



**NEW ZEALAND
WORK RESEARCH INSTITUTE**

WHEN THERE IS NO WAY UP: RECONSIDERING LOW-PAID JOBS AS STEPPING STONES

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SNZ Disclaimer

- Access to the data used in this study was provided by Statistics New Zealand under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975.
- The results presented in this study are the work of the authors, not of Statistics NZ.

Motivation

Background:

- Intensive discussion on inequality, incl. the rise of the low pay sector
- Stewart & Swaffield (1998): transitory vs persistence
- Economic literature:
 - Low-paid face a high level of state dependence (see, beside others, Uhlenborff 2006, Cappellari 2007, Clark & Kanellopoulos 2013, Fok et al. 2015, Cai et al. 2017)
 - Risk of staying low-paid employed is usually exceeded by the chances of becoming higher-paid employed
 - *Conclusion*: ‘a trajectory to ‘decent’ jobs’ [Fok et al. 2015, p. 892]

Motivation

Prevailing identification strategy:

- Snapshot on earnings ('point-in-time' information)

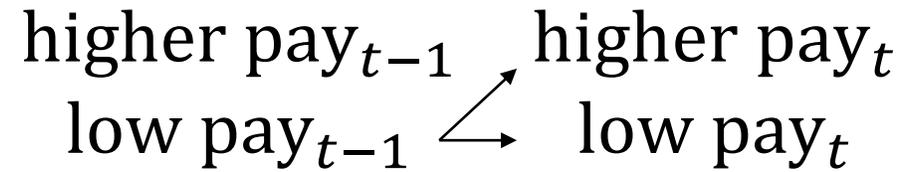
higher pay_{t-1} higher pay_t
low pay_{t-1} ↘ low pay_t

Motivation

Prevailing identification strategy:

- Snapshot on earnings ('point-in-time' information)

higher pay_{t-1} higher pay_t
low pay_{t-1} low pay_t



- However, wages vary across the years

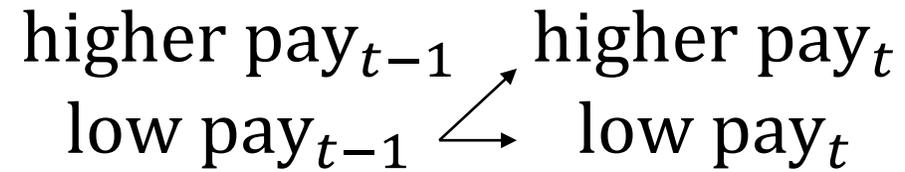
low pay_t weak low pay attachment_t
 strong low pay attachment_t



Motivation

Prevailing identification strategy:

- Snapshot on earnings ('point-in-time' information)



- However, wages vary across the years



- Impact on transition probabilities

Motivation

Aim of this study:

- Where do low pay move to?
- Novelties:
 - Identifying attachment to the low pay sector (strong vs weak vs higher pay)
 - Using administrative data on a much more granular level (monthly data on wages and salary)
 - Compare findings with prevailing identification strategy

Motivation

Findings:

- Noticeable variation in low-pay attachment
- Substantial heterogeneity in the risk of facing low pay depending on past strength of attachment to the low pay sector
 - Moving from weak to strong low pay attachment: 8%
 - Staying on strong low pay attachment: 76%
- For a considerable share of low-paid employed their jobs do not operate as a gateway to higher pay
 - Moving from weak low pay attachment to higher pay: 54.5%
 - Moving from strong low pay attachment to higher pay: 4.8%

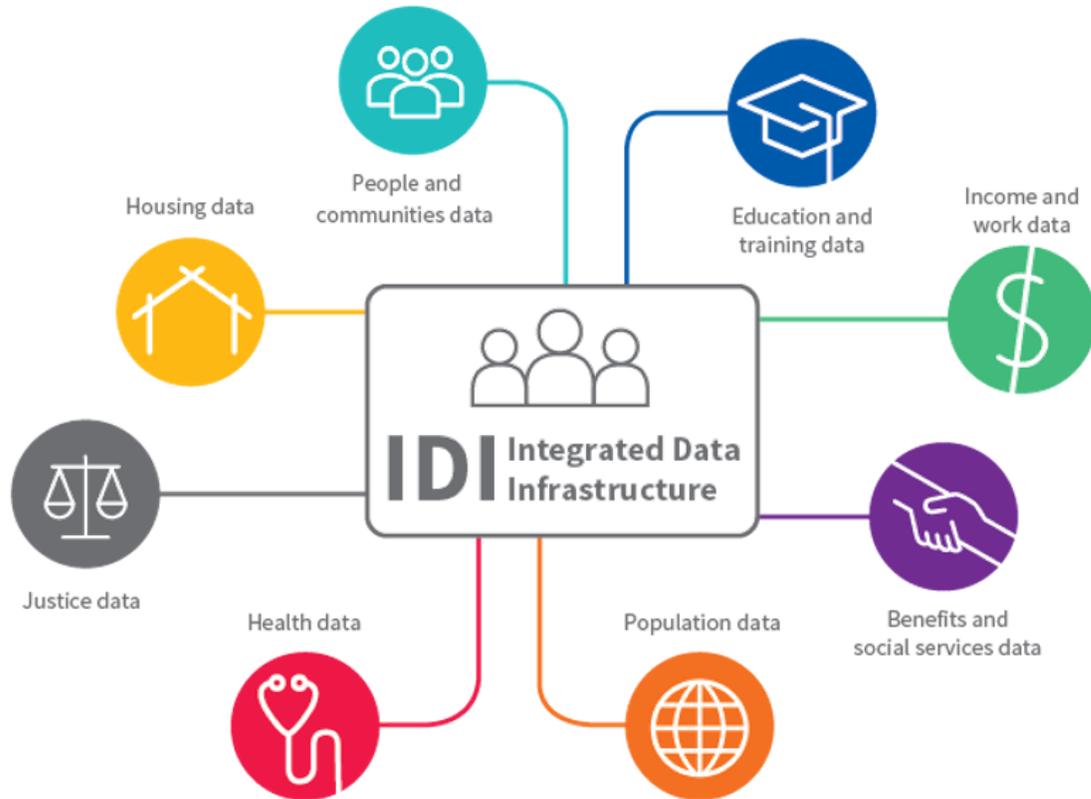
Literature Review

Table 1: Low pay persistence of related studies

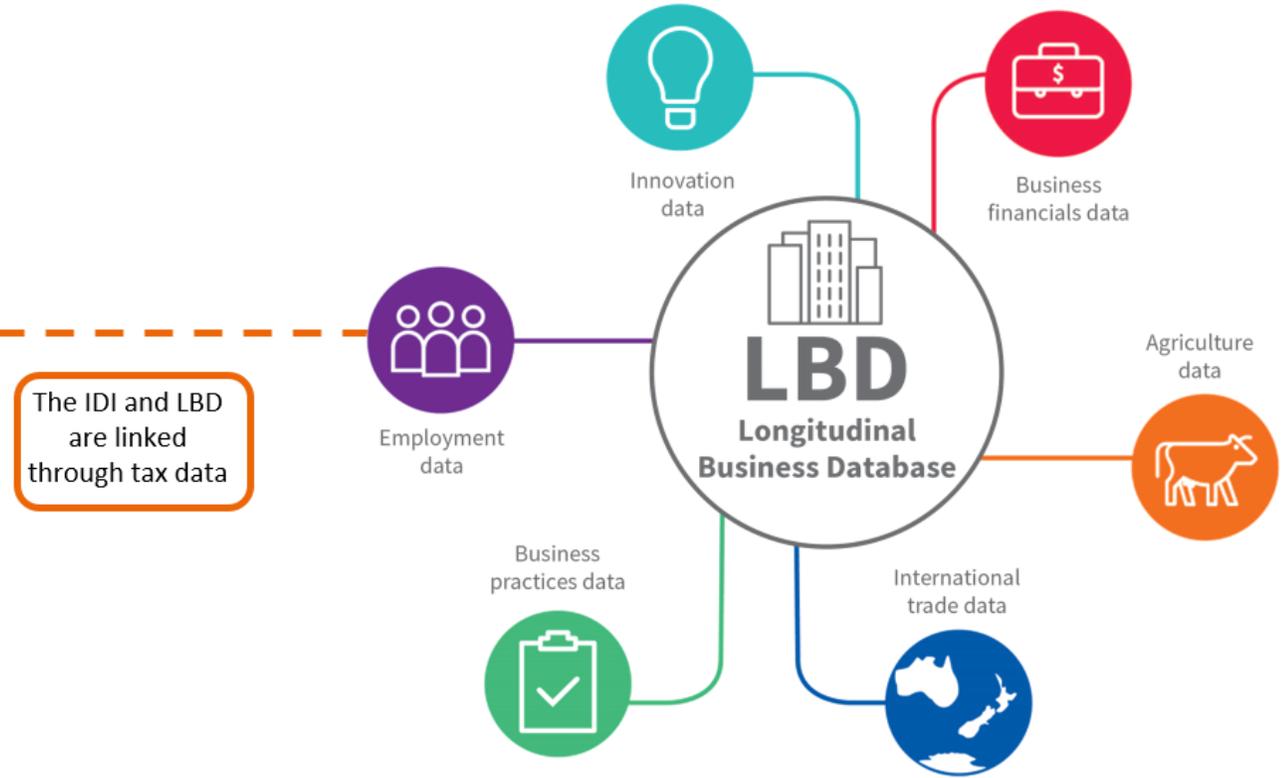
<i>Study</i>	$P(Lp_t Lp_{t-1})$	$P(Hp_t Lp_{t-1})$
Cai et al. (2017, Table 2)	0.196	0.556
Cai et al. (2017, Table 6)	0.272	0.472
Mosthaf (2014, Table 5)	0.083 – 0.168	0.695 – 0.789
Uhlendorff (2006, Table 7)	0.050	0.888
Cai (2014, Table 2A)	0.113	0.772
Cai (2014, Table 2B)	0.191	0.697
Clark & Kanellopoulos (2013, Table 4)	0.033 (Spain) – 0.133 (Portugal)	-

Note: Cai et al. (2017) provides estimates based on the BHPS (Table 2) and Understanding Society data (Table 6). Mosthaf (2014) provides a range of estimates based on different qualification groups. Clark & Kanellopoulos (2013) provides a range of estimates based on data from twelve countries.

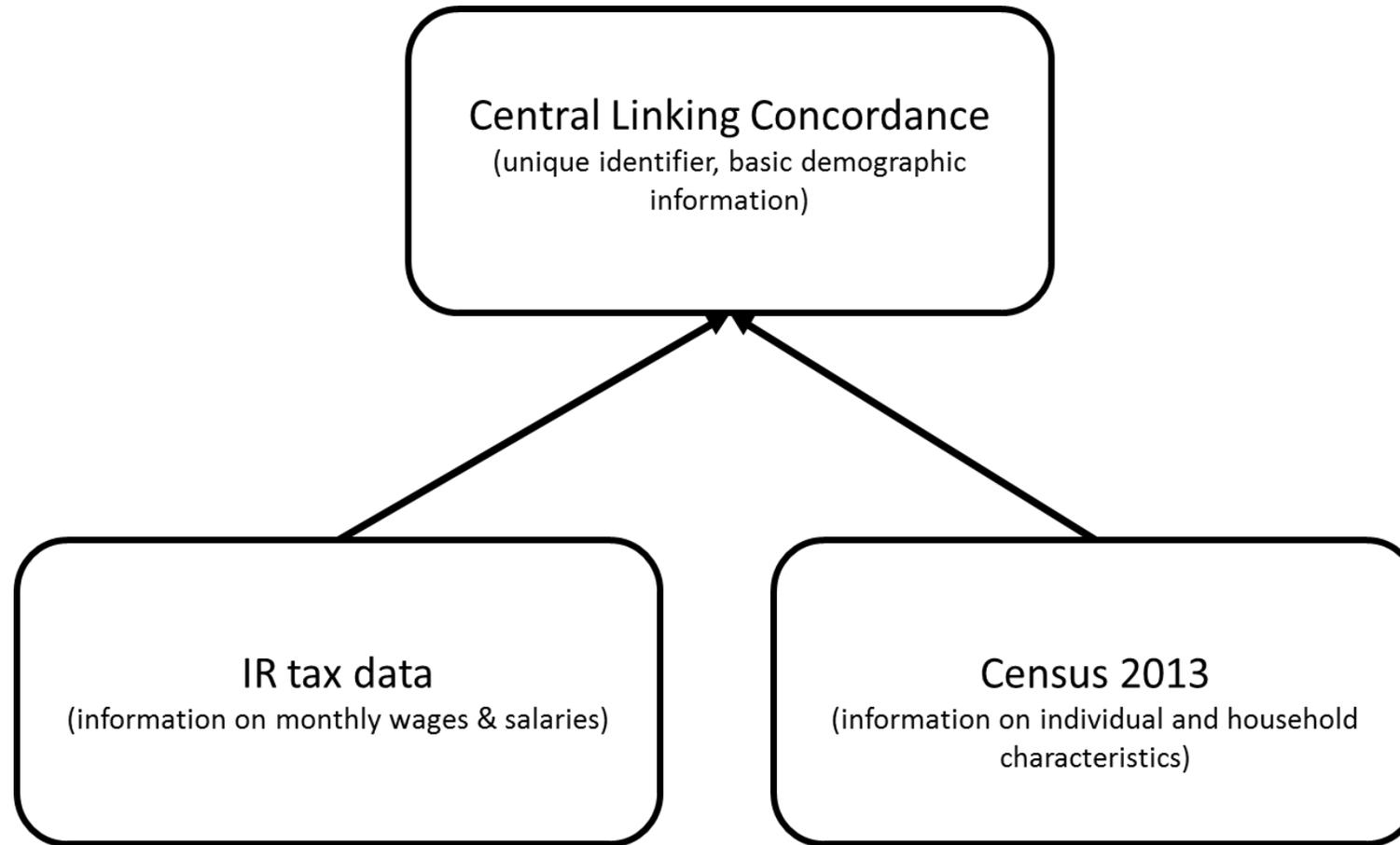
Integrated Data Infrastructure (IDI)



Longitudinal Business Database (LBD)



The IDI and LBD are linked through tax data

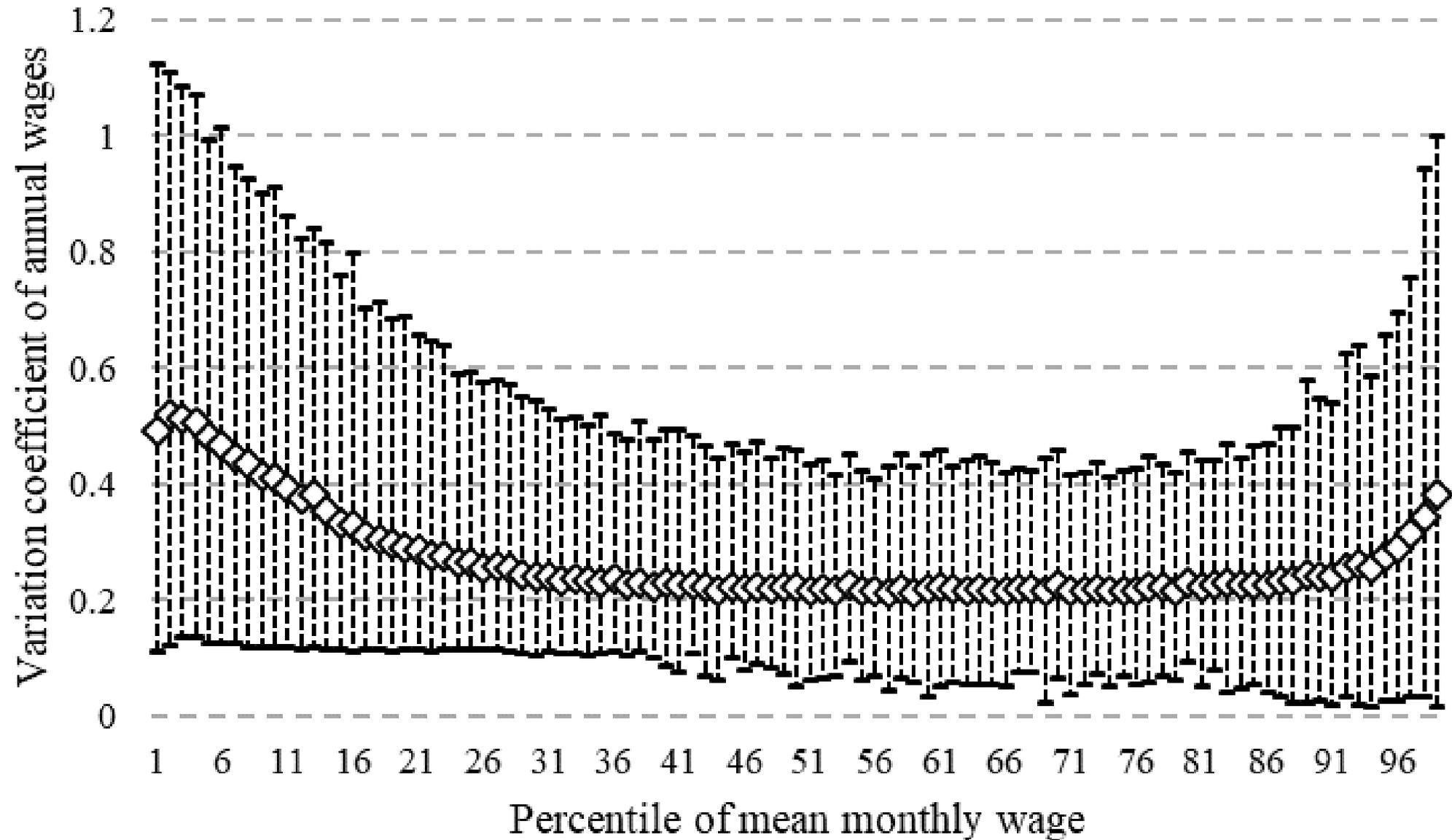


Source: own representation.

Data preparation:

- We focus on 2007 to 2013, males aged 25 to 45
 - Long-term unemployment: receiving wages and salaries in minimum four months per year and for at least 70 periods across the period 2007 to 2013
and
 - Interview month: employed each year in the month October

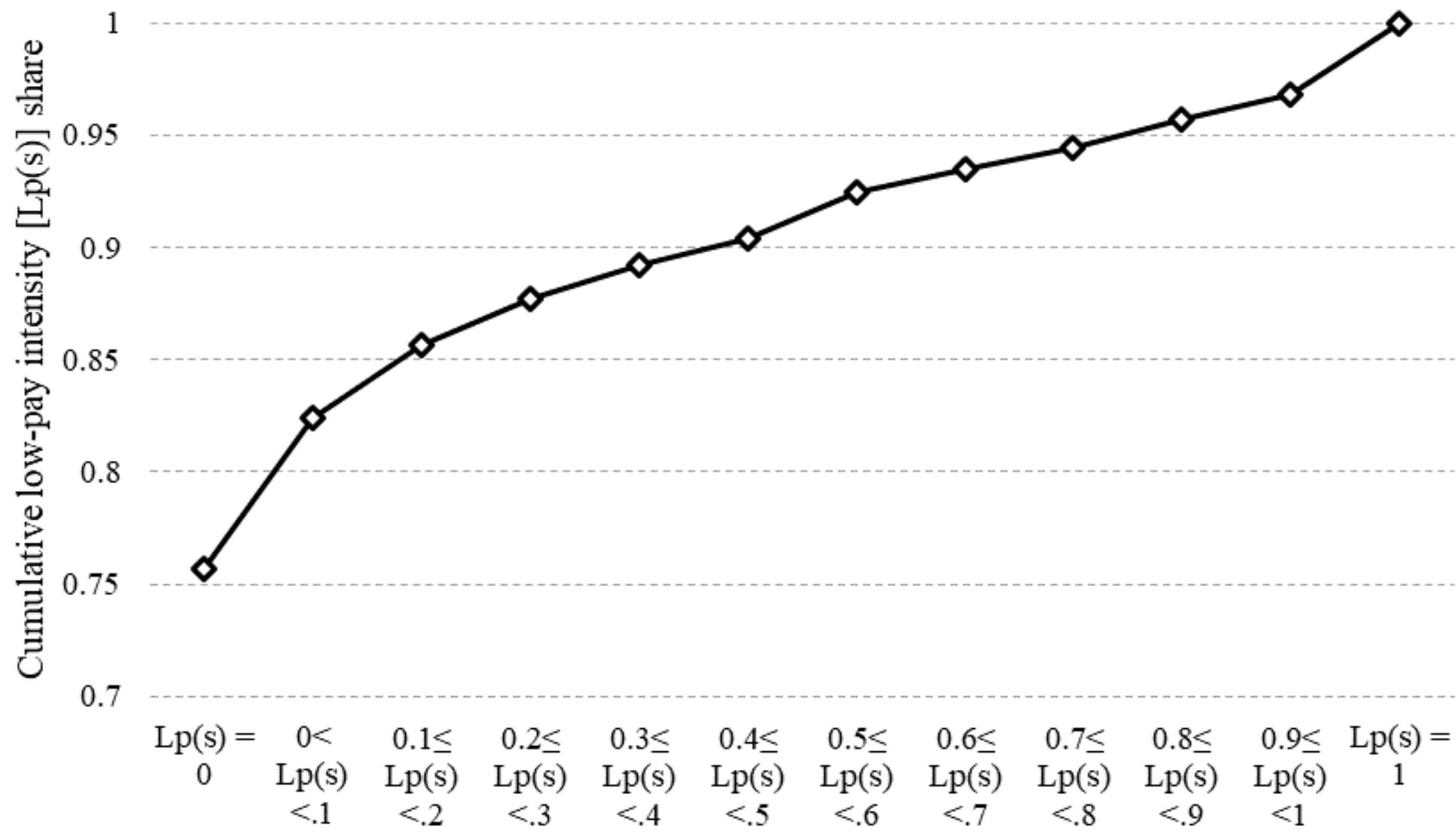
Sample



Data preparation:

- We focus on 2007 to 2013, males aged 25 to 45
 - Long-term unemployment: receiving wages and salaries in minimum four months per year and for at least 70 periods across the period 2007 to 2013
 - and**
 - Interview month: employed each year in the month October
- Low pay: 10th lowest percentile
- Calculating the individual share of low pay months per year $LP_{it}^S \in \{0,1\}$

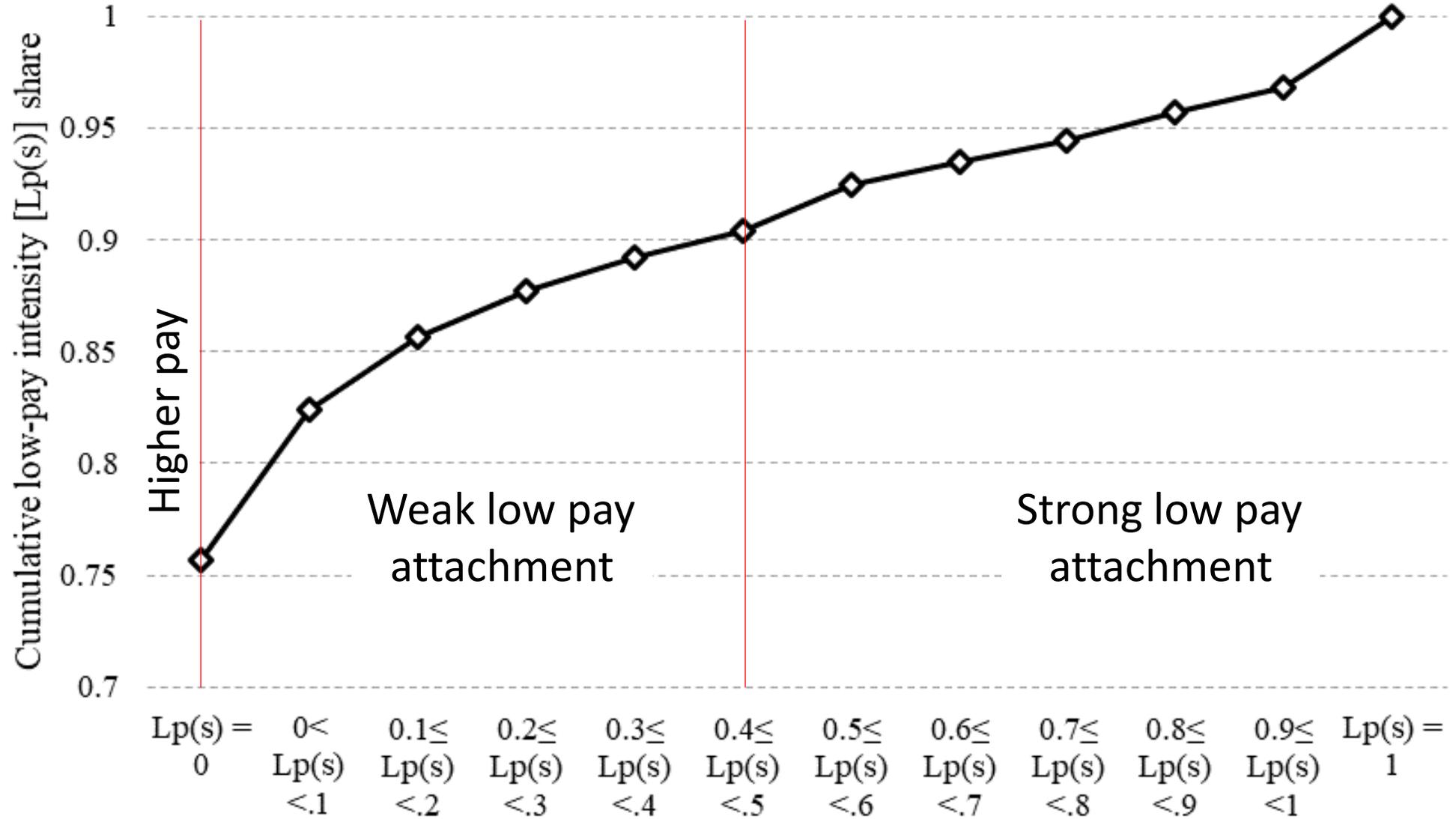
Sample



Data preparation:

- Three marker to estimate labour market transitions:
 - ‘Point-in-time’ marker: *month October between two successive years*
 - (Mean monthly marker: *mean monthly wage across the employed months*)
 - Monthly marker
 - (1) higher pay: if having no low pay months;
 - (2) weak low pay attachment: the share of low-paid months ranges between minimum one low paid month and 50 percent
 - (3) strong low pay attachment: working at least half of the employed months in the low pay sector

Sample



Transition matrix

	<i>Higher pay_t</i>	<i>Low-pay_t</i>	<i>Total_{t-1}</i>
<i>Higher pay_{t-1}</i>	95.86	4.14	90.00
<i>Low-pay_{t-1}</i>	37.32	62.68	10.00
<i>Total_t</i>	90.01	9.99	

Notes: Data sourced from IDI (2018). Authors' calculations. Based on a random subsample of population of interest $N = 144,942$. Time period = 2007 to 2013.

Transition matrix

	<i>Higher pay_t</i>	<i>Weak low pay_t</i>	<i>Strong low pay_t</i>	<i>Total_{t-1}</i>
<i>Higher pay_{t-1}</i>	90.67	8.61	0.72	75.53
<i>Weak low pay_{t-1}</i>	47.16	40.53	12.30	14.90
<i>Strong low pay_{t-1}</i>	5.45	19.31	75.24	9.57
<i>Total_t</i>	76.03	14.39	9.58	

Notes: Data sourced from IDI (2018). Authors' calculations. Based on a random subsample of population of interest $N = 144,942$. Time period = 2007 to 2013.

Econometric Model

- First-order Markov process
- Apply a dynamic random effects multinomial logit model (Uhlendorff 2006, Mosthaf 2014, Fok et al. 2015, Cai et al. 2017).
- Control for unobserved heterogeneity (Heckman 1981a) and its correlation with the initial conditions (Heckman 1981b)

Results

	'Point-in-time' marker	
	<i>At t = 0</i>	
	<i>Higher Pay</i>	<i>Low Pay</i>
$P(\text{Higher pay}_t \text{Higher pay}_{t-1})$	0.984 (0.018)	0.801 (0.111)
$P(\text{Low pay}_t \text{Higher pay}_{t-1})$	0.016 (0.018)	0.199 (0.111)
$P(\text{Higher pay}_t \text{Low pay}_{t-1})$	0.920 (0.066)	0.449 (0.126)
$P(\text{Low pay}_t \text{Low pay}_{t-1})$	0.080 (0.066)	0.551 (0.126)

Notes: Data sourced from IDI (2018). Authors' calculations. Based on a random subsample of population of interest $N = 144,942$. Time period = 2007 to 2013. Numbers in parenthesis refer to standard deviations.

Predicted transition probabilities (monthly marker)

	<i>At t = 0</i>		
	<i>Higher Pay</i>	<i>Weak low pay</i>	<i>Strong low pay</i>
$P(\text{Higher pay}_t \text{Higher pay}_{t-1})$	0.929 (0.077)	0.798 (0.130)	0.716 (0.145)
$P(\text{Weak low pay}_t \text{Higher pay}_{t-1})$	0.068 (0.071)	0.189 (0.115)	0.231 (0.104)
$P(\text{Strong low pay}_t \text{Higher pay}_{t-1})$	0.003 (0.008)	0.014 (0.021)	0.053 (0.054)
$P(\text{Higher pay}_t \text{Weak low pay}_{t-1})$	0.808 (0.130)	0.545 (0.142)	0.386 (0.128)
$P(\text{Weak low pay}_t \text{Weak low pay}_{t-1})$	0.170 (0.106)	0.375 (0.102)	0.363 (0.062)
$P(\text{Strong low pay}_t \text{Weak low pay}_{t-1})$	0.022 (0.033)	0.080 (0.057)	0.251 (0.103)
$P(\text{Higher pay}_t \text{Strong low pay}_{t-1})$	0.416 (0.134)	0.138 (0.062)	0.048 (0.026)
$P(\text{Weak low pay}_t \text{Strong low pay}_{t-1})$	0.343 (0.063)	0.393 (0.062)	0.192 (0.049)
$P(\text{Strong low pay}_t \text{Strong low pay}_{t-1})$	0.241 (0.104)	0.470 (0.102)	0.760 (0.069)

Notes: Data sourced from IDI (2018). Authors' calculations. Based on a random subsample of population of interest $N = 144,942$. Time period = 2007 to 2013. Numbers in parenthesis refer to standard deviations.

Conclusions

Findings:

- Noticeable variation in low-pay attachment
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Thank you

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