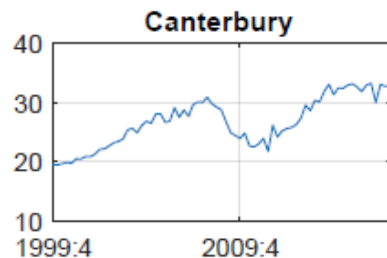
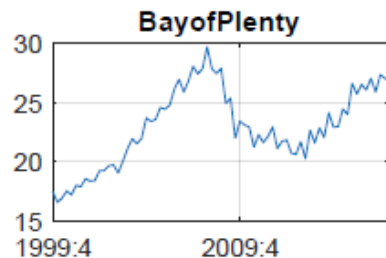
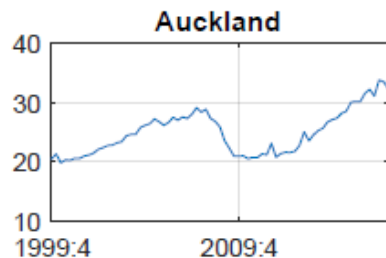
Λ_{it}^u : job finding rate

$$\Lambda_{it}^u = \frac{(\text{movements from benefits to employment})_{it}}{(\text{benefits})_{it-1}}$$

Λ_{it}^e : job-to-job transition rate

$$\Lambda_{it}^e = \frac{(\text{job - to - job transitions})_{it}}{(\text{number of employed})_{it-1}}$$





Regressions: Karahan et al. (2017)

$$1) \quad \log W_{it} = \alpha_i + \alpha_t + \beta_{it} + \alpha_u \Lambda_{it}^u + \varepsilon_{it}$$

$$2) \quad \log W_{it} = \alpha_i + \alpha_t + \beta_{it} + \alpha_u \Lambda_{it}^u + \alpha_e \Lambda_{it}^e + \varepsilon_{it}$$

- We estimate Equations (1) and (2) for three groups:
 - all workers
 - new hires (people changing jobs, or getting a job)
 - stable earners (people staying at same job)

Results

	All			
	(1)	(2)		
Λ^u	0.40** (0.13)	0.30* (0.13)		
Λ^e		0.90*** (0.22)		

Number of observations: 1184

Results

	All		New hires	
	(1)	(2)	(1)	(2)
Λ^u	0.40** (0.13)	0.30* (0.13)	0.54* (0.20)	0.40 (0.20)
Λ^e		0.90*** (0.22)		1.50*** (0.34)

Number of observations: 1184

Results

	All		New hires		Stable earners	
	(1)	(2)	(1)	(2)	(1)	(2)
Λ^u	0.40** (0.13)	0.30* (0.13)	0.54* (0.20)	0.40 (0.20)	0.14* (0.05)	0.14* (0.05)
Λ^e		0.90*** (0.22)		1.50*** (0.34)		-0.01 (0.12)

Number of observations: 1184

Main Results

- Our findings **conform** with Karahan et.al. (2017) **for new hires**
 - Job-finding-rate significant on its own in predicting log earnings
 - ..., but loses its importance conditional on J2J rate
- Our findings **differ** from Karahan et al. **for stable earners**
 - No evidence that stayers can extract pay rises through “strategic effect” (outside offers)

Results (cont'd)

- Large semi-elasticity of wage to J2J rate :
1 ppt increase in Λ^e \longrightarrow 1% increase in quarterly earnings
- Overall, strong empirical support that **on-the-job search** is **critical** to **wage dynamics** in NZ

Regressions across Earning Deciles

Regressions (1) and (2) across earning deciles for various groups:

- 1) **Stable earners:** Employees who stay at their jobs
- 2) **NE:** People moving from *Not in Labour Force* to *Employment*
- 3) **JJ:** Employees who transition from one job to another
- 4) **UE:** People who transition from *Unemployment* to *Employment*

New hires = NE + JJ + UE

Regressions across Earning Deciles

Stable earners

Decile	Λ^u	Λ^e
10 th	0.3**	0.2
20 th	0.2***	0.0
30 th	0.2***	-0.0
40 th	0.1**	-0.0
50 th	0.1*	-0.1
60 th	0.1*	-0.1
70 th	0.1*	-0.0
80 th	0.1*	-0.0
90 th	0.1*	-0.0

Regressions across Earning Deciles

	Stable earners		UE	NE	JJ
Decile	Λ^u	Λ^e			
10 th	0.3**	0.2			
20 th	0.2***	0.0			
30 th	0.2***	-0.0			
40 th	0.1**	-0.0			
50 th	0.1*	-0.1			
60 th	0.1*	-0.1			
70 th	0.1*	-0.0			
80 th	0.1*	-0.0			
90 th	0.1*	-0.0			

Regressions across Earning Deciles

Decile	Stable earners		UE		NE	JJ
	Λ^u	Λ^e	Λ^u	Λ^e		
10 th	0.3**	0.2	2.7***	-0.7		
20 th	0.2***	0.0	3.0***	-0.5		
30 th	0.2***	-0.0	2.7**	-0.9		
40 th	0.1**	-0.0	2.2**	-0.6		
50 th	0.1*	-0.1	1.8*	-0.3		
60 th	0.1*	-0.1	1.5*	-0.3		
70 th	0.1*	-0.0	1.1*	-0.2		
80 th	0.1*	-0.0	0.7	0.1		
90 th	0.1*	-0.0	0.2	0.4		

Regressions across Earning Deciles

Decile	Stable earners		UE		NE		JJ	
	Λ^u	Λ^e	Λ^u	Λ^e	Λ^u	Λ^e		
10 th	0.3**	0.2	2.7***	-0.7	0.3	1.6		
20 th	0.2***	0.0	3.0***	-0.5	0.1	1.1		
30 th	0.2***	-0.0	2.7**	-0.9	0.2	0.4		
40 th	0.1**	-0.0	2.2**	-0.6	0.1	0.7		
50 th	0.1*	-0.1	1.8*	-0.3	0.0	0.8*		
60 th	0.1*	-0.1	1.5*	-0.3	-0.0	0.8*		
70 th	0.1*	-0.0	1.1*	-0.2	0.0	0.5		
80 th	0.1*	-0.0	0.7	0.1	0.1	0.1		
90 th	0.1*	-0.0	0.2	0.4	0.0	0.7*		

Regressions across Earning Deciles

Decile	Stable earners		UE		NE		JJ	
	Λ^u	Λ^e	Λ^u	Λ^e	Λ^u	Λ^e	Λ^u	Λ^e
10 th	0.3**	0.2	2.7***	-0.7	0.3	1.6	0.6*	4.3**
20 th	0.2***	0.0	3.0***	-0.5	0.1	1.1	0.4*	3.4***
30 th	0.2***	-0.0	2.7**	-0.9	0.2	0.4	0.3*	2.9***
40 th	0.1**	-0.0	2.2**	-0.6	0.1	0.7	0.2	2.9***
50 th	0.1*	-0.1	1.8*	-0.3	0.0	0.8*	0.2	2.9***
60 th	0.1*	-0.1	1.5*	-0.3	-0.0	0.8*	0.1	3.0***
70 th	0.1*	-0.0	1.1*	-0.2	0.0	0.5	-0.0	3.1***
80 th	0.1*	-0.0	0.7	0.1	0.1	0.1	-0.1	2.9***
90 th	0.1*	-0.0	0.2	0.4	0.0	0.7*	-0.1	2.3***

Results from deciles regressions

- **Job-finding rate** explains earnings:
 - of **stable earners** at all deciles (especially at bottom)
 - of **UE** strongly at bottom deciles
- **J2J rate** only explains earnings of job switchers - strong at all deciles

Conclusions

- We try to understand effect of J2J on wages in NZ
- J2J flows much larger than UE flows
- J2J rate more important determinant of wages than job finding rate
 - very strong for job switchers (especially at bottom of distribution)
 - for job stayers, job-finding rate dominates
- Our results favour composition (job ladder) effect over strategic effect (matched outside offers)
- J2J transition rate has not yet recovered to pre-GFC level
- This could explain “missing wage growth” puzzle