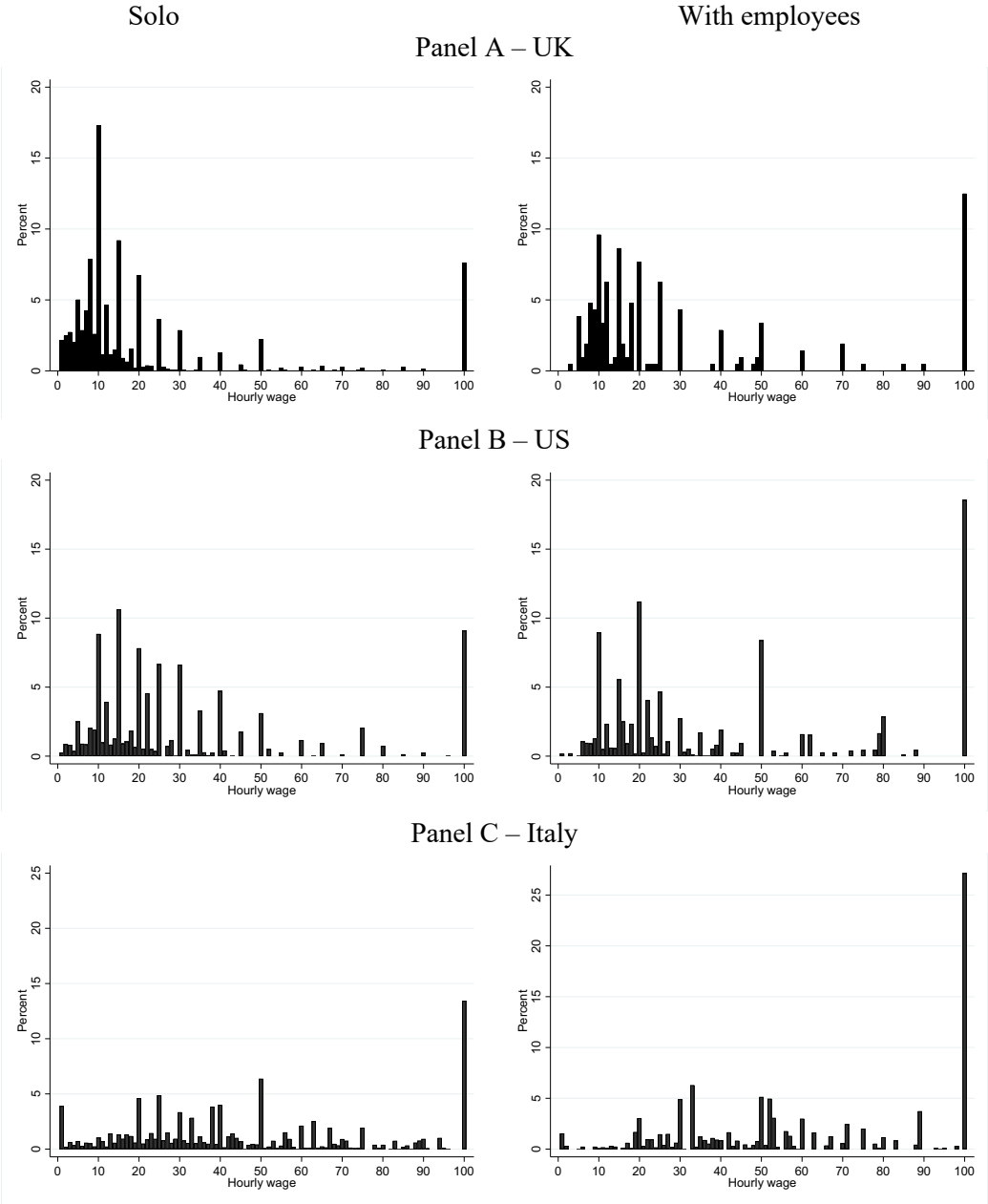
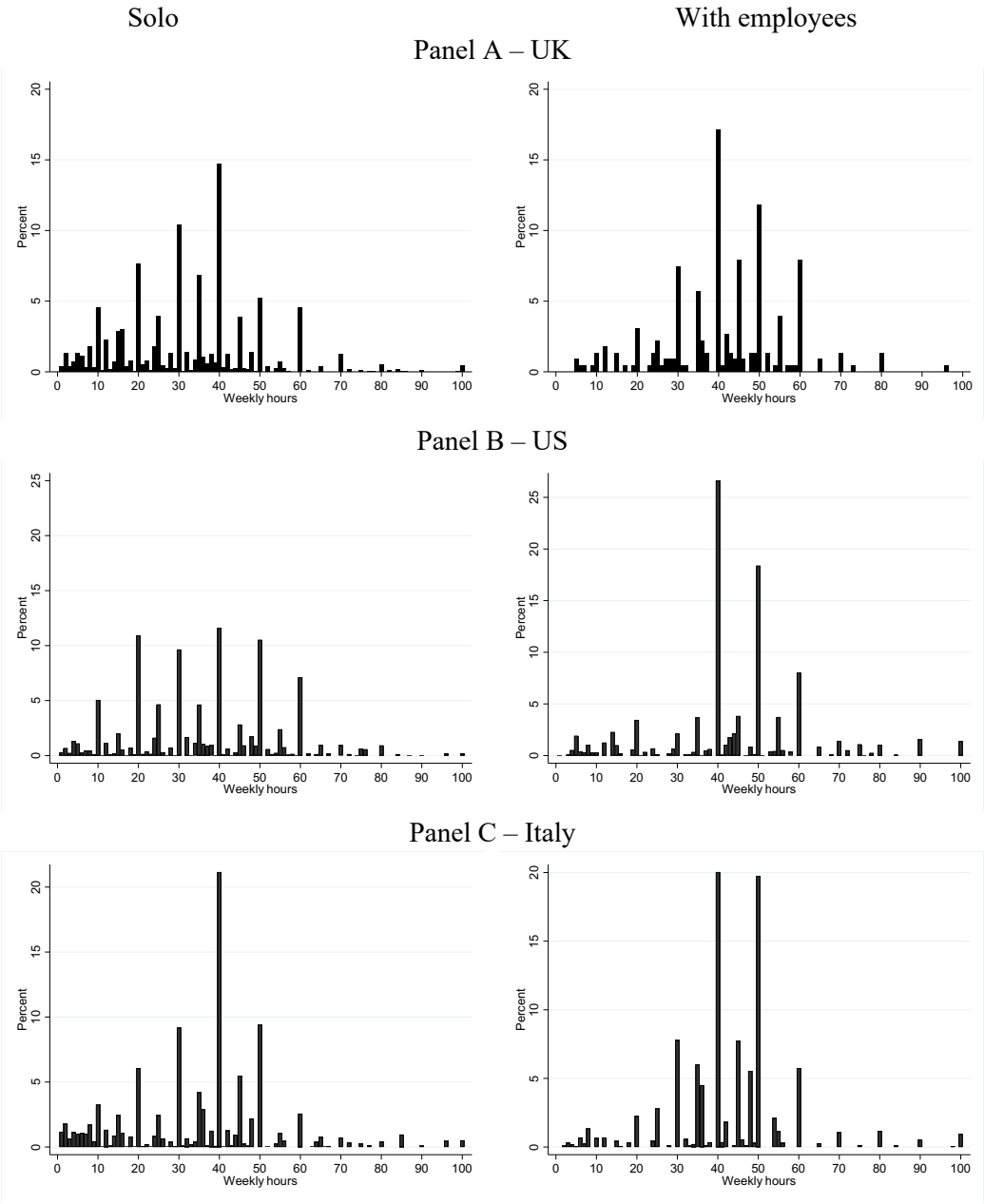
Appendix A – Additional Figures and Tables

Figure A1 – Hourly wage distribution



Note: The graphs plot the distribution of hourly wages for solo self-employed (left column) and self-employed with employees (right column) in the UK (Panel A), the US (Panel B) and Italy (Panel C). The distribution is censored at 100 pounds, dollars and euros, respectively. The data are binned into 1 pound/dollar/euro bins.
Source: LSE-CEP Survey, Princeton Self-Employment Survey, fRDB Survey.

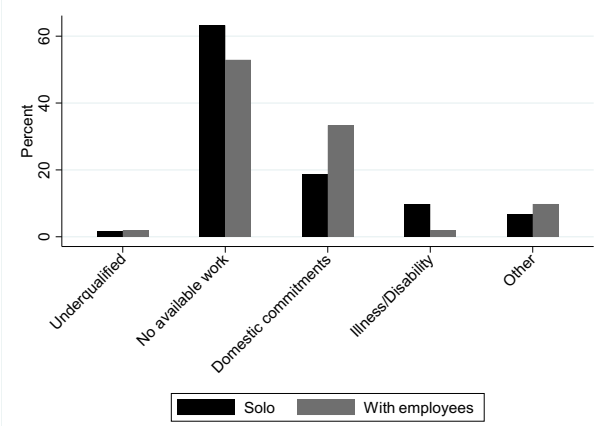
Figure A2 – Weekly hours distribution



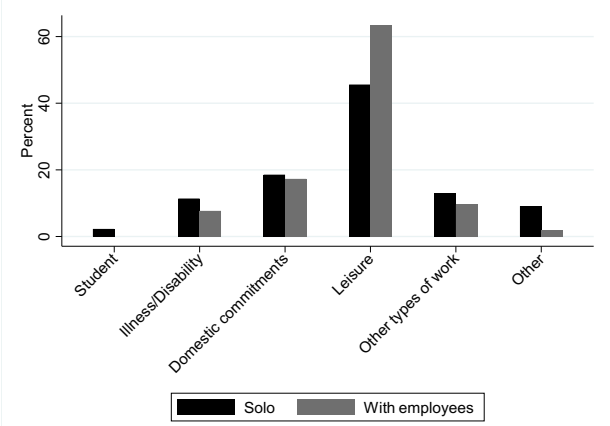
Note: The graphs plot the distribution of weekly hours worked for solo self-employed (left column) and self-employed with employees (right column) in the UK (Panel A), the US (Panel B) and Italy (Panel C). The distribution is censored at 100 hours per week. The data are binned into 1 hour bins.
Source: LSE-CEP Survey, Princeton Self-Employment Survey, fRDB Survey.

Figure A3 – Main reason for:

Panel A – Not working more hours

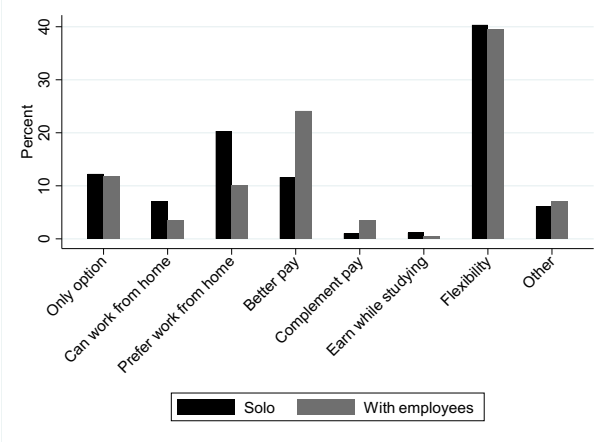


Panel B – Wanting fewer hours



Note: Panel A shows the distribution of responses to the question "Why were you NOT able to work more last week?", and Panel B to the question "Why would you want to work fewer hours?". Answers are reported separately for solo self-employed (black bar) and self-employed with employees (gray bar).
Source: LSE-CEP Survey.

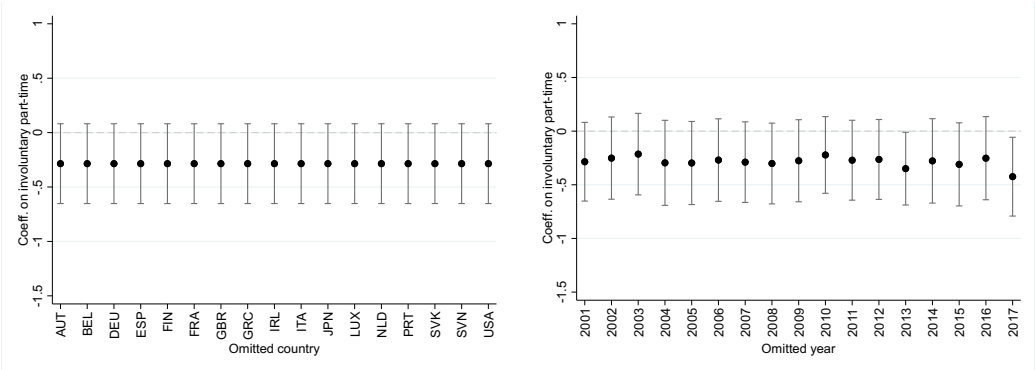
Figure A4 – Main reason for working as self-employed



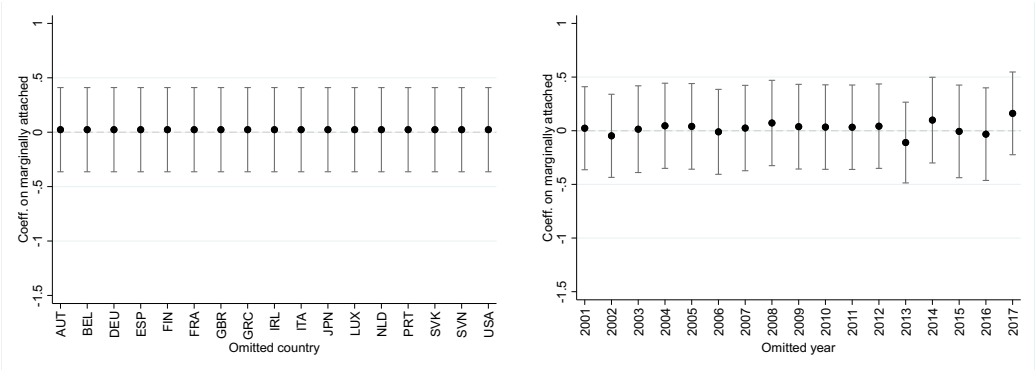
Note: The graph shows the distribution of responses to the question "Which is the most important reason why you work as self-employed?". Answers are reported separately for solo self-employed (black bar) and self-employed with employees (gray bar).
Source: LSE-CEP Survey.

Figure A5 – Cross country wage curve: Robustness analysis

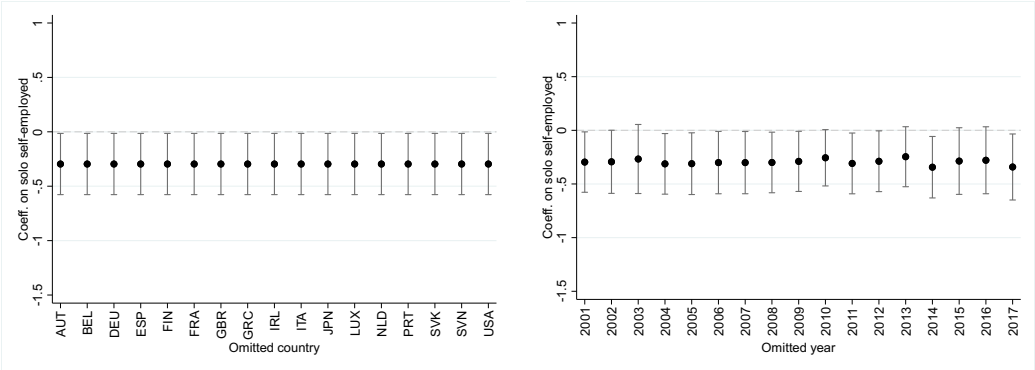
Panel A – Coefficient on involuntary part-timers



Panel B – Coefficient on marginally attached



Panel C – Coefficient on solo self-employed



Note: The graphs report a battery of "leave-out" robustness tests to assess the robustness of the estimated coefficients $\hat{\theta}_4$, $\hat{\theta}_5$ and $\hat{\theta}_6$ from the model described in Table A5 in Appendix A. Each graph reports the estimated coefficient (black circle) and associated 95 percent confidence interval based on robust standard errors (vertical capped bar) from estimating the model excluding one country (left-hand column) or one year (right-hand column) at a time. Panel A shows robustness of coefficient $\hat{\theta}_4$ for involuntary part-timers from the model specification reported in column (2) of Table A5. Panel B shows robustness of coefficient $\hat{\theta}_5$ for marginally attached workers from the model specification reported in column (3) of Table A5. Panel C shows robustness of coefficient $\hat{\theta}_6$ for solo self-employed from the model specification reported in column (4) of Table A5.
Source: OECD.

Table A1 – Sample of survey respondents

	UK		US		Italy	
	Survey	UK-LFS	Survey	CPS	Survey	IT-LFS
Female	0.49	0.49	0.47	0.47	0.41	0.42
Age	41.38	41.20	41.15	40.91	42.85	43.95
Age 18-24	0.12	0.12	0.13	0.12	0.05	0.04
Age 25-34	0.21	0.24	0.23	0.24	0.20	0.18
Age 35-44	0.23	0.22	0.21	0.22	0.28	0.27
Age 45-54	0.26	0.23	0.22	0.23	0.32	0.31
Age 55-65	0.18	0.20	0.21	0.19	0.15	0.20
Less than high school	0.13	0.27	0.05	0.07	0.01	0.03
High school	0.34	0.26	0.57	0.51	0.29	0.40
Vocational training	0.13	0.09	0.05	0.04	0.34	0.35
Bachelor	0.29	0.30	0.21	0.24	0.13	0.05
Advanced degree	0.12	0.08	0.12	0.14	0.23	0.18
Employee (public, private, non-profit)	0.87	0.87	0.91	0.91	0.79	0.79
Solo self-employed	0.12	0.10	0.07	0.07	0.16	0.14
Self-employed with employees	0.02	0.03	0.03	0.02	0.05	0.06
Obs.	14,173	43,125	8,537	54,935	10,163	31,439

Note: The table reports the mean of a set of variables for the samples of respondents to the online surveys. The online survey samples are defined as follows. US survey: A total of 10,368 individuals took the survey. Of these, 8,537 remained in the sample after screening out those whose only work in the previous week was filling out surveys, those who did not work at all, resided outside the US, were outside the age range 18-65, or provided nonsensical responses to open questions. UK survey: A total of 20,000 individuals took the survey. After the same screening described for the US survey, 14,173 respondents remained in the sample. Italian survey: A total of 15,011 individuals took the survey. After cleaning the data in accordance to the criteria set above and excluding respondents who declare to be gig workers in their primary job, 10,163 respondents remain in the sample. To assess the representativeness of the online surveys, the table reports the same statistics using nationally representative surveys for the three countries: the UK Labor Force Survey, the US Current Population Survey and the Italy Labor Force Survey. All samples are restricted to include individuals aged 18-65 and in employment. To ensure comparability with the online surveys, UK Labor Force Survey data refer to the first quarter of 2018, Current Population Survey data to February 2017, and Italy Labor Force Survey Data to the second quarter of 2018. Current Population Survey data report information on whether self-employed individuals have employees or not in only two out of eight waves. Consequently information on the share of self-employed with and without employees from Current Population Survey is based on 25 percent of observations.

Source: LSE-CEP Survey, UK Labor Force Survey, Princeton Self-Employment Survey, Current Population Survey, fRDB Survey, Italy Labor Force Survey.

Table A2 – Industry distribution

	UK		US		Italy	
	Solo	With employees	Solo	With employees	Solo	With employees
Agriculture, forestry and fishing	0.02	0.02	0.04	0.14	0.03	0.03
Mining and quarrying	0.00	0.00	0.00	0.02	0.00	0.00
Manufacturing	0.02	0.04	0.02	0.05	0.04	0.06
Utilities	0.01	0.00	0.01	0.03	0.01	0.01
Construction	0.11	0.13	0.19	0.18	0.08	0.08
Wholesale and retail trade, repair of motor vehicles	0.11	0.13	0.19	0.22	0.08	0.11
Transportation and storage	0.04	0.04	0.04	0.02	0.03	0.04
Accommodation and food service activities	0.03	0.06	0.03	0.05	0.03	0.09
Information and communication	0.08	0.09	0.03	0.01	0.05	0.02
Financial and insurance activities	0.03	0.05	0.05	0.04	0.03	0.03
Real estate activities	0.02	0.02	0.04	0.02	0.02	0.04
Professional, scientific and technical activities	0.07	0.13	0.08	0.11	0.13	0.12
Administrative and support service activities	0.05	0.02	0.06	0.04	0.01	0.01
Education	0.04	0.03	0.04	0.01	0.04	0.01
Human health and social work activities	0.05	0.04	0.09	0.02	0.06	0.03
Arts, entertainment and recreation	0.16	0.09	0.10	0.02	0.06	0.03
Other activities	0.17	0.12	0.00	0.00	0.30	0.30
	1,633	228	1,014	299	2,037	367

Note: The table reports the industry distribution for the samples of self-employed respondents to the online surveys, distinguishing between solo self-employed and self-employed with employees.
Source: LSE-CEP Survey, Princeton Self-Employment Survey, fRDB Survey.

Table A3 – Mean and median weekly hours for full-time employee

	UK-LFS	US-CPS	IT-LFS
Weekly hours (mean)	40.41	41.50	38.05
Weekly hours (median)	40.00	40.00	40.00
	23,345	42,041	15,955

Note: The table reports the mean and median of weekly hours worked for full-time employees using nationally representative surveys in the three countries. To ensure comparability with the online surveys, UK Labor Force Survey data refer to the first quarter of 2018, Current Population Survey data to February 2017, and Italy Labor Force Survey Data to the second quarter of 2018.
Source: UK Labor Force Survey, Current Population Survey, Italy Labor Force Survey.

Table A4 – Labor market transition equations

Panel A – UK-LFS (2016/2017)

	Solo self-employed in *t*		With employees in *t*		Unemployed in *t*	
	(1)	(2)	(3)	(4)	(5)	(6)
Unemployed *t-1*	0.039**	0.040**	-0.003***	-0.002***	0.429***	0.425***
	(0.017)	(0.017)	(0.001)	(0.001)	(0.035)	(0.034)
Solo *t-1*	0.838***	0.836***	0.026***	0.025***	-0.002	-0.003
	(0.013)	(0.013)	(0.005)	(0.006)	(0.005)	(0.005)
With employees *t-1*	0.184***	0.179***	0.630***	0.628***	-0.013***	-0.011***
	(0.037)	(0.037)	(0.041)	(0.041)	(0.002)	(0.002)
Observations	9,461	9,461	9,461	9,461	9,461	9,461
Controls	No	Yes	No	Yes	No	Yes
Mean of dep. var.	0.127		0.021		0.026	

Panel B – US-CPS (2016/2017)

	Solo self-employed in *t*		With employees in *t*		Unemployed in *t*	
	(1)	(2)	(3)	(4)	(5)	(6)
Unemployed *t-1*	0.019***	0.022***	-0.002	-0.000	0.244***	0.240***
	(0.006)	(0.006)	(0.002)	(0.002)	(0.012)	(0.012)
Solo *t-1*	0.583***	0.579***	0.075***	0.073***	-0.012***	-0.011***
	(0.008)	(0.008)	(0.005)	(0.005)	(0.002)	(0.002)
With employees *t-1*	0.205***	0.200***	0.510***	0.507***	-0.018***	-0.016***
	(0.012)	(0.012)	(0.015)	(0.015)	(0.002)	(0.002)
Observations	60,442	60,442	60,442	60,442	60,442	60,442
Controls	No	Yes	No	Yes	No	Yes
Mean of dep. var.	0.075		0.024		0.025	

Panel C – IT-LFS (2016/2017)

	Solo self-employed in *t*		With employees in *t*		Unemployed in *t*	
	(1)	(2)	(3)	(4)	(5)	(6)
Unemployed *t-1*	0.029***	0.030***	0.003***	0.003***	0.615***	0.604***
	(0.003)	(0.003)	(0.001)	(0.001)	(0.007)	(0.007)
Solo *t-1*	0.863***	0.861***	0.084***	0.084***	-0.007***	-0.004**
	(0.004)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)
With employees *t-1*	0.188***	0.187***	0.782***	0.781***	-0.018***	-0.014***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.002)	(0.002)
Observations	86,751	86,751	86,751	86,751	86,751	86,751
Controls	No	Yes	No	Yes	No	Yes
Mean of dep. var.	0.137		0.060		0.068	

Note: The three panels report the regression results of transition equations for the probability of transitioning in and out of self-employment and unemployment. Columns (1) to (4) report the estimated coefficients $\hat{\alpha}_1$, $\hat{\alpha}_2$ and $\hat{\alpha}_3$ from the following regression model: $SE^{j}_{i,t} = \alpha_0 + \alpha_1 U_{i,t-1} + \alpha_2 SE^{solo}_{i,t-1} + \alpha_3 SE^{with}_{i,t-1} + X'_{i,t-1}\alpha_4 + \varepsilon_{i,t}$, where *SE* denotes self-employment for the two different forms $j = \{$solo, with employees$\}$, *U* denotes being unemployed, *X* is a set of control variables (gender, age and education) and ε is a random error. The lagged dependent variable is included to reflect the well-known strong state dependence in labor market states for individuals. The omitted category is being an employee in year *t-1*. The regressions in columns (1) and (2) use as outcome variable the probability of being solo self-employed, and those in columns (3) and (4) the probability of being self-employed with employees. Columns (5) and (6) report the estimated coefficients $\hat{\beta}_1$, $\hat{\beta}_2$ and $\hat{\beta}_3$ from the following model: $U_{i,t} = \beta_0 + \beta_1 SE^{solo}_{i,t-1} + \beta_2 SE^{with}_{i,t-1} + \beta_3 U_{i,t-1} + X'_{i,t-1}\beta_4 + \eta_{i,t}$, where the independent variables of interest are the two different self-employment states, with associated coefficient estimates β_1 and β_2 (η is an error term). The omitted category is being an employee in year *t-1*. The samples are balanced panels of individuals aged 18-65 in year *t-1*, and in the labor force in both year *t* and *t-1*. Panel A uses the longitudinal version of the UK Labor Force Survey for years 2016/2017 (all quarters). Panel B uses the longitudinal version of the Current Population Survey for years 2016/2017 (all months). Panel C uses the longitudinal version of the Italy Labor Force Survey for years 2016/2017 (all quarters). Robust standard errors are reported in parentheses. P-value: *** p<0.01, ** p<0.05, * p<0.1. Control variables are gender, age, age squared and a set of education dummies.
Source: UK Labor Force Survey, Current Population Survey, Italy Labor Force Survey.

Table A5 – Cross-country wage curve

	Hourly wage growth					
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged inflation	0.189	0.138	0.191	0.142	0.096	0.088
	(0.214)	(0.211)	(0.216)	(0.203)	(0.207)	(0.204)
Prod. growth (MA)	0.449**	0.485**	0.448**	0.380*	0.416*	0.440*
	(0.218)	(0.229)	(0.215)	(0.226)	(0.233)	(0.225)
Unemp. rate	-0.243***	-0.172**	-0.245***	-0.255***	-0.189**	-0.166**
	(0.058)	(0.082)	(0.066)	(0.051)	(0.078)	(0.075)
Change in unemp. rate	-0.282**	-0.332**	-0.281**	-0.217	-0.260*	-0.282**
	(0.135)	(0.132)	(0.136)	(0.134)	(0.132)	(0.127)
Involunt PT (over empl.)		-0.285			-0.202	
		(0.186)			(0.178)	
Marginal (over empl.)			0.023		-0.132	
			(0.196)		(0.240)	
Solo SE (over empl.)				-0.296**	-0.289*	
				(0.143)	(0.164)	
Inv+Marg+Solo (over empl.)						-0.239**
						(0.110)
Observations	229	229	229	229	229	229
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Note: The table reports the estimated coefficients of an "augmented" wage curve estimated with cross-country panel data (c = country, t = time) and taking the following form:

$$\pi^{w}_{c,t} = \theta_0\pi_{c,t-1} + \theta_1 u_{c,t} + \theta_2\Delta u_{c,t} + \theta_3 g_{c,t} + \theta_4 i_{c,t} + \theta_5 m_{c,t} + \theta_6 s_{c,t} + \gamma_c + \gamma_t + \mu_{c,t}$$

where $\pi^{w}_{c,t}$ denotes hourly wage growth, $\pi_{c,t-1}$ is lagged inflation, $u_{c,t}$ is the unemployment rate, $\Delta u_{c,t}$ the change in unemployment rate, $g_{c,t}$ is a moving average of labor productivity growth, γ_c denotes country fixed effects, γ_t denotes year fixed effects and $\mu_{c,t}$ is an error term. The key innovation adopted here is to add three more variables that could pick up effects on wage growth from labor market slack over and above the unemployment rate: (i) $i_{c,t}$ the share of involuntary part-timers over total employment, (ii) $m_{c,t}$ the share of marginally attached over total employment, and

(iii) $s_{c,t}$ the share of solo self-employed over total employment. This specification is an augmented version of the one estimated in Hong et al. (2018). Column (1) is what might be viewed as a conventional wage curve (setting the coefficients on the three augmenting variables, θ_4, θ_5 and θ_6 to zero). The specifications reported in the other columns of the table add in the augmenting variables, both separately and jointly. Column (6) includes the sum of involuntary part-timers, marginally attached and solo self-employed (all as a share of total employment) among the regressors. The sample is a yearly panel of OECD countries (Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Japan, Luxembourg, the Netherlands, Portugal, the Slovak Republic, Slovenia, Spain, the UK and the US) for the years 2001 to 2017. Robust standard errors are reported in parentheses. P-value: *** p<0.01, ** p<0.05, * p<0.1. Figure A5 in Appendix A reports a battery of "leave-out" robustness tests to assess the robustness of the estimated coefficients $\hat{\theta}_4$, $\hat{\theta}_5$ and $\hat{\theta}_6$ from columns (2), (3) and (4).
Source: OECD.

Table A6 – Think that the creation of a benefit fund is a good idea

	UK		US	
	Solo	With employees	Solo	With employees
Yes	0.79	0.71	0.81	0.80
No	0.05	0.10	0.07	0.09
Not sure	0.16	0.19	0.12	0.11
	1,633	228	1,014	299

Note: The table reports the distribution of survey responses to the question "Policymakers have been discussing the idea of creating a fund to help self-employed workers obtain work-related benefits, such as health insurance and retirement saving, that they would be able to receive regardless of where they worked, and they could take with them if they changed jobs. Do you think this is a good idea?".
Source: LSE-CEP Survey, Princeton Self-Employment Survey.

Table A7 – Health insurance and retirement benefit coverage

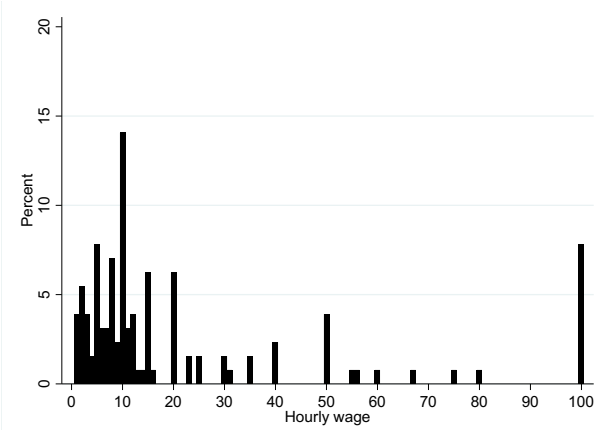
	US	
	Solo	With employees
Have health insurance coverage	0.76	0.86
From family member's employer	0.28	0.26
From own employer	0.05	0.13
Buy on healthcare.gov or state exchange	0.21	0.14
Buy individual plan through agent, broker or insurance company	0.16	0.24
Through government (e.g. Medicaid or Medicare)	0.27	0.16
COBRA	0.02	0.06
Other	0.01	0.02
Contributed to a tax deferred retirement account	0.28	0.60
Used third party to assist with benefit coverage	0.07	0.34
Willing to provide tax data to third part for assistance with benefit coverage	0.41	0.63
Obs	1,014	299

Note: The table reports the share of respondents who replied positively to the following questions: (i) "Are you now covered by any type of health plan?"; (ii) if covered by a health plan, "How do you currently get coverage from your health plan?"; (iii) "Did you contribute last year to a tax deferred retirement account, such as an IRA, SEP, 401(k) or 403(b) plan?"; (iv) "Have you used a third party (such as Stride, the Freelancers Union, a professional association, or an individual agent) to assist you in obtaining health insurance or other benefits?"; (v) "Would you be willing to provide your tax data (on a confidential basis) to an agent, broker, Freelancers Union or a professional association whom you select to help you obtain government subsidized benefits, such as health insurance?". Answers are reported separately for solo self-employed and self-employed with employees.
Source: Princeton Self-Employment Survey.

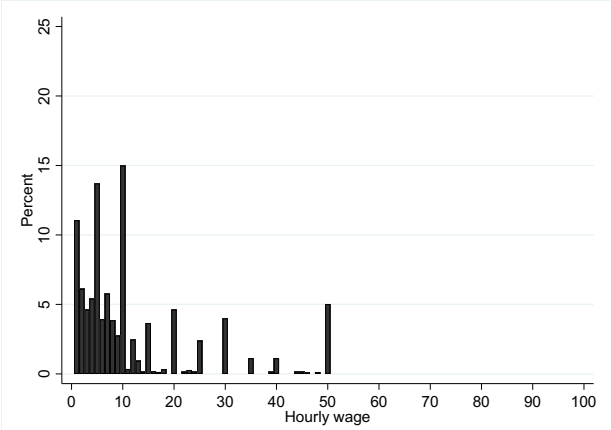
Appendix B – Results on gig-economy workers

Figure B1 – Hourly wage distribution (gig work)

Panel A – UK



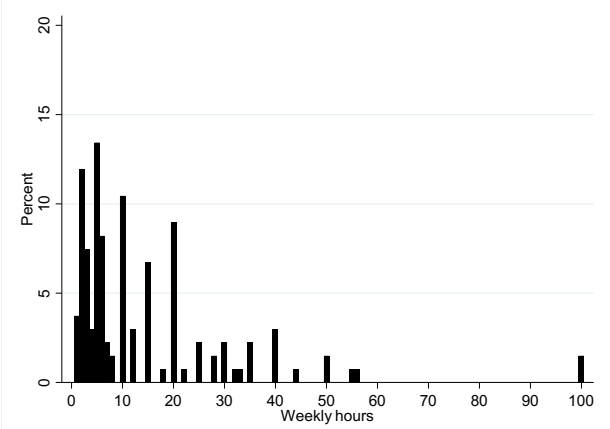
Panel B – Italy



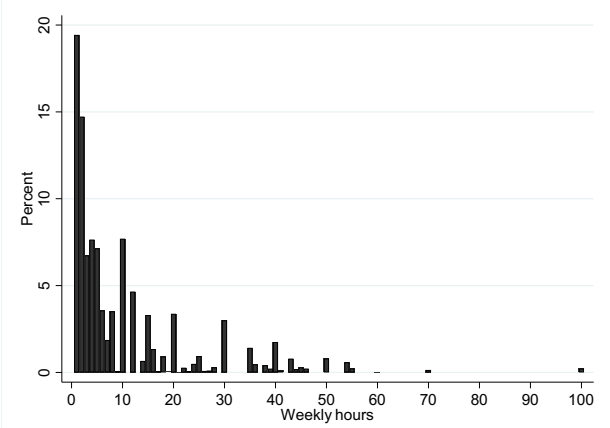
Note: The graphs plot the distribution of hourly wages in gig work in the UK (Panel A) and in Italy (Panel B). The distribution is censored at 100 pounds and euros, respectively. The data are binned into 1 pound/ euro bins.
Source: LSE-CEP Survey, fRDB Survey.

Figure B2 – Weekly hour distribution (gig work)

Panel A – UK



Panel B – Italy



Note: The graphs plot the distribution of weekly hours worked in gig work in the UK (Panel A) and in Italy (Panel B). The distribution is censored at 100 hours per week. The data are binned into 1 hour bins.
Source: LSE-CEP Survey, fRDB Survey.

Table B1 – Summary statistics of gig-economy workers

	UK	US	Italy
Gig workers as share of respondents			0.04
Gig workers as share of self-employed	0.07	0.14	0.05
Female	0.43	0.23	0.45
Age	36.56	42.79	39.29
Age 18-24	0.23	0.06	0.11
Age 25-34	0.27	0.18	0.25
Age 35-44	0.15	0.32	0.30
Age 45-54	0.25	0.22	0.25
Age 55-65	0.10	0.23	0.10
Less than high school	0.07	0.18	0.02
High school	0.40	0.50	0.26
Vocational training	0.05	0.03	0.25
Bachelor	0.31	0.17	0.17
Advanced degree	0.16	0.12	0.30
Hourly wage	37.66		11.62
Hourly wage (median)	10.00		7.00
Weekly hours	14.10		9.96
Weekly hours (median)	7.50		5.00
	135	217	886

Note: The table reports the mean of a set of variables for the samples of gig workers that responded to the online surveys. Gig workers are defined as follows in the three surveys. UK Survey: gig workers are defined as a subsample of primarily self-employed workers who answer positively to the following question "Last week, did you do work on any gigs, HITs or other smaller paid jobs that you did not include in any of your answers so far?" (see question Q28 in Appendix C). US Survey: gig workers are defined as a subsample of primarily self-employed workers who answer positively to the following question "Last week, did you find any paid work through a digital platform, such as Uber, TaskRabbit or Handy? This is often called gig work." (see question Q4 in Appendix D). Italian Survey: gig workers are defined as respondents who answer positively to the following question "On your main job last week, were you a gig-economy worker, i.e. someone who performs tasks on demand through a digital platform or intermediary, such as Uber, Foodora, ClickWorker, Airbnb, Glovo, MamaClean, Deliveroo, BeMyEye, Supermarket24, Amazon Mechanical Turk, TaskHunters, Fiverr, HelplingLast?" (see question SC1 in Appendix E). Gig work can be their primary or secondary job (in which case they may be either traditional employees or self-employed in their primary job).
Source: LSE-CEP Survey, Princeton Self-Employment Survey, fRDB Survey.

Table B2 – Flexibility (gig workers)

	Italy
Panel A. Desired hours	
More hours	0.44
Fewer hours	0.07
Satisfied	0.49
Panel B. Job satisfaction	
Very satisfied	0.08
Satisfied	0.35
Neutral	0.46
Dissatisfied	0.08
Very dissatisfied	0.03
Panel C. Reason for working in the gig-economy	
Temporary need	0.30
Permanent own-income top up	0.26
Permanent family-income top up	0.24
Only job/source of income	0.16
Other	0.04
Panel D. Liquidity constraints	
Able to pay	0.62
Pay by borrowing or selling	0.25
Unable to pay	0.13
Panel E. Job flexibility	
Can choose *when* to work	0.64
Can choose *when* to work, but *de facto* constrained by demand on the platform	0.22
Cannot choose *when* to work	0.14
Can choose *where* to work	0.78
Platform determines *where* I can work	0.22
	866

Note: Panel A reports the distribution of responses to the question "Compared to your usual weekly hours, would you like to work more/similar/fewer hours?". Panel B reports responses to the question "How satisfied are you with working as a gig-economy worker?". Panel C reports responses to the question "What is the main reason why you work as gig-economy worker?". Panel D reports responses to the question "Suppose that you have an emergency expense that costs 500,00 euros. Based on your current financial situation, how would you pay for this expense? If you would use more than one method to cover this expense, please select all that apply". Responses are grouped into the three categories reported in the table. Panel E reports responses to the questions "Which among the following better describes your choice about when to work?" and "Can you freely choose where to work?".
Source: fRDB Survey.