



2017 IBS JOBS CONFERENCE

Technology, Demography and the Global Division of Labor

Skills, Employers' Preferences, and Occupational Segregation

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Jagiellonian University

Warsaw
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Bilans Kapitału Ludzkiego
Human Capital Study



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI



UNIA EUROPEJSKA
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Human Capital Study

2010

2011

2012

2013

2014



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Human Capital Study



- **Employers:** 80,186 (approx. 16,000/year)
- **Job offers:** 103,774 (approx. 20,000/year)
- **Working-age population:** 88,562 (approx. 17,600/year)
- **Unemployed:** 8,000 (2010)
- **Pupils (upper level secondary):** 72,051 (approx. 32,000/year) (2010, 2013)
- **Students (tertiary education):** 65,372 (32,000/year) (2010, 2013)
- **Training institutions:** 21,896 (approx. 4,500/year)
- Analysis of **careers in education:** 2010-2014



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Occupational segregation by gender

Gender		Male				Female			
Age		18-34	35-49	50+	Total	18-34	35-49	50+	Ogół
5 sales/serv		12.0	9.3	10.3	10.6	33.6	22.5	16.8	25.0
2 profession		11.9	11.9	8.7	11.2	21.7	27.8	23.2	24.6
4 clerical		7.5	5.6	5.0	6.2	16.1	11.0	14.6	13.6
3 assoc. prof		12.1	10.9	8.1	10.8	13.8	14.3	17.0	14.8
9 element		8.1	6.3	9.2	7.6	5.0	8.8	15.7	9.2
1 manager		3.2	4.5	5.1	4.1	3.2	4.2	3.9	3.8
8 operator		18.0	21.0	20.2	19.6	2.6	3.3	2.2	2.8
7 craft work		27.3	30.5	33.5	29.9	4.0	8.0	6.5	6.3
Ogółem	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	N	8043	7739	4415	20197	6347	7675	4486	18508

Human Capital Study 2010-2014.



Occupational segregation by gender

Gender		Male				Female				F-M Difference			
Age		18-34	35-49	50+	Total	18-34	35-49	50+	Ogół	18-34	35-49	50+	Total
5 sales/serv		12.0	9.3	10.3	10.6	33.6	22.5	16.8	25.0	21.6	13.3	6.5	14.4
2 profession		11.9	11.9	8.7	11.2	21.7	27.8	23.2	24.6	9.9	15.9	14.5	13.4
4 clerical		7.5	5.6	5.0	6.2	16.1	11.0	14.6	13.6	8.6	5.4	9.7	7.4
3 assoc. prof		12.1	10.9	8.1	10.8	13.8	14.3	17.0	14.8	1.7	3.4	8.9	4.0
9 element		8.1	6.3	9.2	7.6	5.0	8.8	15.7	9.2	-3.1	2.5	6.6	1.5
1 manager		3.2	4.5	5.1	4.1	3.2	4.2	3.9	3.8	0.0	-0.3	-1.2	-0.3
8 operator		18.0	21.0	20.2	19.6	2.6	3.3	2.2	2.8	-15.4	-17.7	-18.0	-16.8
7 craft work		27.3	30.5	33.5	29.9	4.0	8.0	6.5	6.3	-23.3	-22.4	-27.0	-23.6
Ogółem	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0
	N	8043	7739	4415	20197	6347	7675	4486	18508	14390	15414	8901	38705

Human Capital Study 2010-2014.

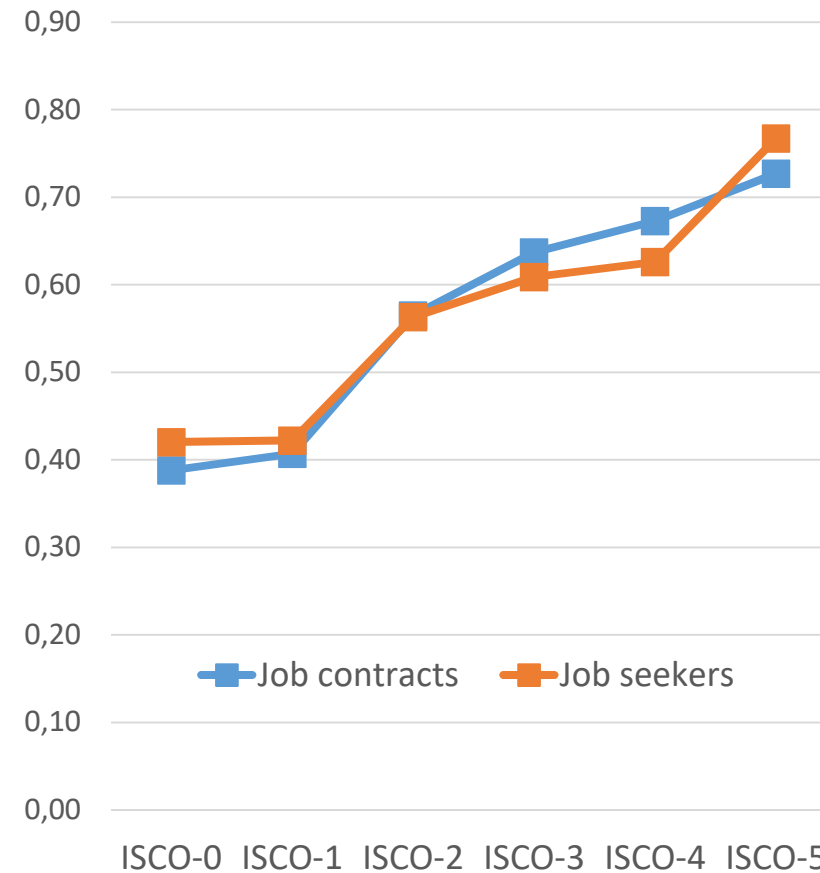


Occupational segregation by gender

Dissimilarity index

	Job contracts	Job seekers
ISCO-0	0,388	0,420
ISCO-1	0,407	0,422
ISCO-2	0,565	0,563
ISCO-3	0,637	0,609
ISCO-4	0,673	0,626
ISCO-5	0,727	0,767

Human Capital Study 2010-2014.





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Employers' hiring preferences

**Is your company trying to fill
any vacancies at the moment?**

1 yes

2 no



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Recruiting companies

ca. 16-17%



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Employers' hiring preferences

Is your company trying to fill any vacancies at the moment?

- 1 yes
- 2 no

Recruiting companies

ca. 16-17%

For this job would you...

- 1 strongly prefer a woman
 - 2 slightly prefer a woman
 - 3 slightly prefer a man
 - 4 strongly prefer a man
- 8 sex is irrelevant



Employers' hiring preferences

Is your company trying to fill any vacancies at the moment?

- 1 yes
- 2 no

Recruiting companies

ca. 16-17%

For this job would you...

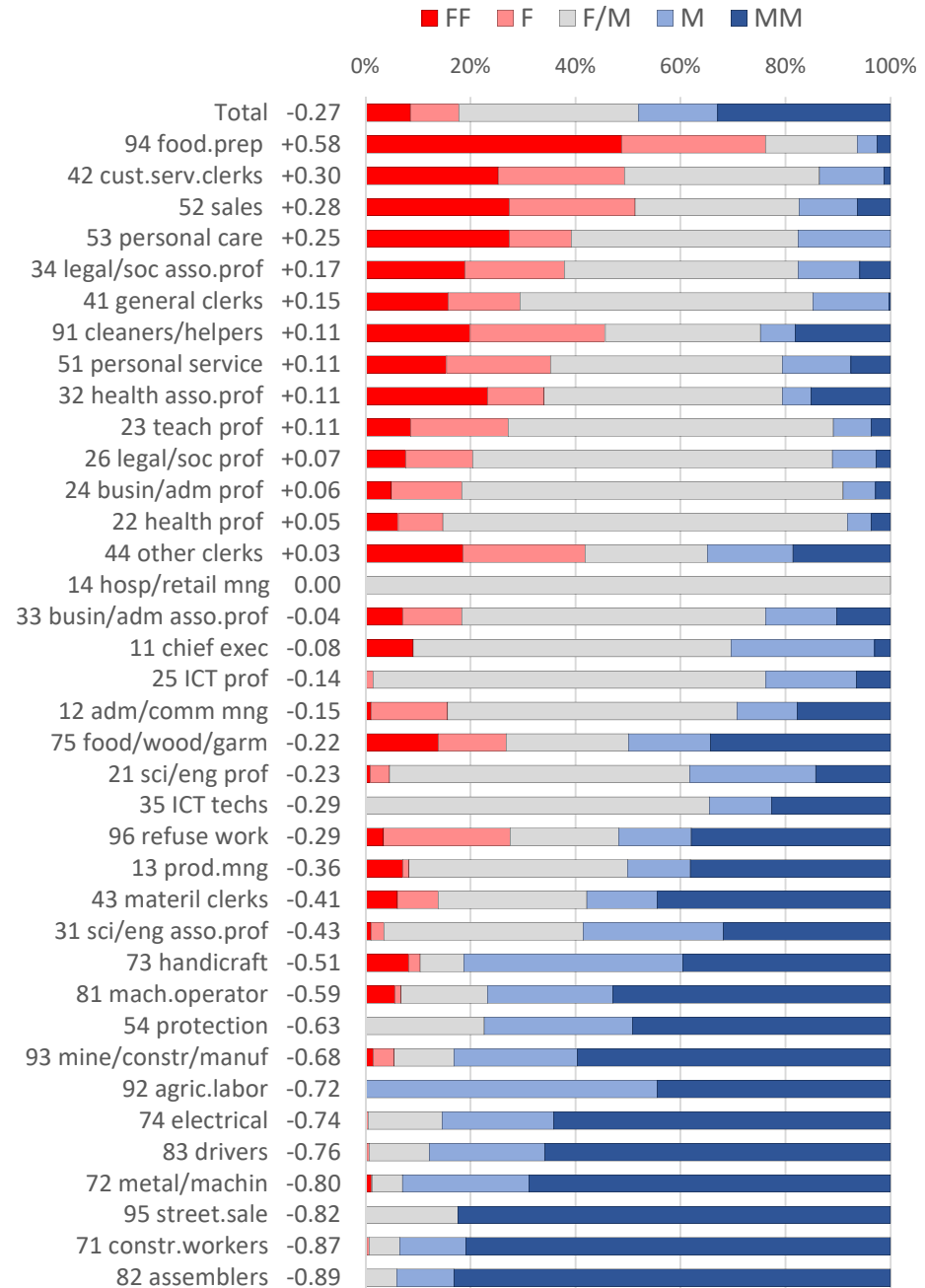
- 1 strongly prefer a woman
- 2 slightly prefer a woman
- 3 slightly prefer a man
- 4 strongly prefer a man

8 sex is irrelevant

Preference		%	N
female strongly	FF	8,3	1074
female slightly	F	9,2	1199
sex irrelevant	F/M	34,2	4437
male slightly	M	15,1	1963
male strongly	MM	33,2	4315
Total		100,0	12987



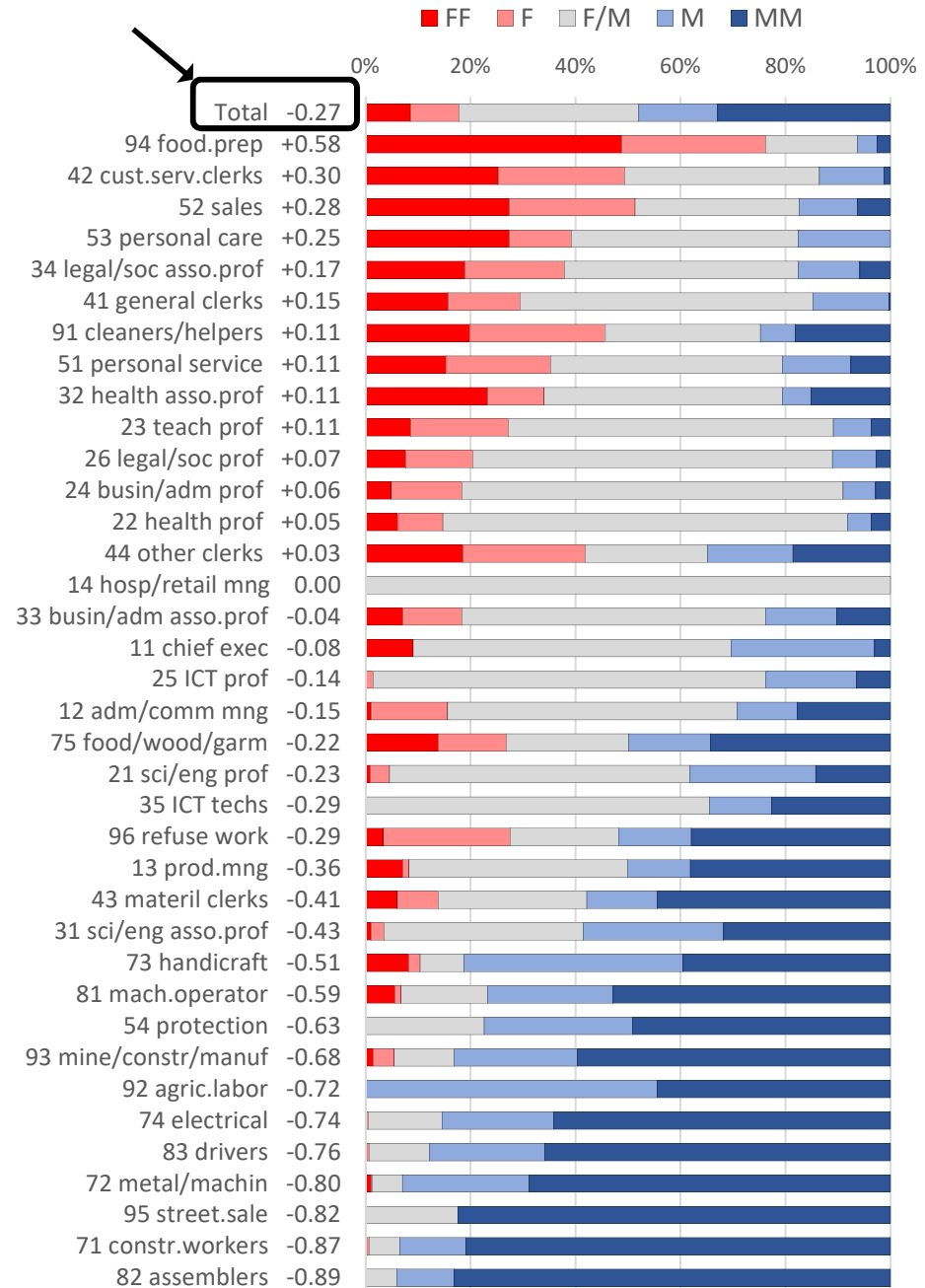
Employers' hiring preferences





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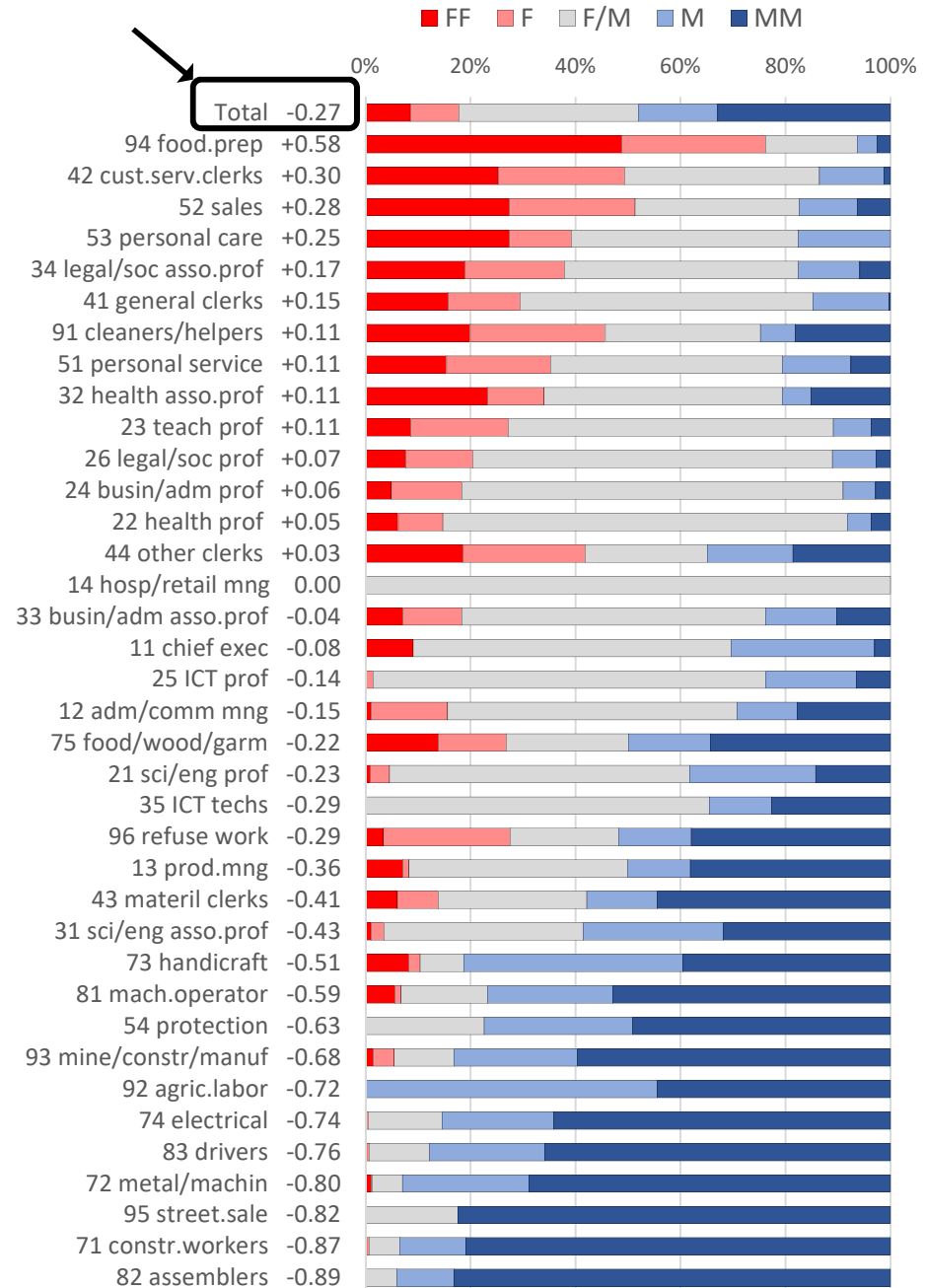
Employers' hiring preferences





Employers' hiring preferences

working
with people

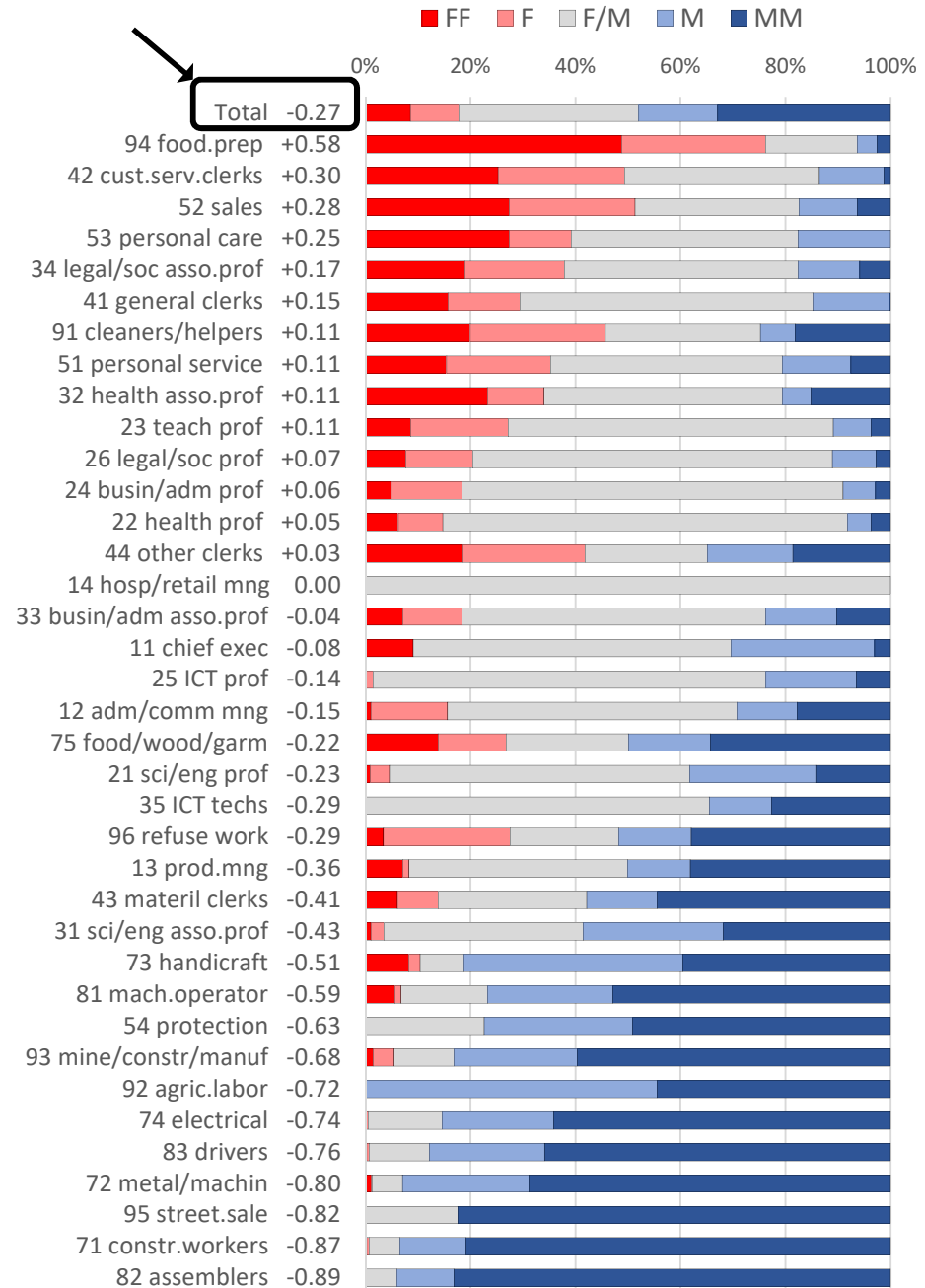




Employers' hiring preferences

working
with people

white-collar
professional
jobs





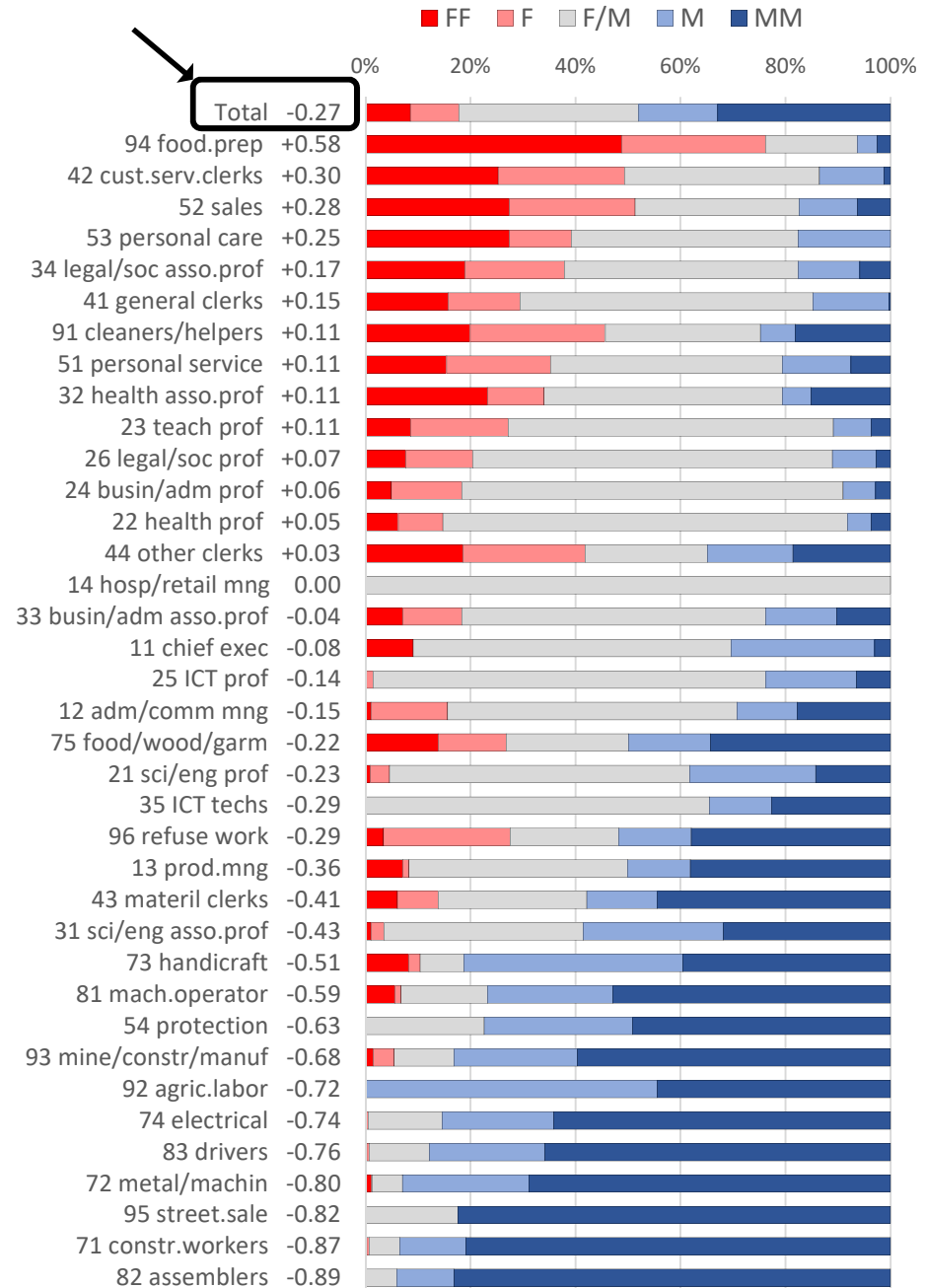
Bilans Kapitału Ludzkiego

Employers' hiring preferences

working with people

white-collar professional jobs

working with things





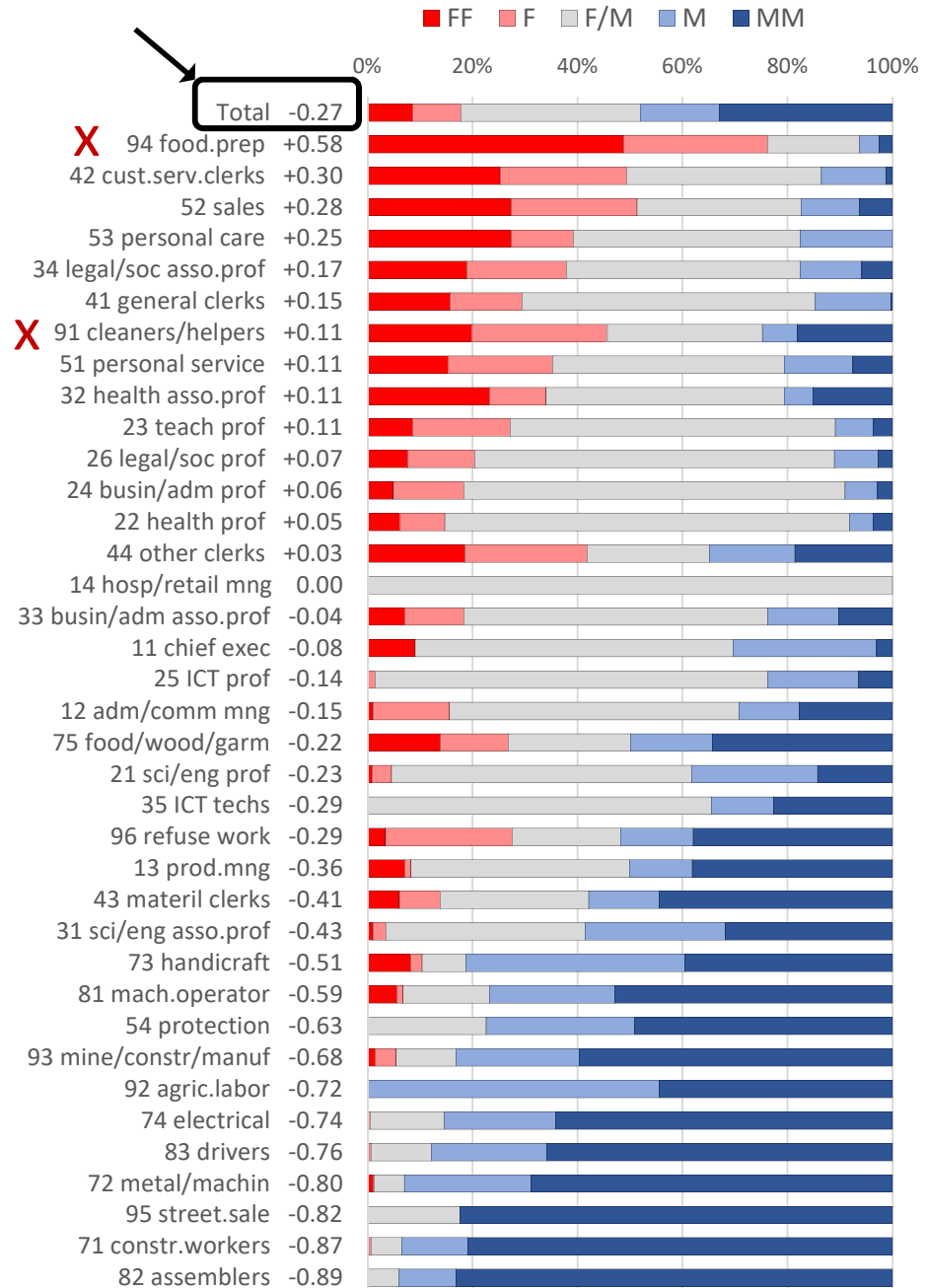
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Employers' hiring preferences

working with people

white-collar professional jobs

working with things





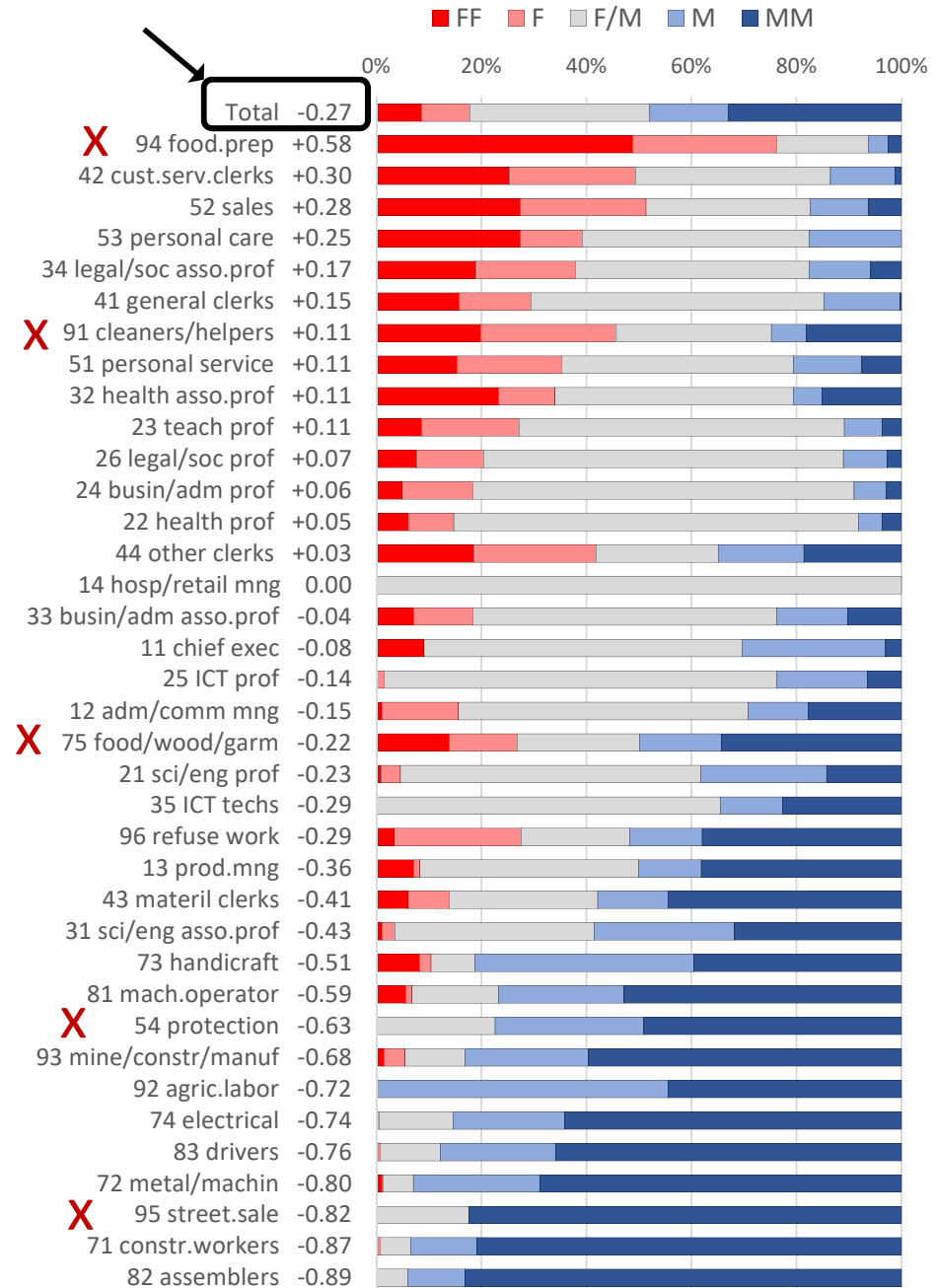
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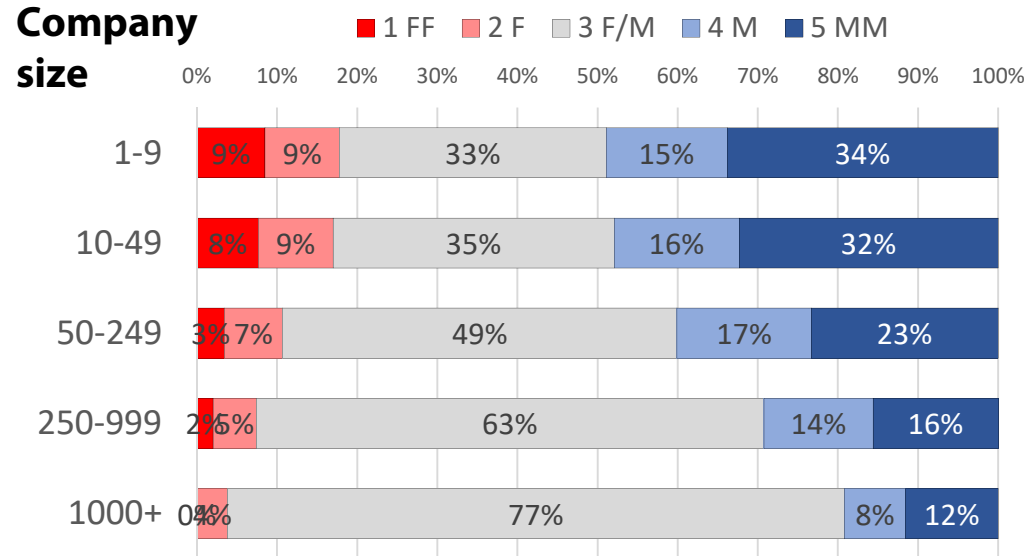


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Factors affecting employers' preferences

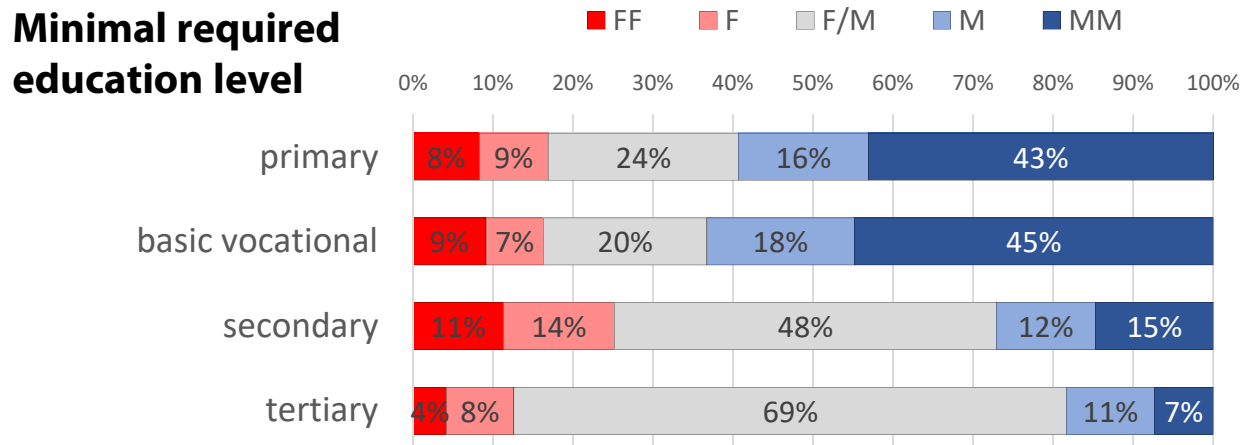
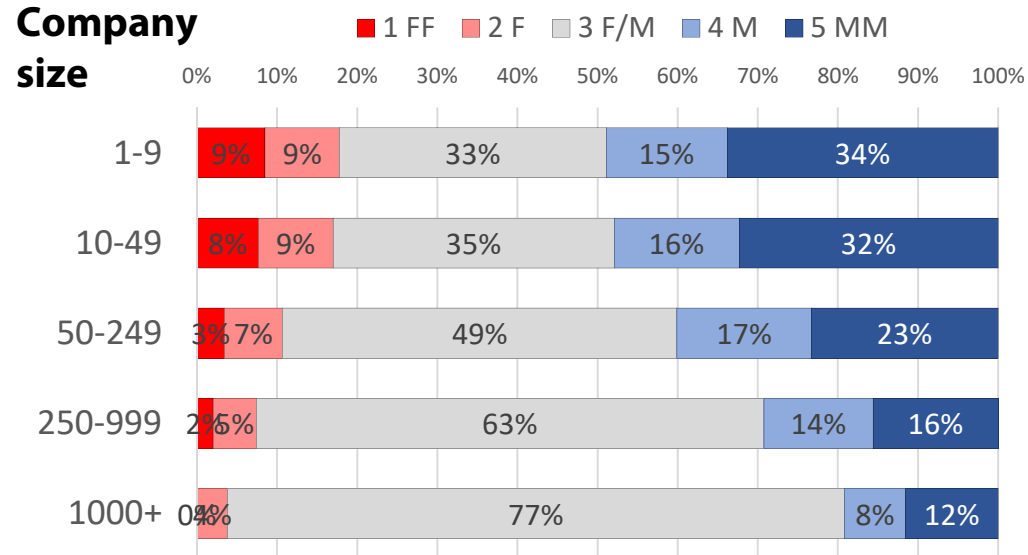


Factors affecting employers' preferences





Factors affecting employers' preferences





How do skills fit into that?

	Skill
COG	Information search & analysis, conclusion drawing
MAT	Mathematical calculations
COM	Computer and Internet use
OFF	Office skills
PER	Interpersonal skills
SLF	Work self-organization, initiative, time-keeping
MNG	Managerial skills
ART	Artistic sense and creativity
TCH	Handling, assembling and repairing technical devices
FIT	Fitness
AVL	Availability
LNG	Native (Polish) language fluency



Employers needs & job seekers' self-evaluations

Employers

For any job position certain level of skill is required. Some skills are of no use at all, some are required at the basic, medium, high, or even very high level.



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Please, tell whether these competences are useful for this job, and if they are – what is the level required?

not useful at all



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Please, tell whether these competences are useful for this job, and if they are – what is the level required?

	-2 not useful at all
Level required:	-1 basic
	0 medium
	1 high
	2 very high



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Level required: -2 not useful at all
 -1 basic
 0 medium
 1 high
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Job seekers

Different jobs require different skills. It is often the case that our skills are quite high in certain areas and substantially lower in others.



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Level required:	-2 not useful at all
	-1 basic
	0 medium
	1 high
	2 very high

Job seekers

Different jobs require different skills. It is often the case that our skills are quite high in certain areas and substantially lower in others.

Please, try to evaluate your own skill level using the following scale:

-2 low
-1 basic
0 medium
1 high
2 very high



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Predicting sex preferred by employer

Logistic regression for recruiting companies (excluding those for whom gender is irrelevant).
Dependent variable: **preferred gender (0 = male, 1 = female)**



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	B	Exp(B)	Sig	Lower	Upper
(Const.)	-1.776	0.169	0.000		
PER	0.810	2.248	0.000	1.988	2.542
LNG	0.463	1.588	0.000	1.435	1.758
OFF	0.347	1.414	0.000	1.291	1.550
ART	0.209	1.232	0.000	1.143	1.329
MAT	0.061	1.063	0.095	0.990	1.141
MNG	-0.044	0.957	0.271	0.884	1.035
COM	-0.093	0.911	0.027	0.839	0.990
SLF	-0.205	0.814	0.000	0.738	0.898
COG	-0.262	0.770	0.000	0.709	0.835
AVL	-0.283	0.753	0.000	0.689	0.824
FIT	-0.308	0.735	0.000	0.680	0.793
TCH	-0.854	0.426	0.000	0.390	0.465



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N = 4,230

Chi Square = 1560

d.f. = 12

p = 0.000

Nagelkerke R Square = 0.437

Increase in correct classification:
69.8% → 80.1%



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Predicting sex of job applicant

Logistic regression for job seekers.

Dependent variable: **job-applicant's gender (0 = male, 1 = female)**



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Logistic regression for job seekers.

Dependent variable: **job-applicant's gender (0 = male, 1 = female)**

	B	Exp(B)	Sig	Lower	Upper
(Const.)	-0.062	0.940	0.146		
OFF	0.593	1.810	0.000	1.699	1.928
ART	0.374	1.453	0.000	1.382	1.527
PER	0.317	1.373	0.000	1.276	1.478
MAT	0.316	1.372	0.000	1.285	1.464
LNG	0.241	1.273	0.000	1.193	1.358
SLF	0.076	1.079	0.038	1.004	1.159
COG	-0.054	0.947	0.122	0.884	1.015
COM	-0.096	0.909	0.000	0.863	0.957
MNG	-0.232	0.793	0.000	0.743	0.846
AVL	-0.298	0.742	0.000	0.698	0.790
PHY	-0.309	0.734	0.000	0.692	0.779
TCH	-1.187	0.305	0.000	0.289	0.323



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Logistic regression for job seekers.

Dependent variable: **job-applicant's gender (0 = male, 1 = female)**

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MNG	-0.232	0.793	0.000	0.743	0.846
AVL	-0.298	0.742	0.000	0.698	0.790
PHY	-0.309	0.734	0.000	0.692	0.779
TCH	-1.187	0.305	0.000	0.289	0.323

N = 9,519

Chi Square = 3998

d.f. = 12

p = 0.000

Nagelkerke R Square = 0.458

Increase in correct classification:

53.0% → 76.9%



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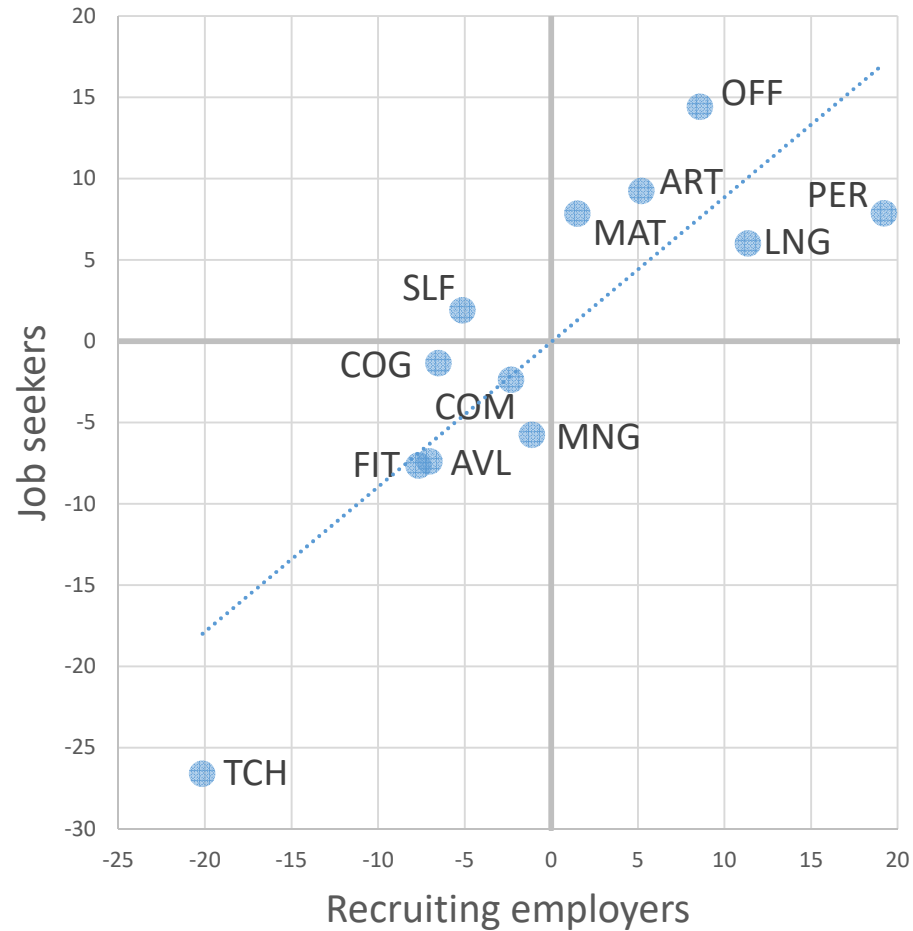
Employers needs & job seekers' self-evaluations

Shift in probability for female away from 50%



Employers needs & job seekers' self-evaluations

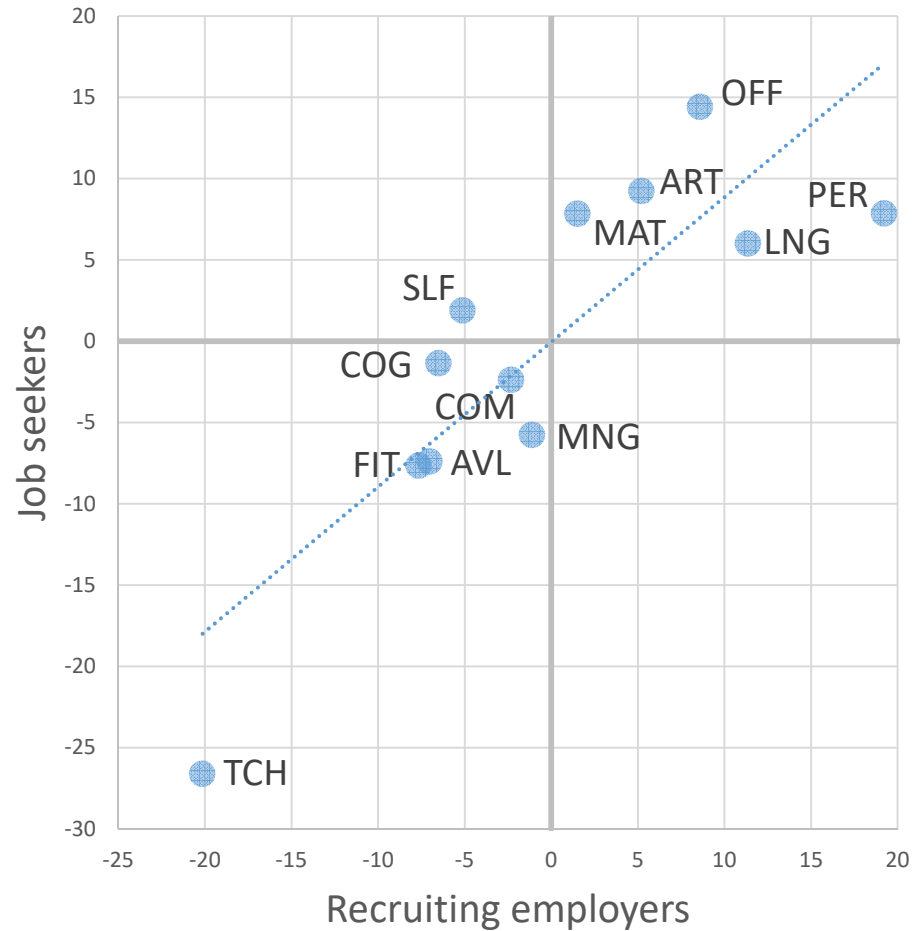
Shift in probability for female away from 50%





Employers needs & job seekers' self-evaluations

Shift in probability for female away from 50%



$$R^2 = 0.717$$



Conclusions

Substantial number of companies declare no gender preferences in hiring. Those who do have preferences tend to prefer males.



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Jobs for which women are preferred typically involve working with people, while jobs for which men are preferred typically involve working with things.



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Jobs for which women are preferred typically involve working with people, while jobs for which men are preferred typically involve working with things.

Gender preference in hiring heavily depends on the skill mix required. Skill-based preferences of the employers are strongly linked to job-seekers self-evaluated skill levels.



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bkl.parp.gov.pl



Thank you.

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