

Regulating temporary agency work - the effect of equal pay legislation on wages

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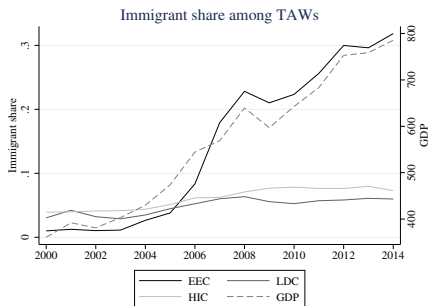
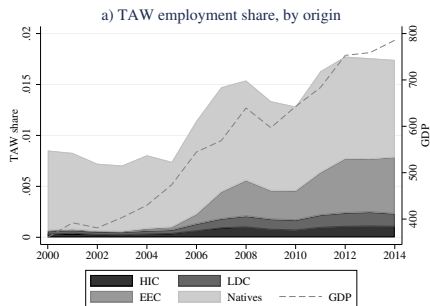
Background and motivation

- Temporary work agencies controversial
- Temporary agency work seen in different ways:
 - ① Efficient institutional solution to temporary labor demand
 - ② Cost saving device, avoid unions' costly employment arrangements
- Welfare for temp workers? Wages and employment opportunities.
- EU's Directive on Temporary Agency Work (TAWD), 2008:
 - Meant to reduce wage discrimination (stop 2)
 - Pay and working conditions as if TAWs were employed directly
 - Implemented in Norwegian law 1.1.2013
 - Targeted particularly at (labor) immigrants ("social dumping")

Our paper

- Two simple questions:
 - ① Was temp work underpaid before the Directive?
 - ② Did the Directive reduce the wage gap, i.e., did it work?
- Estimate differences in hourly wage of temporary agency workers (TAWs) relative to direct employees (DEs) before and after TAWD.
- Results indicate that:
 - TAWs substantial lower wages pre-reform
 - Wage gap reduced, but not eliminated
 - Effects driven by immigrants and low-skill occupations

Temp agency work in Norway, 2000-2014



Source: Own calculations and Statistics Norway (Statbank Table 09190)

High-income countries (**HIC**): member states of EEA prior to 2004, North America, Japan and Oceania;
Eastern-European Countries (**EEC**): countries entering EU 2004-2007 and European Countries outside EEA;
Less-developed countries (**LDC**): rest of the world.

Data

Population-wide administrative register data from Norway, 2010-2014.

High quality, but some challenges:

- ① Financial crisis in 2008/2009 and oil price shock in July 2014:
 - Substantial turbulence in *parts* of the economy
 - TAWs particularly sensitive
 - limit data period to 2010-2014
 - drop main "oil regions"
 - control for local business cycles + robustness checks
- ② "TAW" = employed in a temp agency (industry code)
 - Can not observe *where* TAWs work, only occupation
- ③ Education missing for most immigrants and immigrants highly overrepresented among TAWs
 - match on occupation

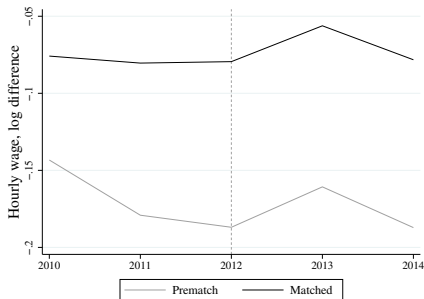
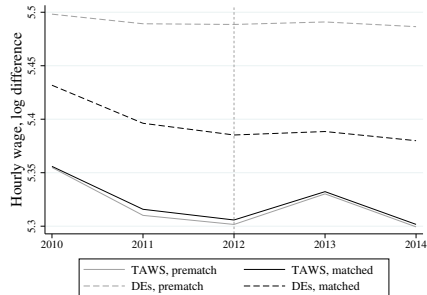
Sample and matching

Choose a sample of TAWs that is reasonable to compare to DEs:

- Limit to:
 - 20-50 years
 - Working hours: >20 per week, 100-3000 per year
 - Hourly wage 0.001-0.05 BA (82 - 4,100 2012-NOK)
 - Drop students and trainees
 - Not armed forces, legislators, senior officials, and managers
- Match TAWs to DEs using coarsened exact matching (CEM):
 - Match on age (6), experience (5), occupation (312), and region (46)
 - Group matching variables into cells and match within cells
 - Match TAWs to one/more DEs year-by-year (repeated cross-section)
 - 93,300 TAWs (91%) matched to 1.85 mill. (unweighted) DEs

1. Were TAWs paid less than DEs before the Directive?

Hourly wages of TAWs and DEs, before/after matching+weighting



Estimation

Event-study difference-in-differences (TWFE) model:

$$y_{it} = \delta \text{TAW}_i + \gamma \text{Year}_t + \sum_{t=2010}^{2014} \beta_t \text{TAW}_i \times \text{Year}_t + X_i + Z_{it} + \epsilon_{it} \quad (1)$$

y_{it} : log hourly wages

TAW_i : temporary agency worker

Year_t : year FE

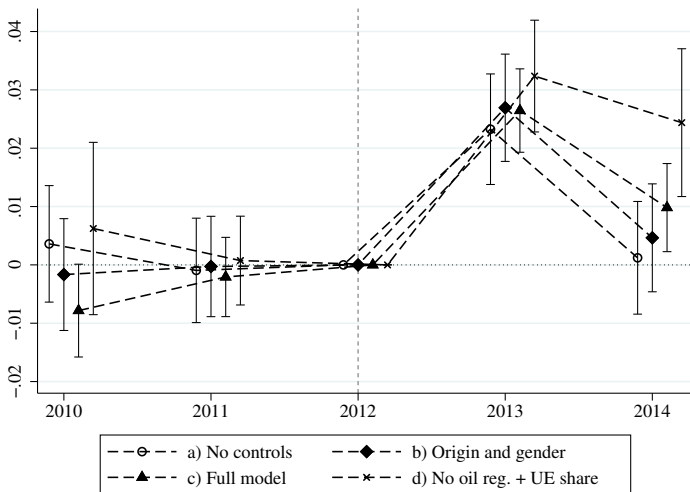
X_i (constant, 2012): immigrant origin group, gender, cell-by-TAW

Z_{it} (time-varying): cell-by-year, unemployment-by-TAW

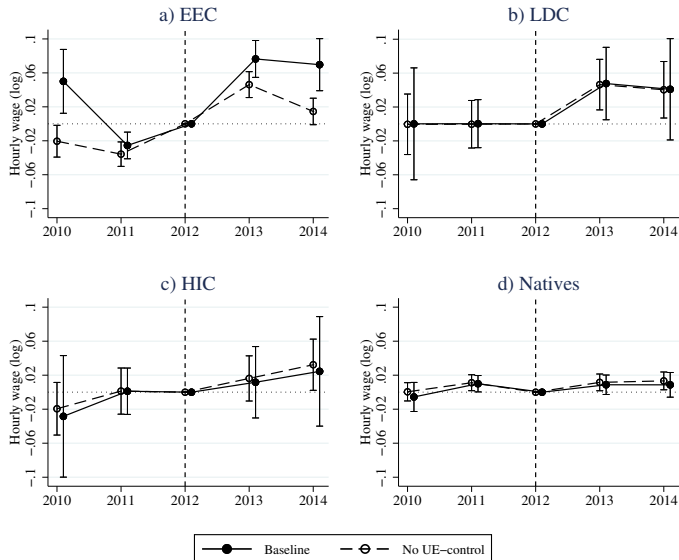
ϵ_{it} : heteroskedasticity robust standard errors

2012 is reference year

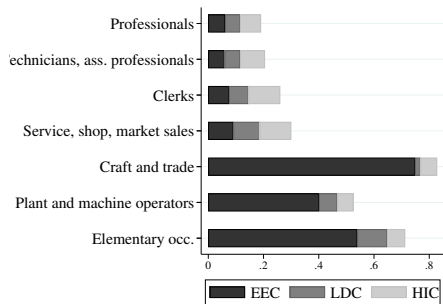
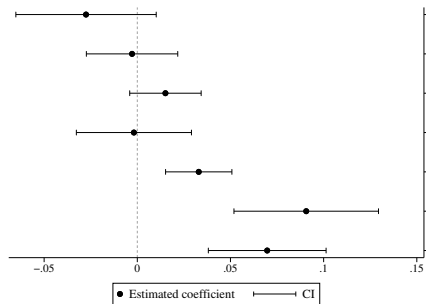
2. Did TAWD reduce the wage gap?



By origin groups



By (major) occupation groups



Summing up

- Temp agencies controversial. Said to undermine negotiated wage agreements and lead to "social dumping".
- We study the implementation of the "Equal pay legislation" (TAWD) in Norway in January 2013
- Temporary agency workers (TAWs) paid less than direct employees (DEs) in Norway before the Directive
- TAWD reduced the wage gap substantially (2-3 pp)
- Immigrants and workers in low-skill occupations most affected

THANK YOU!

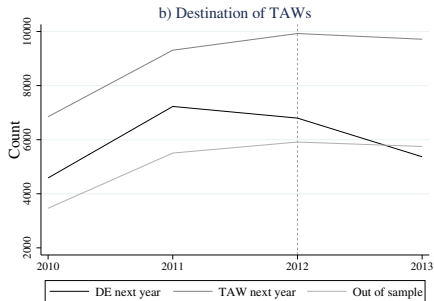
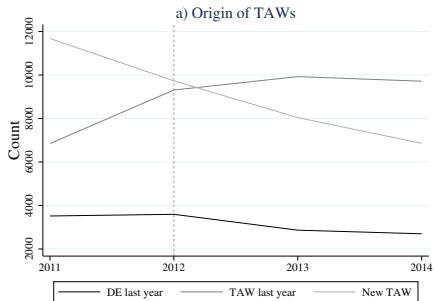
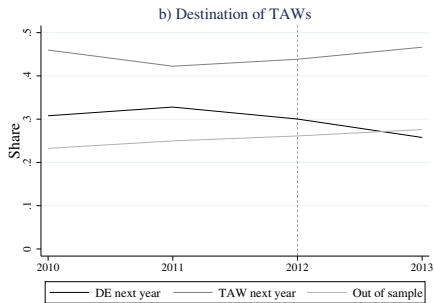
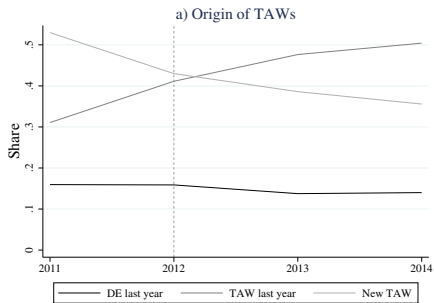
Sample (2012) before and after matching

	Unmatched		Matched	
	TAWs	DEs	TAWs	DEs
Male	0.72	0.54	0.71	0.71
Age	33.7	36.8	33.6	33.6
EEC	0.36	0.07	0.33	0.27
LDC	0.06	0.05	0.06	0.06
HIC	0.08	0.05	0.08	0.09
Experience	7.96	14.89	8.39	8.62
Annual hours	1,235.4	1,659.9	1,233.2	1,608.7
Days employed	245	328	245	309
Weekly hours	35.3	35.4	35.2	36.4
No. of spells	2.83	1.86	2.81	1.45
Annual salary	2745,90	429,784	276,270	380,886
Earnings	347,267	467,220	351,107	423,584
Hourly wage	222.6	262.5	224.0	238.7
<i>N</i>	26,800	1,114,420	24,303	415,950

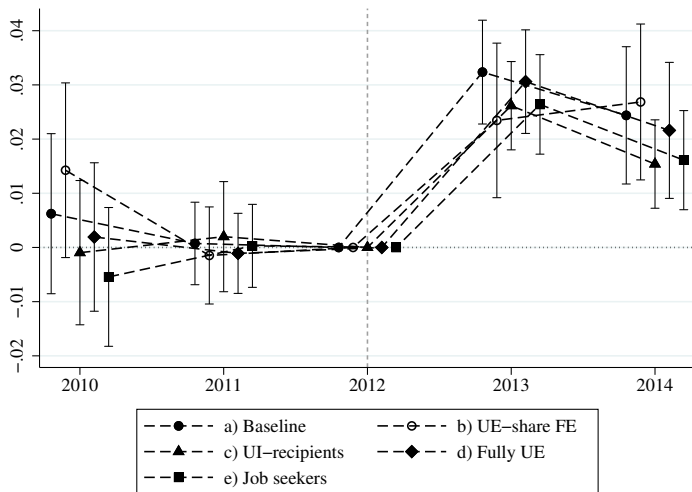
Observable characteristics of TAWs 2010-2014

	2010	2011	2012	2013	2014
Male	0.67	0.68	0.71	0.71	0.73
Age	33.60	33.23	33.63	33.87	34.20
EEC	0.22	0.27	0.33	0.36	0.38
LDC	0.05	0.06	0.06	0.06	0.06
HIC	0.08	0.08	0.08	0.08	0.07
Experience (labor market)	9.70	8.73	8.39	8.27	8.42
Annual hours	1,199	1,134	1,233	1,247	1,267
Days employed	234	225	244	247	246
Weekly hours	35.6	35.1	35.2	35.4	35.8
No. of spells	2.68	3.43	2.81	2.81	2.79
Annual salary	282,261	259,121	276,270	287,071	280,496
Earnings	361,479	339,102	351,107	360,370	354,650
Hourly wage	234.97	223.53	224.04	228.07	223.12
<i>N</i>	16,576	23,620	24,303	22,512	20,568

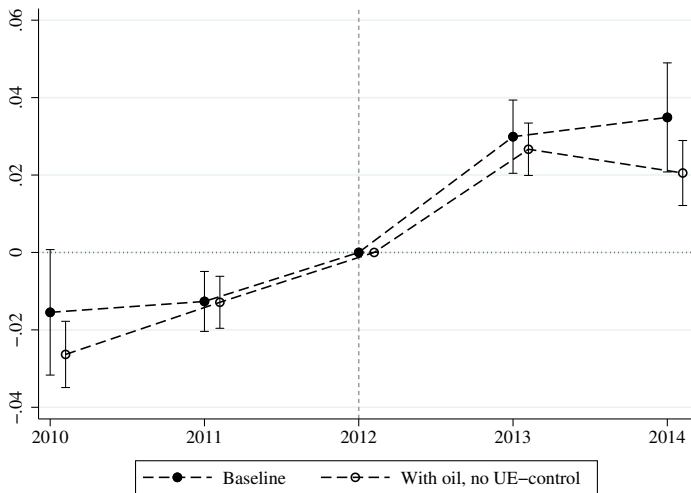
No (clear) shifts in mobility patterns



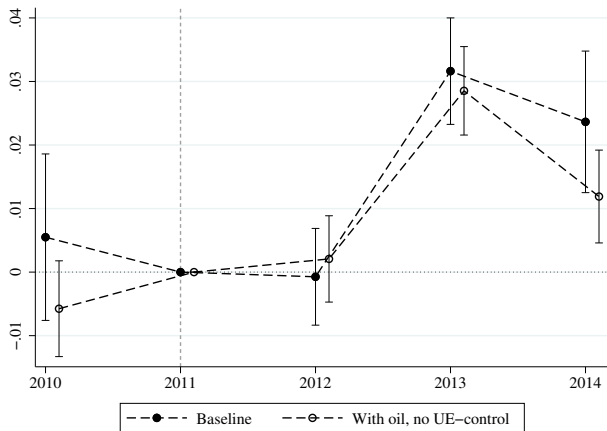
Robustness: different business cycle controls



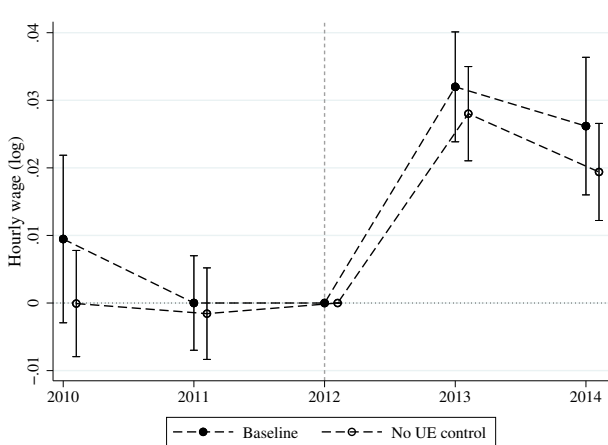
Robustness: individual FE



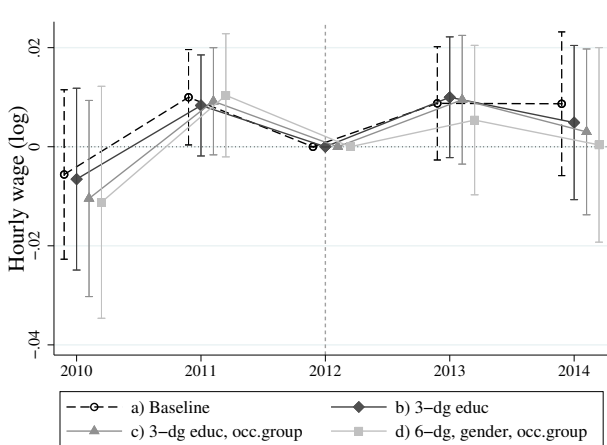
Robustness: 2011 as reference year



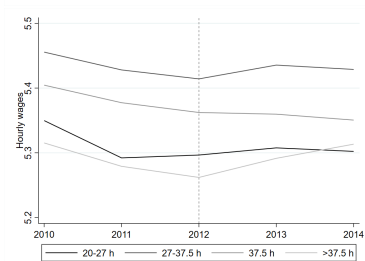
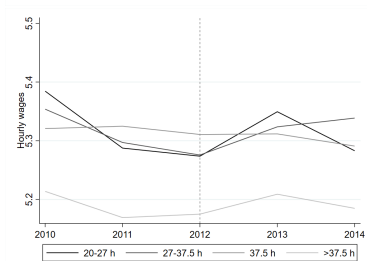
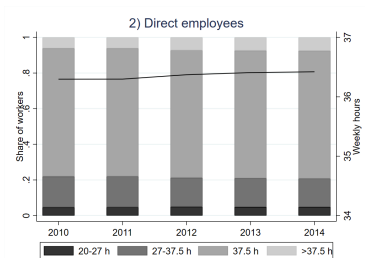
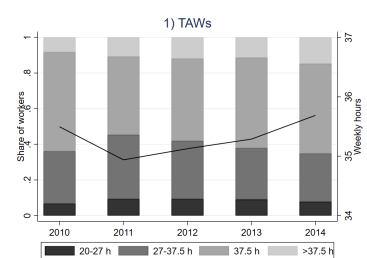
Robustness: match on education (all)



Robustness: match on more information (natives)



Working-time categories



Reduced TAW share and increased working hours

