Labor Market Frictions and Economic Development: Evidence from Employment Durations across Countries

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Introduction

- Labor markets and economic development
  - Secular movement of labor from agriculture to non-agriculture
  - High self-employment (Gollin, 2008)
  - High ratio of unemployment-to-wage employment (Poschke, 2018)
  - Low return to experience (Lagakos, Moll, Porzio, Qian and Schoellman, 2018)
  - High churning (Donovan, Lu and Schoellman, 2019)

Introduction

Information frictions

- Job training / Skill certification - Adebe et al. (2020), Alfonsi et al. (2020)

- Provision of information improves allocation of jobs and employee welfare - Banerjee & Chiplunkar (2018)

Matching frictions

- Firms' reluctance to hire inexperienced candidates, and mismatched reservation wages of candidates - Adebe et al. (2020)

Introduction

Aim:

- Which labor market frictions explain these labor market outcomes?
- Are these frictions more prevalent in LIC?

How:

- Harmonize 590 labor force and household surveys from 54 countries with focus on job duration
- We look at employment durations of approx 8.8 mio. wage workers in 54 countries.

Today:

- Empirical analysis of mean job duration and GDP per worker

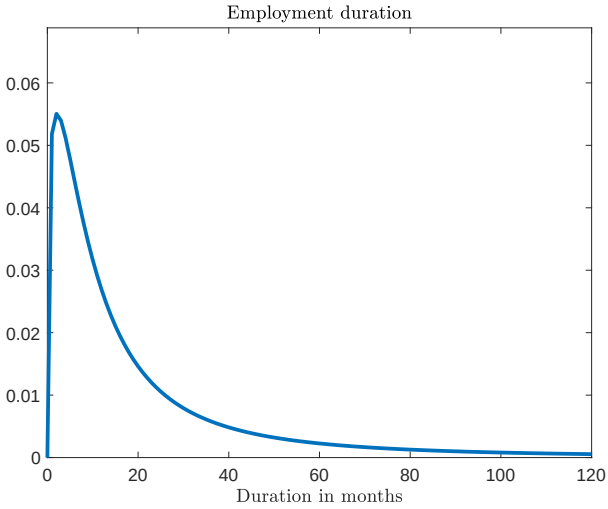
Preliminary findings

- Job duration and GDP per worker:
  - Positive correlation
  - No correlation after controlling for individual characteristics and EPL
- Empirical analysis shows that:
  - Differences in characteristics of wage employed population explains 1/4 of x-country variation
  - Differences in country specific returns to age and job permanency are key.

Why focus on duration?

- The distribution of job duration informative about:
  - Selection and learning about match quality (Jovanovic, 1979; Jovanovic, 1984; Moscarini, 2005)
  - Building match-specific human capital (Nagypal, 2007)
  - On-the-job-search and backloaded wage contracts (Burdett and Coles, 2003)

Why focus on duration?



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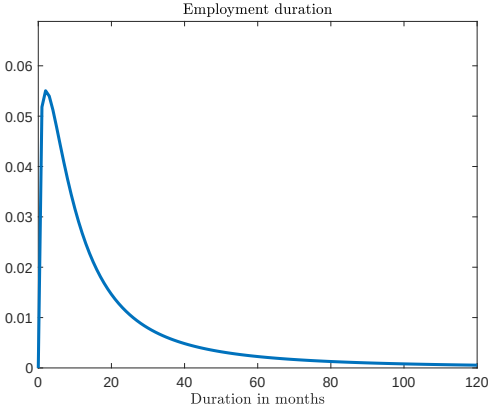

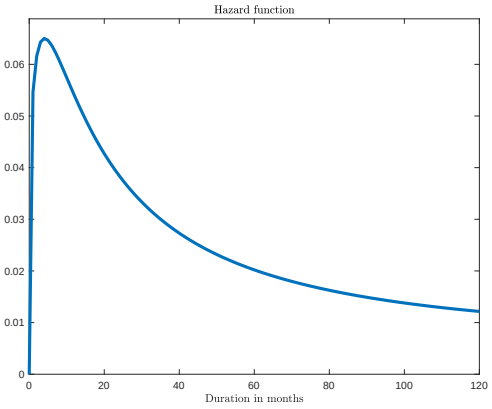

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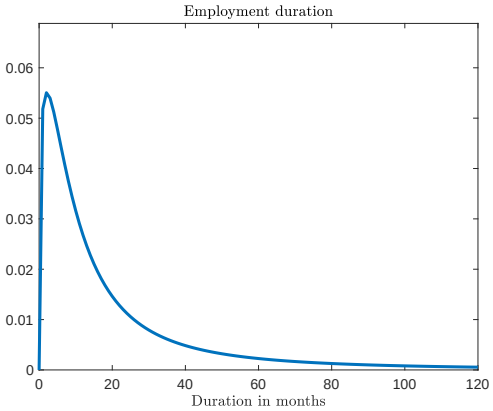

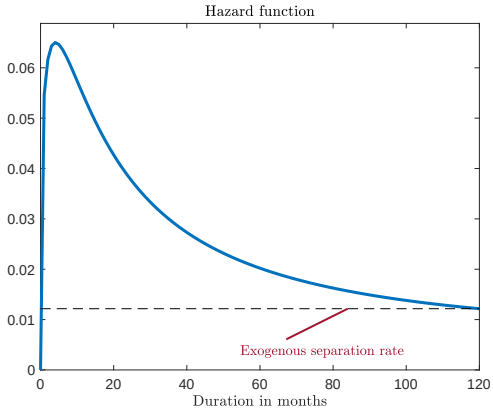

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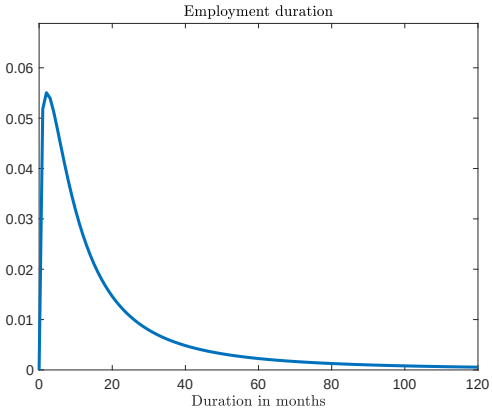

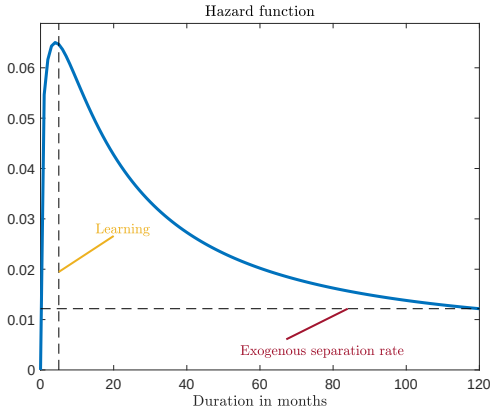

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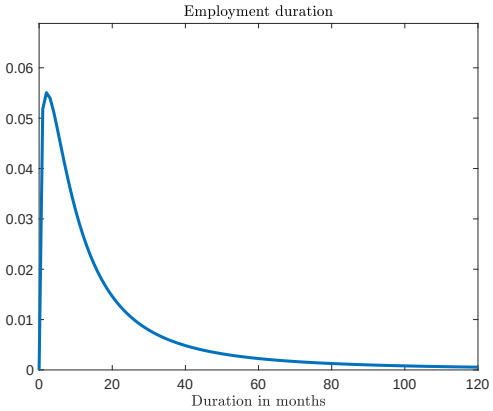
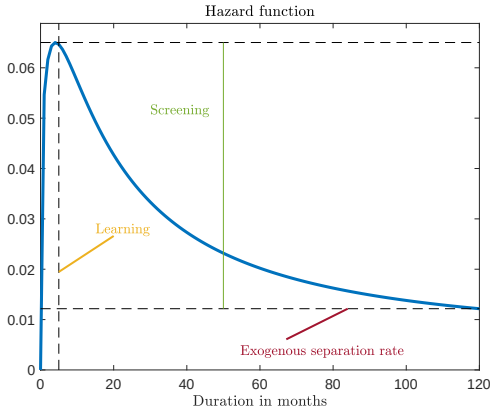


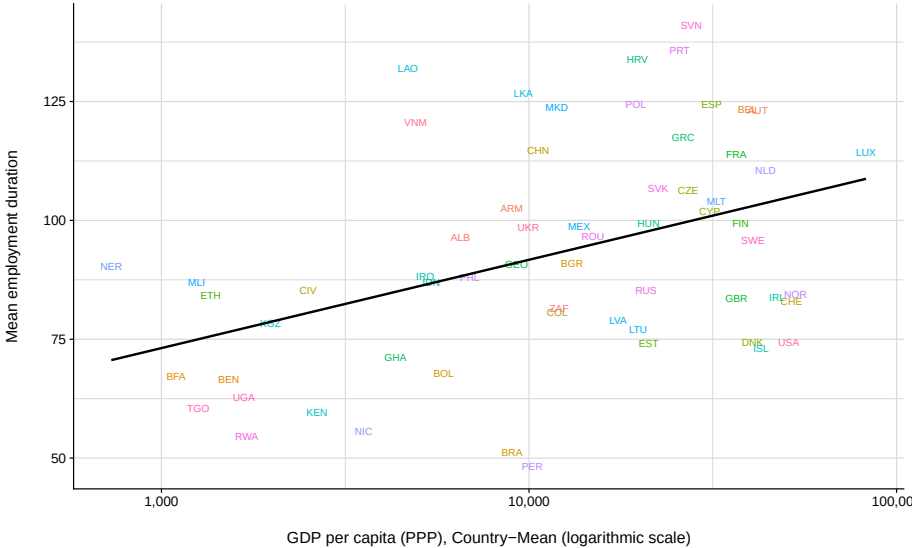


Datasets

- Harmonization of labor force and household surveys from 54 countries
- Repeated cross-sections with individual information on labor market outcomes and employment duration Details
- Questionnaire question:
  - *"When did you start this job?"*
  - *"How long have you been doing this job?"*
- A job is defined as continuous employment with the same employer
- Range from Niger to Luxembourg

Mean employment duration

Definition of dependent variable: Duration in months



Sample restriction(s): Age: 15−55, wage workers, permanent jobs, urban and peri−urban

Pooled OLS with no individual controls

	(1) Dur.	(2) Dur.	(3) Dur.	(4) Dur.
GDP/worker, log	8.631***		7.745***	
	(2.565)		(1.820)	
GDP/worker		56.09**		67.77***
		(25.86)		(18.40)
GDP/worker sq.		-29.95		-47.34***
		(18.64)		(14.76)
Constant	100.0***	73.82***	100.9***	71.16***
	(4.032)	(6.891)	(9.619)	(10.10)
EPL controls	No	No	Yes	Yes
Observ.	8863678	8863678	8863145	8863145
Clusters	54	54	53	53
R-squared	0.00956	0.00874	0.0182	0.0184

Weighted LS regression (weights across and within country-years).
Standard errors clustered around countries.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

- Without controlling for individual controls, job duration is $\cap$-shaped in GDP (peak at $\sim$70% of U.S. GDP)

Pooled OLS with individual controls

	(1) Dur.	(2) Dur.	(3) Dur.	(4) Dur.
GDP/worker, log	-0.579		-1.185	
	(1.746)		(1.333)	
GDP/worker		-7.099		8.825
		(16.86)		(13.27)
GDP/worker sq.		7.761		-13.42
		(12.32)		(10.97)
Permanent job	37.87***	37.84***	41.92***	42.08***
	(3.376)	(3.401)	(3.817)	(3.877)
Age	1.425	1.403	1.324	1.316
	(0.860)	(0.860)	(0.846)	(0.845)
Age sq.	0.0455***	0.0457***	0.0478***	0.0478***
	(0.0117)	(0.0117)	(0.0115)	(0.0115)
Education	1.586	1.584	2.541*	2.297*
	(1.664)	(1.679)	(1.281)	(1.317)
Education sq.	-0.221***	-0.222***	-0.223***	-0.213***
	(0.0671)	(0.0680)	(0.0583)	(0.0591)
Sex, male	7.475***	7.453***	5.641***	5.756***
	(1.708)	(1.708)	(1.551)	(1.533)
Constant	-42.80**	-40.40**	-58.04***	-57.72***
	(19.40)	(16.18)	(18.55)	(18.40)
EPL controls	No	No	Yes	Yes
Observ.	8863678	8863678	8863145	8863145
Clusters	54	54	53	53
R-squared	0.326	0.326	0.337	0.337

Indicators for occupation and industry omitted from output.

- With individual controls, duration is uncorrelated with GDP

Blinder-Oaxaca decomposition of duration

- Regress $d_{ij} = Z_{ij}\beta_j + \varepsilon_{ij}$ for each country-year j
- Explanatory variables in Z:
  1. Country-year FE ("base")
  2. Individual characteristics:
     - Age (bins 30-45 and $>$ 45 years)
     - Education (bins 10-14 and $>$ 14 years)
     - Sex
     - Permanence of job
     - Private sector (dummies for constr., manuf. and "private" services)

Blinder-Oaxaca decomposition (cont'd)

- Duration gap for country-year j w.r.t. country-year k (U.S. 2014):

$$\underbrace{\overline{d}_j - \overline{d}_k}_{\text{Gap of raw mean } G_j} = \underbrace{\left(\overline{Z}_j - \overline{Z}_k\right)\hat{\beta}_j}_{\text{Explained gap } E_j} + \underbrace{\overline{Z}_k\left(\hat{\beta}_j - \hat{\beta}_k\right)}_{\text{Unexplained gap } U_j}$$

$$= \underbrace{E_j^{\text{age}} + E_j^{\text{edu}} + E_j^{\text{male}} + E_j^{\text{perm}} + E_j^{\text{priv}}}_{\text{Explained gap } E_j}$$

$$+ \underbrace{U_j^{\text{base}} + U_j^{\text{age}} + U_j^{\text{edu}} + U_j^{\text{male}} + U_j^{\text{perm}} + U_j^{\text{priv}}}_{\text{Unexplained gap } U_j}$$

Variance decomposition of raw gap, broad

- Let $\text{var}(G) = \text{var}(E) + \text{var}(U) + 2\text{cov}(E, U)$
- Normalize co-variance terms by $\text{var}(G)$

	Explained	Unexplained
Explained	**.247**	-.0394
Unexplained	-.0394	**.832**

- Cross-country variation in mean duration mostly driven by unexplained component

Variance decomposition of raw gap, detailed

- Variance decomposition of G into finer components E^i and U^i, normalized by $\text{var}(G)$

		Explained					Unexplained					
		Age	Edu.	Male	Perm.	Sect.	Base	Age	Edu.	Male	Perm.	Priv.
Ex.	Age	**.160**	.000	.008	-.012	.002	-.099	-.045	-.011	-.005	.199	-.016
Ex.	Edu.	.000	**.013**	.001	.004	.001	.015	.022	-.015	.000	.001	-.001
Ex.	Male	.008	.001	**.007**	-.001	.000	-.023	.010	-.006	.010	.024	.003
Ex.	Perm.	-.012	.004	-.001	**.058**	-.002	-.010	-.006	.016	.003	-.131	.010
Ex.	Priv.	.002	.001	.000	-.002	**.006**	-.006	.015	-.012	-.003	.009	.012
Un.	Base	-.099	.015	-.023	-.010	-.006	**.673**	-.014	-.119	-.076	-.325	-.097
Un.	Age	-.045	.022	.010	-.006	.015	-.014	**.336**	-.060	.023	.082	.040
Un.	Edu.	-.011	-.015	-.006	.016	-.012	-.119	-.060	**.193**	.012	-.046	-.068
Un.	Male	-.005	.000	.010	.003	-.003	-.076	.024	.012	**.045**	.024	.002
Un.	Perm.	.199	.001	.024	-.131	.009	-.325	.082	-.046	.024	**.778**	-.062
Un.	Priv.	-.016	-.001	.003	.010	.012	-.097	.040	-.068	.002	-.062	**.169**

Variance decomposition of raw gap, detailed (cont'd)

- Some of the variation in mean duration explained by variation in age
- Much of the variation is driven by country unexplained component:
  - FE ("base")
  - *Return* to permanent jobs and age

Unexplained components U and GDP

- Regress U^i on EPL and GDP

	(1) G	(2) U	(3) U^{base}	(4) U^{age}	(5) U^{edu}	(6) U^{male}	(7) U^{perm}	(8) U^{priv}
GDP/worker	74.31***	45.08**	-74.67***	-3.111	14.17	8.697	107.7***	-7.698
	(22.18)	(19.14)	(15.11)	(12.90)	(9.714)	(5.706)	(28.29)	(10.75)
GDP/worker sq.	-51.19***	-35.51***	39.58***	-2.562	-8.103	-4.448	-69.18***	9.192
	(16.62)	(12.76)	(9.924)	(8.042)	(7.289)	(4.226)	(22.02)	(7.806)
EPL controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observ.	589	589	589	589	589	589	589	589
Clusters	53	53	53	53	53	53	53	53
R-squared	0.331	0.424	0.195	0.313	0.252	0.213	0.319	0.321

OLS regression.
Standard errors clustered around countries.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

▸ Details

Unexplained components U and GDP

- Raw duration (G) and its total unexplained term (U) $\cap$-shaped in GDP (peak at $\sim$70% of U.S. GDP)
- Base (U^{base}) *decreasing* in GDP
- *Return* to permanent jobs $\cup$-shaped in GDP (peak at $\sim$80% of U.S. GDP)
- *Return* to age (U^{age}), education (U^{edu}), and private sector (U^{priv}) weakly correlated with GDP

Details

Conclusion

1. What we have done:
   - Harmonization of datasets on employment duration across countries
   - Study relationship between mean job duration and GDP per worker
   - Methodology to construct distribution of separation hazard and completed job duration (not presented today)
2. To-do list:
   - Construction of separation hazard controlling for observables
   - Model estimates

Concerns

1. Right-censoring: observing only ongoing job duration, *not* completed job duration
2. Rounding at monthly frequency
3. Heaping:
    - Pre-set replies, often at annual and biannual frequency
    - Heterogenous reporting across surveys

Ongoing duration and separation hazard

- Let $g(t)$ be the density of ongoing employment durations
- Let $s(t)$ be the separation hazard $\Rightarrow \dot{g}(t) = -s(t)g(t)$
- Assuming stationarity, theoretical density equals

$$g_{[\underline{t},\overline{t}]} = \frac{\int_{\underline{t}}^{\overline{t}} \exp(-\int_0^t s(\tilde{t})\,\mathrm{d}\tilde{t})\,\mathrm{d}t}{\int_0^{\infty} \exp(-\int_0^t s(\tilde{t})\,\mathrm{d}\tilde{t})\,\mathrm{d}t}$$

- We observe empirical density

$$g_{[\underline{t},\overline{t}]} = g_{[\underline{t},\overline{t}]} + \nu_{[\underline{t},\overline{t}]}$$

where ν is reporting error

Procedure

- Assume true separation hazard $s(t)$ to be log-logistic with parameters α (scale) and β (shape)
- Simulate ongoing employment duration and introduce for each individual a random reporting bias:
  1. Mere rounding
  2. Small over-reporting ($+6$ months)
  3. Small under-reporting (-6 months)
  4. Large over-reporting ($+12$ months)
  5. Large under-reporting (-12 months)
- For each country-year, three parameters govern likelihood of bias:
  1. Distaste of misreporting, δ
  2. Distaste for over-reporting, λ
  3. Distaste for year-rounding relative to half-year rounding, γ
- Estimate $(\alpha, \beta, \delta, \lambda, \gamma)$ to match data on $g_{[\underline{t},\overline{t}]}$

Setting

- Based on Jovanovic (1984) model of labor market turnover
- Firm and worker draw unobserved, permanent match quality $\mu \sim \mathcal{N}(0, \sigma_\mu^2)$
- They observe:
  1. Pre-match: noisy estimate $m = \mu + \epsilon$ (screening) with $\epsilon \sim \mathcal{N}(0, \sigma_m^2)$
  2. If matched: output $X(t) = \mu t + \sigma_x z(t)$ where $z(t)$ is standard Wiener process
- On and off-the-job search

Setting (cont'd)

- At each date t, the match can break for various reasons:
  1. Exogenously
  2. Expected surplus is lower than alternative
     - Another firm (worker finds better expected match)
     - Non-employment

Equilibrium outcomes (cont'd)

- PDF of completed job duration is single-peaked: first increasing, then increasing in tenure t
  - Early in the job, high uncertainty about match quality $\Rightarrow$ high option value of staying $\Rightarrow$ low separation hazard
  - Separation hazard first rises with tenure as information becomes available, then drops as surviving matches are high quality

Plan

- For each country (and conditional on demographic group), estimate model parameters to fit the estimated hazard

- Goal: investigate how noise parameters are related to country characteristics

Conclusion

1. What we have done:
   - Harmonization of datasets on employment duration across countries
   - Relationship between mean job duration and GDP per worker
   - Methodology to construct distribution of separation hazard and completed job duration
2. To-do list:
   - Construction of separation hazard controlling for observables
   - Model estimates

Harmonized data

Harmonization of following information:

- Demographics: age, education, sex
- Employment status
- Hours worked
- Labor income
- Employment duration
- Contract type
- Industry, occupation
- Location identifiers

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Name	Years	Sample size (in thds)	Source
Albania	2002–2012	8	LSMS
Armenia	2013–2013	1	STEP
Austria	1999–2017	245	LFS
Belgium	1999–2017	166	LFS
Benin	2001–2001	2	123
Burkina Faso	2001–2001	2	123
Bulgaria	1995–2017	73	LSMS, LFS
Bolivia	2012–2012	1	STEP
Brazil	1996–2006	490	LSMS, LFS
Switzerland	2010–2017	72	LFS
China	2012–2012	1	STEP
Cote d'Ivoire	1985–2002	4	LSMS, 123
Colombia	2012–2012	1	STEP
Cyprus	1999–2017	102	LFS
Czech Republic	2002–2017	136	LFS
Denmark	1999–2017	167	LFS
Spain	1999–2017	361	LFS
Estonia	2005–2017	33	LFS
Ethiopia	2013–2014	17	LFS, UES
Finland	1999–2017	57	LFS
France	2003–2017	439	LFS
United Kingdom	1999–2017	392	LFS
Georgia	2013–2013	1	STEP
Ghana	2013–2015	1	STEP, LFS
Greece	1999–2017	409	LFS
Croatia	2002–2017	58	LFS
Hungary	2001–2017	200	LFS
Ireland	1999–2017	322	LFS
Iraq	2006–2006	7	LSMS
Iceland	1999–2017	22	LFS
Kenya	2013–2013	1	STEP
Kyrgyzstan	1998–1998	1	LSMS
Lao People's Democratic Republic	2012–2012	1	STEP
Sri Lanka	2012–2012	0	STEP
Lithuania	1999–2017	106	LFS
Luxembourg	1999–2017	44	LFS
Latvia	2001–2017	46	LFS
Mexico	2005–2005	94	LFS
Macedonia, The Former Yugoslav Republic of	2013–2013	1	STEP
Mali	2001–2001	1	123
Malta	2009–2017	38	LFS
Niger	2002–2002	2	123
Nicaragua	2005–2005	3	LSMS
Netherlands	1999–2017	384	LFS
Norway	2005–2017	19	LFS
Peru	2009–2014	66	LFS
Philippines	2015–2015	1	STEP
Poland	2006–2017	333	LFS
Portugal	1999–2017	326	LFS
Romania	2009–2017	237	LFS
Russian Federation	2004–2015	62	RLMS-HSE
Rwanda	2013–2016	5	LFS
Slovakia	2007–2017	66	LFS
Slovenia	2005–2017	47	LFS
Sweden	1999–2017	384	LFS
Togo	2001–2001	1	123
Uganda	2009–2013	1	LSMS
Ukraine	2012–2012	1	STEP
United States	1998–2004	137	CEPR
Viet Nam	2012–2012	1	STEP
South Africa	2012–2019	159	QLFS
		6'358	

Sample restriction: individuals aged 15-55, urban, permanent wage workers.

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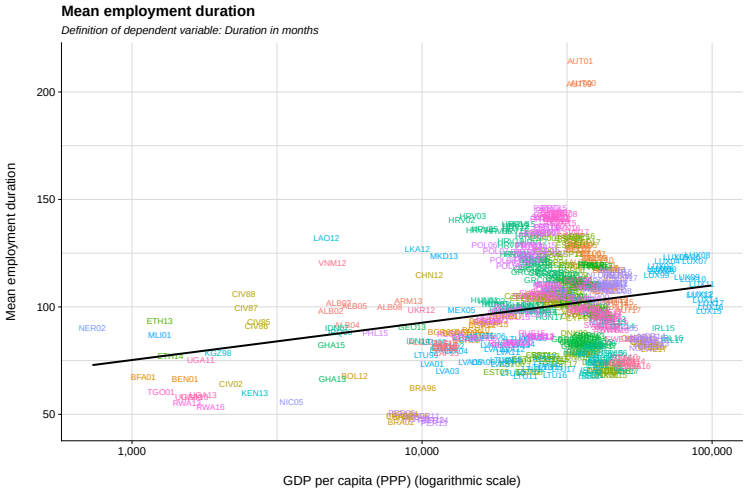
Mean employment duration by country-year



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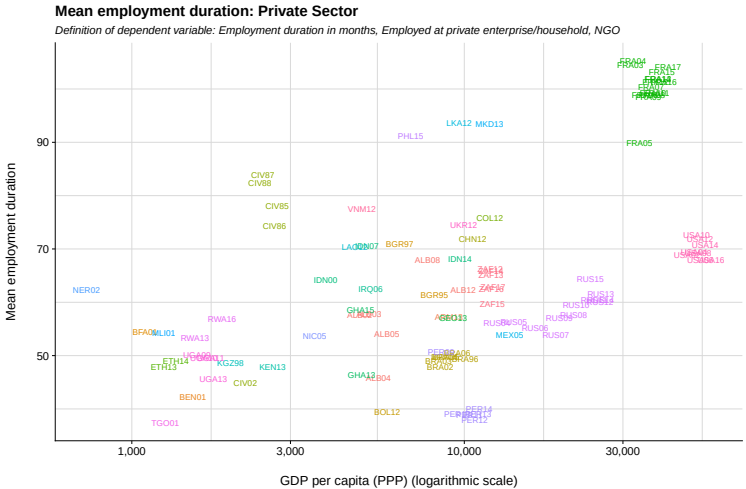
Mean employment duration, private sector workers



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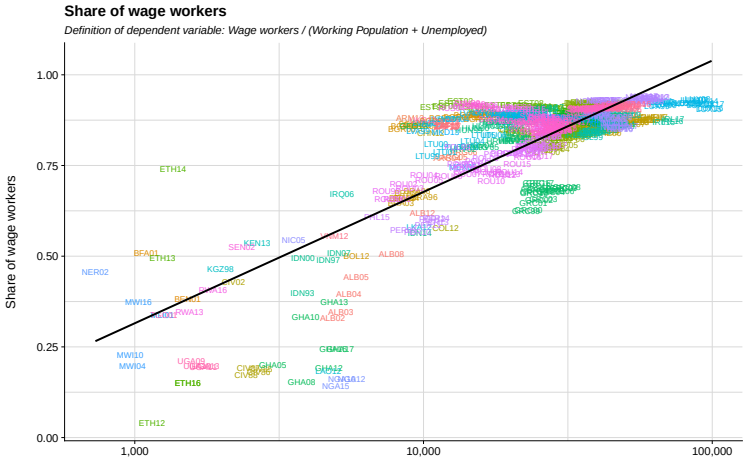
Share of wage workers in labor force



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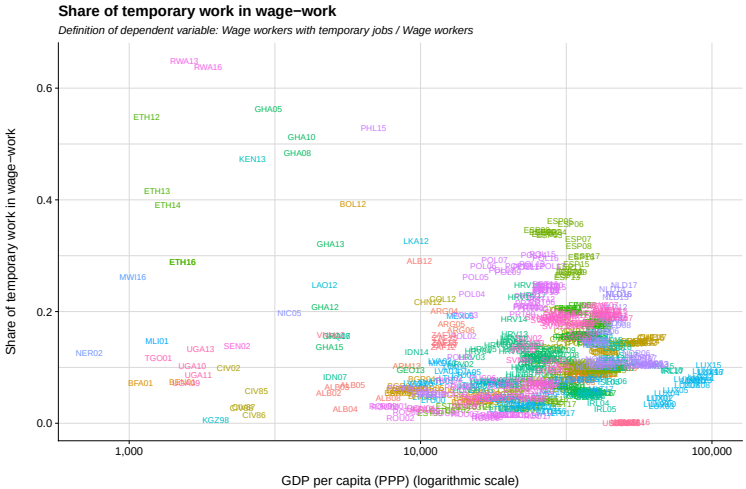
Temporary wage workers



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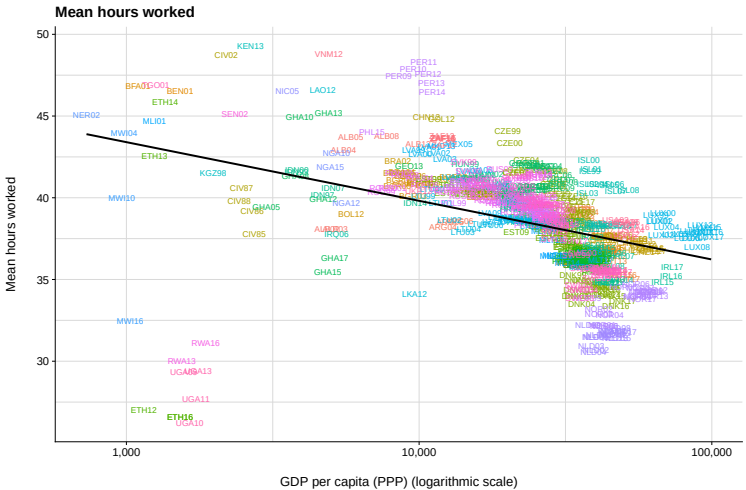
Mean hours worked



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Raw gap and GDP per worker: G

	(1)	(2)	(3)	(4)
GDP/worker, log	10.13***		8.030***	
	(3.186)		(2.327)	
GDP/worker		86.39***		74.31***
		(23.82)		(22.18)
GDP/worker sq.		-53.96***		-51.19***
		(16.20)		(16.62)
Constant	27.13***	-8.209	23.48***	-7.009
	(3.565)	(8.164)	(7.990)	(10.15)
EPL controls	No	No	Yes	Yes
Observ.	590	590	589	589
Clusters	54	54	53	53
R-squared	0.0715	0.101	0.305	0.331

OLS regression.
End. variable is raw gap in mean duration.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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B-O coefficient gap and GDP per worker: U

	(1)	(2)	(3)	(4)
GDP/worker, log	4.314		1.948	
	(3.034)		(2.507)	
GDP/worker		49.77**		45.08**
		(21.69)		(19.14)
GDP/worker sq.		-31.72**		-35.51***
		(15.06)		(12.76)
Constant	28.59***	9.369	18.57***	3.331
	(3.440)	(7.631)	(6.785)	(8.896)
EPL controls	No	No	Yes	Yes
Observ.	590	590	589	589
Clusters	54	54	53	53
R-squared	0.0156	0.0392	0.392	0.424

OLS regression.
End. variable is total unexplained gap in mean duration
Standard errors clustered around countries.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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B-O coefficient gap and GDP per worker: U^{base}

	(1)	(2)	(3)	(4)
GDP/worker, log	-11.79***		-11.02***	
	(1.991)		(2.134)	
GDP/worker		-75.11***		-74.67***
		(14.37)		(15.11)
GDP/worker sq.		38.82***		39.58***
		(9.404)		(9.924)
Constant	6.931***	43.28***	4.094	40.74***
	(1.778)	(5.140)	(3.668)	(7.177)
EPL controls	No	No	Yes	Yes
Observ.	590	590	589	589
Clusters	54	54	53	53
R-squared	0.144	0.167	0.178	0.195

OLS regression.
End. variable is base component of unexplained gap in mean duration.
Standard errors clustered around countries.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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B-O coefficient gap and GDP per worker: U^{age}

	(1)	(2)	(3)	(4)
GDP/worker, log	1.397		-2.753	
	(2.663)		(1.781)	
GDP/worker		11.73		-3.111
		(17.27)		(12.90)
GDP/worker sq.		-3.864		-2.562
		(10.61)		(8.042)
Constant	10.42***	3.895	4.988	9.339
	(2.291)	(6.547)	(3.695)	(6.507)
EPL controls	No	No	Yes	Yes
Observ.	590	590	589	589
Clusters	54	54	53	53
R-squared	0.00405	0.0189	0.313	0.313

OLS regression.
End. variable is age component of unexplained gap
Average observables of reference country-year.
Standard errors clustered around countries.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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B-O coefficient gap and GDP per worker: U^{edu}

	(1)	(2)	(3)	(4)
GDP/worker, log	-0.432		1.659	
	(1.569)		(1.505)	
GDP/worker		7.651		14.17
		(10.98)		(9.714)
GDP/worker sq.		-8.161		-8.103
		(7.420)		(7.289)
Constant	-11.55***	-12.29***	-11.48***	-17.98***
	(1.669)	(3.609)	(4.290)	(5.109)
EPL controls	No	No	Yes	Yes
Observ.	590	590	589	589
Clusters	54	54	53	53
R-squared	0.000672	0.0161	0.247	0.252

OLS regression.
End. variable is education component of unexplained gap in mean duration.
Standard errors clustered around countries.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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B-O coefficient gap and GDP per worker: U^{male}

	(1)	(2)	(3)	(4)
GDP/worker, log	1.009		1.107	
	(0.718)		(0.798)	
GDP/worker		9.070*		8.697
		(5.091)		(5.706)
GDP/worker sq.		-4.907		-4.448
		(3.229)		(4.226)
Constant	-2.691***	-6.748***	-0.950	-5.181*
	(0.743)	(1.799)	(1.794)	(2.612)
EPL controls	No	No	Yes	Yes
Observ.	590	590	589	589
Clusters	54	54	53	53
R-squared	0.0157	0.0327	0.203	0.213

OLS regression.
End. variable is male component of unexplained gap in mean duration
Standard errors clustered around countries.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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B-O coefficient gap and GDP per worker: U^{perm}

	(1)	(2)	(3)	(4)
GDP/worker, log	11.19***		12.59***	
	(2.558)		(2.768)	
GDP/worker		93.53***		107.7***
		(24.16)		(28.29)
GDP/worker sq.		-59.66***		-69.18***
		(18.43)		(22.02)
Constant	31.81***	-5.963	24.31***	-22.27**
	(2.788)	(7.483)	(5.449)	(10.63)
EPL controls	No	No	Yes	Yes
Observ.	590	590	589	589
Clusters	54	54	53	53
R-squared	0.112	0.148	0.268	0.319

OLS regression.
End. variable is permanent job component of unexplained gap in mean duration.
Standard errors clustered around countries.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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B-O coefficient gap and GDP per worker: U^{priv}

	(1)	(2)	(3)	(4)
GDP/worker, log	2.943		0.357	
	(1.901)		(1.445)	
GDP/worker		2.889		-7.698
		(14.11)		(10.75)
GDP/worker sq.		6.054		9.192
		(9.716)		(7.806)
Constant	-6.323***	-12.80***	-2.395	-1.329
	(1.627)	(4.672)	(4.681)	(5.661)
EPL controls	No	No	Yes	Yes
Observ.	590	590	589	589
Clusters	54	54	53	53
R-squared	0.0356	0.103	0.299	0.321

OLS regression.
End. variable is private sector component of unexplained gap in mean duration.
Standard errors clustered around countries.
Significance levels: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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Name	Years	Sample size (in thds)	GDP per capita (PPP)	Source
Albania	2002–2012	53	4'848–9'918	LSMS
Argentina	2004–2006	212	12'074–13'770	LFS
Armenia	2013–2013	2	8'979–8'979	STEP
Austria	1999–2017	1'493	34'938–51'524	LFS
Belgium	1999–2017	795	32'357–46'522	LFS
Benin	2001–2001	7	1'525–1'525	123
Bolivia	2012–2012	2	5'860–5'860	STEP
Brazil	1996–2006	1'226	8'358–10'068	LSMS, LFS
Bulgaria	1995–2017	510	6'390–20'027	LSMS, LFS
Burkina Faso	2001–2001	7	1'098–1'098	123
China	2012–2012	2	10'596–10'596	STEP
Colombia	2012–2012	2	11'934–11'934	STEP
Cote d'Ivoire	1985–2002	31	2'195–2'734	LSMS, 123
Croatia	2002–2017	280	13'750–24'368	LFS
Cyprus	1999–2017	328	25'255–36'137	LFS
Czech Republic	1999–2017	1'135	20'059–36'061	LFS
Denmark	1999–2017	809	33'525–49'607	LFS
Estonia	1999–2017	193	10'772–31'013	LFS
Ethiopia	2013–2014	81	1'248–1'357	LFS, UES
Finland	1999–2017	516	31'433–42'902	LFS
France	2003–2017	1'420	31'567–40'975	LFS
Georgia	2013–2013	2	9'254–9'254	STEP
Ghana	2013–2015	12	4'875–4'910	STEP, LFS
Greece	1999–2017	1'988	22'683–31'340	LFS
Hungary	1999–2017	2'108	14'380–27'531	LFS
Iceland	1999–2017	133	37'628–51'970	LFS
Iraq	2006–2006	67	5'223–5'223	LSMS
Ireland	1999–2017	1'806	33'680–73'297	LFS
Kenya	2013–2013	4	2'652–2'652	STEP
Kyrgyzstan	1998–1998	8	1'981–1'981	LSMS
Lao People's Democratic Republic	2012–2012	3	4'693–4'693	STEP
Latvia	1999–2017	267	9'655–26'643	LFS
Lithuania	1999–2017	463	10'373–30'936	LFS
Luxembourg	1999–2017	286	64'436–99'477	LFS
Macedonia, The Former Yugoslav Republic of	2013–2013	3	11'910–11'910	STEP
Mali	2001–2001	7	1'247–1'247	123
Malta	2009–2017	118	26'792–41'847	LFS
Mexico	2005–2005	300	13'691–13'691	LFS
Netherlands	1999–2017	1'187	37'786–50'024	LFS
Nicaragua	2005–2005	19	3'548–3'548	LSMS
Niger	2002–2002	8	730–730	123
Norway	1999–2017	327	37'645–63'768	LFS
Peru	2009–2014	172	8'515–11'086	LFS
Philippines	2015–2015	3	6'896–6'896	STEP
Poland	1999–2017	2'306	13'114–28'420	LFS
Portugal	1999–2017	1'237	22'413–28'567	LFS
Romania	1999–2017	1'802	7'441–25'262	LFS
Russian Federation	2004–2015	122	12'554–25'777	RLMS-HSE
Rwanda	2013–2016	66	1'551–1'872	LFS
Senegal	2002–2002	11	2'348–2'348	123
Slovakia	1999–2017	815	14'190–30'433	LFS
Slovenia	1999–2017	534	21'855–33'947	LFS
South Africa	2012–2019	604	11'965–12'201	QLFS
Spain	1999–2017	1'625	25'102–37'233	LFS
Sri Lanka	2012–2012	3	9'653–9'653	STEP
Sweden	1999–2017	2'214	34'468–47'892	LFS
Switzerland	1999–2017	606	42'028–62'927	LFS
Togo	2001–2001	6	1'260–1'260	123
Uganda	2009–2013	32	1'571–1'759	LSMS
Ukraine	2012–2012	2	9'956–9'956	STEP
United Kingdom	1999–2017	1'097	31'110–42'138	LFS
United States	1998–2004	302	43'625–49'138	CEPR
Viet Nam	2012–2012	3	4'917–4'917	STEP
		31'782	730–99'477	

Sample restriction: individuals aged 15-55.

▸ Sub-sample