FROM GENDER GAPS IN SKILLS TO GENDER GAPS IN WAGES: EVIDENCE FROM PIAAC

SARA DE LA RICA
Universidad del País Vasco & FEDEA

Yolanda Rebollo
Universidad Pablo de Olavide

November, 2017

MOTIVATION

- ❑ In knowledge-based economies, Human Capital is a key input. But:
- ❑ How to measure it empirically?

  - ✓ Traditionally, proxied by educational attainment --- rough indicator.
  - ✓ More recently, debate directed to: SKILLS, cognitive competences
  - ✓ Individual Information on cognitive competences:
    - PISA (15 year old boys and girls)
    - Specific countries (USA)

❑ This study uses individual information on cognitive skills for adults from 22 countries (PIAAC) to address:

1. Gender Gaps in Cognitive Skills (overall, by age and across countries)
2. From GG in Cognitive Skills to GG in Wages

WHY?

❑ Surprisingly, there is very little done with regards to GG in skills and wages (and its impact) for a broad comparable sample of countries (22).

❑ The neariest study to ours is Hanushek, Schwerdt and Wiederhold (EER 2015), who use PIAAC dataset to address the returns to skills around the world.

❑ Our approach (for the wage part) is similar to theirs but we focus on Gender Gaps.

Roadmap of the Talk

1. The data – PIAAC
2. Gender Gaps in Cognitive Skills – Unconditional and Conditional GG:
    1. Overall
    2. By Age
    3. At other quantiles
3. From GG in skills to GWG
    1. Average Gender Wage Gaps
    2. The contribution of GG in numeracy skills for GWG:
        a. Overall
        b. By Age
        c. At other quantiles.
4. Robustness Checks for Estimated GWG
    a. Common Support
    b. Selection Bias
    c. Reverse Causality

5. Summary, Conclusions and open research issues.

1. The Data - PIAAC

✓ Data Source: Program for the International Assessment of Adult Competences, Collected by OECD in 2012 – 22 countries.

✓ It is designed to measure key cognitive skills for ADULTS (16-65 years) - .

✓ The survey includes an assessment of cognitive skills in three domains:

- ❖ Literacy, numeracy and problem solving in technology-rich environments (similar To PISA) - 500-point scale.

✓ Our study focus on literacy and primarily on numeracy skills, and their impact on wages (hourly wages)

2. Gender Gaps in Cognitive Skills – Literacy and Numeracy

Table 2A: Average Gender Gaps in Cognitive Competences - NUMERACY

Panel A: Numeracy – All Individuals						
	Women		Men		Gender Gap (in scores)	Gender Gap (%)
	Mean	sd	Mean	sd		
Overall	264	46	275	49	-11	-3,92%
Aged 20-29	270	43	279	46	-9	-3,24%
Aged 30-39	270	44	281	47	-11	-3,84%
Aged 40-49	263	46	273	50	-10	-3,82%
Aged 50-59	255	47	266	51	-11	-4,45%
Panel B: Numeracy - Workers						
	Women		Men		Gender Gap (in scores)	Gender Gap (%)
	Mean	sd	Mean	sd		
Overall	270	43	279	47	-9	-3,56%
Aged 20-29	274	42	280	45	-6	-2,41%
Aged 30-39	276	42	285	45	-9	-3,46%
Aged 40-49	268	43	279	48	-11	-4,09%
Aged 50-59	262	45	272	48	-10	-3,83%

- ✓ Overall, around 4%
- ✓ Somewhat smaller for workers
- ✓ Increases with age
- ✓ Caution with 50-59 year interval.

Table 2B: Average Gender Gaps in Cognitive Competences - LITERACY

Panel A: Literacy – All Individuals						
	Women		Men		Gender Gap (in scores)	Gender Gap (%)
	Mean	sd	Mean	sd		
Overall	277	42	278	44	-0,49	-0,18%
Aged 20-29	285	39	284	42	1,30	0,46%
Aged 30-39	283	40	284	43	-0,50	-0,18%
Aged 40-49	276	41	276	44	0,17	0,06%
Aged 50-59	266	43	268	45	-1,82	-0,68%
Panel B: Literacy- Workers						
	Women		Men		Gender Gap (in scores)	Gender Gap (%)
	Mean	sd	Mean	sd		
Overall	282	40	281	42	0,38	0,13%
Aged 20-29	288	38	285	41	3,32	1,15%
Aged 30-39	287	38	287	41	0,26	0,09%
Aged 40-49	280	39	280	43	-0,67	-0,24%
Aged 50-59	*272*	*41*	*273*	*43*	*-0,08*	*-0,03%*

- ✓ Overall, amost NULL.
- ✓ Similar for workers.
- ✓ Barely the same at all ages.

Table 3: Gender Gaps in Cognitive Competences – 25 AND 75 PCTLES

PANEL A: Numeracy – All Individuals						
	Women		Men		Gender Gap (in scores)	Gender Gap (%)
	Mean	sd	Mean	sd		
Mean	264		274		-10	-3,92%
25 percentile	236		243		-7	-2,97%
75 percentile	296		309		-13	-4,49%
Numeracy – Workers						
Mean	269		279		-10	-3,56%
25 percentile	242		249		-7	-2,94%
75 percentile	300		312		-12	-4,10%
Panel B: LITERACY – All Individuals						
	Women		Men		Gender Gap (in scores)	Gender Gap (%)
	Mean	sd	Mean	sd		
Mean	277		277		0	-0,18%
25 percentile	250		247		3	1,23%
75 percentile	307		310		-3	-1,17%
Literacy – Workers						
Mean	281		281		0	0,13%
25 percentile	257		252		5	1,77%
75 percentile	309		312		-3	-0,70%

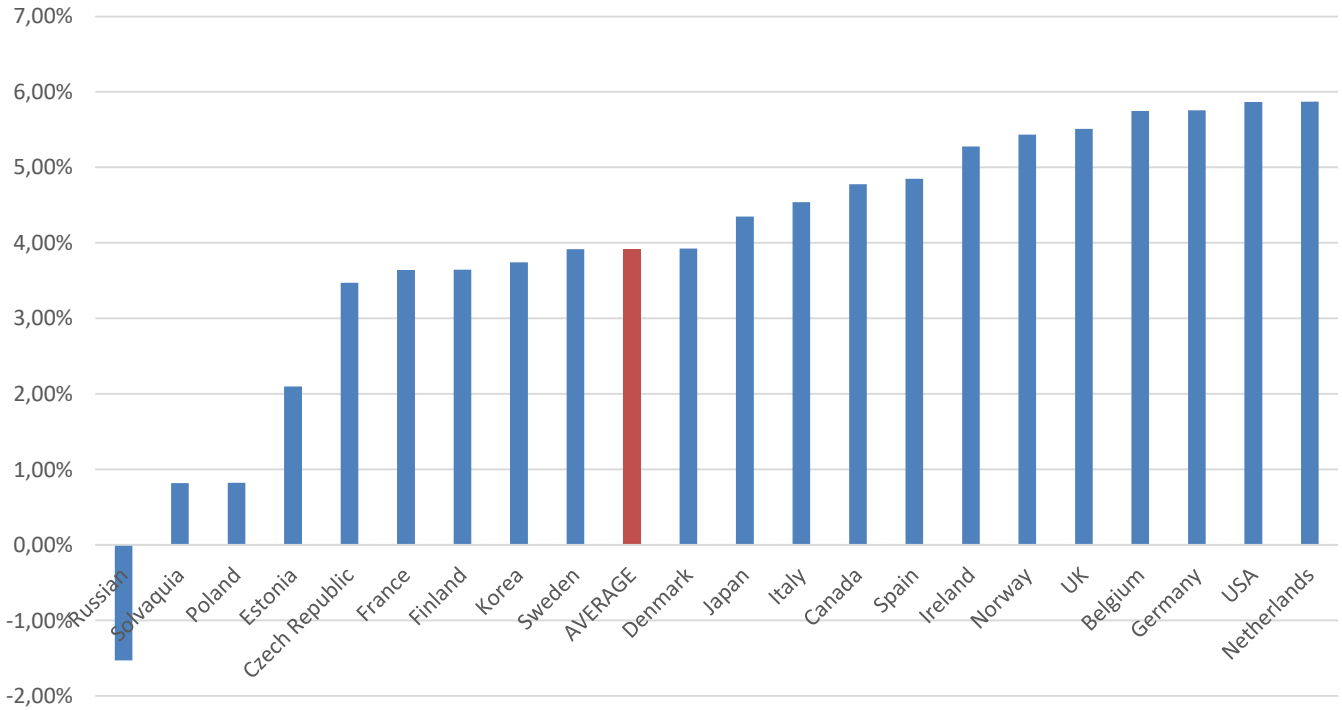
NUMERACY:

- ✓ Increases clearly for higher performers.
- ✓ Similar pattern for workers.

LITERACY:

- ✓ Almost negligible gap at all pctiles.

Figure 1 - AVERAGE GENDER GAPS IN NUMERACY SKILLS ACROSS COUNTRIES – ALL INDIVIDUALS



Estimation of Conditional GG in Cognitive Skills – Overall and By Age

✓ Normalize the cognitive skill variables to have zero mean and variance 1

✓ In PIAAC dataset each respondent only answers a small subset of items.

✓ To deal with this, the dataset provides plausible values (PVs) to replicate a probable score distribution that summarizes how well each respondent answered a small subset of the assessment items.

✓ Each individual has 10 PVs for each domain (literacy and numeracy).

✓ All ten PVs must be used in the estimation and standard errors must be corrected to account for this additional source of variability.

✓ Hence, we use the PV command, which estimates the gaps as well as the standard errors adequately for this type of information

Table 4A: Estimated Gender Gaps in Cognitive Competences – **LITERACY**

	All Individuals		Workers			
	Model 1	Model 2	Model 1	Model 2	Model 3	Model 4
Overall	0,01	-0.036**	0,019	-0.033*	-0.092***	-0.045***
	0,03	0,02	0,02	0,03	0,03	0,03
Aged 20-29	0.034	-0.026	0.079*	-0.031	-0.043	-0.084*
	0.03	0.03	0.03	0.03	0.04	0.03
Aged 30-39	-0.016	-0.071**	0.011	-0.054*	-0.109***	-0.101***
	0.03	0.02	0.03	0.03	0.03	0.03
Aged 40-49	-0.001	-0.029	-0.015	-0.048	-0.106***	-0.088 **
	0.03	0.02	0.03	0.03	0.03	0.03
Aged 50-59	-0.043	-0.026	-0.013	-0.020	-0.053	-0.034
	0.03	0.03	0.03	0.03	0.03	0.03
Covariates						
Country f.e.	X	x	X	x	X	X
Occupation					X	X
Job						X
Individual		x		x		X

Individual characteristics include: Education (3 cat.) and age indicators (overall);

Job Charact. Include: LM experience (cuadratic), contract type and work schedule.

Estimated GG:

- ✓ As in the descriptives, overall no gg in literacy skills, either for all or only for workers and either unconditional or conditional on indiv. And job characteristics.
- ✓ By age: No gg at any age, even when we condition by indiv. And job characteristics.

Table 4B: Estimated Gender Gaps in Cognitive Competences – NUMERACY

	All Individuals		Workers			
	Model 1	Model 2	Model 1	Model 2	Model 3	Model 4
Overall	-0.20***	-0.25***	-0.19***	-0.25***	-0.29***	-0.25***
se	0,03	0,03	0,03	0,03	0,03	0,03
20-29	-0.18***	-0.24***	-0.13***	-0.24***	-0.25***	-0.29***
se	0.03	0.03	0.03	0.03	0.04	0.04
30-39	-0.22***	-0.27***	-0.20***	-0.26***	-0.30***	-0.30***
se	0.03	0.02	0.03	0.03	0.03	0.03
40-49	-0.21***	-0.24***	-0.22***	-0.26***	-0.30***	-0.27***
se	0,03	0.02	0.03	0.03	0.03	0.03
50-59	*-0.24****	*-0.22****	*-0.22****	*-0.22****	*-0.26****	*-0.23****
se	0,03	0.03	0.03	0.03	0.03	0.03
Covariates						
Country f.e.	X	x	X	x	X	X
Occup. (9 cat)					X	X
Job						X
Individual		x		x		X

Individual characteristics include: Education (3 cat.) and age indicators (overall);
Job Charact. Include: LM experience (cuadratic), contract type and work schedule.

Results:

- ✓ High (20 pp of a st. Dev) - unconditional within countries.
- ✓ If we condition by education, the gap increases in 5 pp of a s.d.
- ✓ Similar pattern if we select only workers.

- ✓ For workers: Increases substantially when we condition men and women by occupation.

- ✓ By age: Increase in the gap from entrance (20-29) to prime age (30-39). Decreases again from then on (selection bias??? – Likely, not an issue for workers)

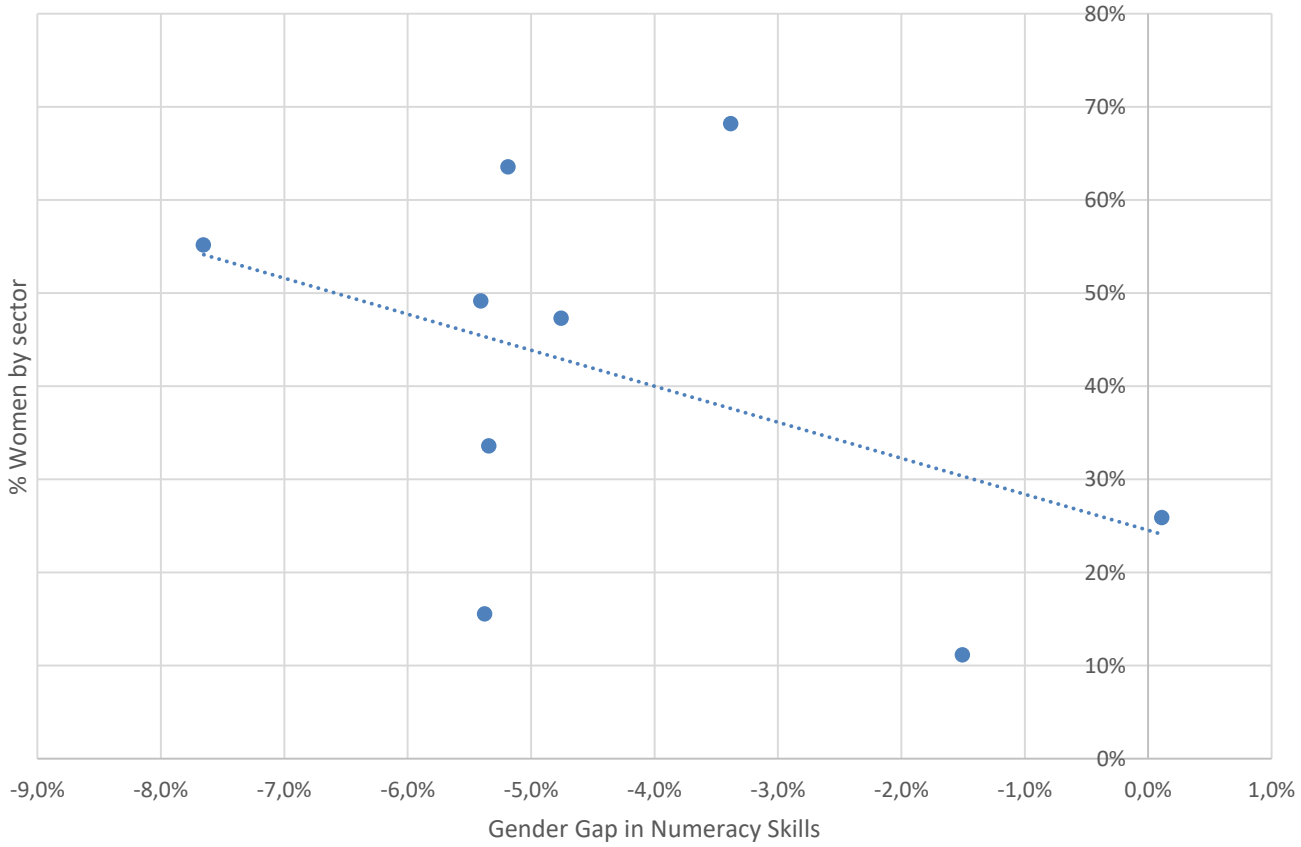
1. WHY DO GG IN NUMERACY INCREASE WITHIN EDUCATION AND OCCUPATION?

Table 5: Distribution of Men and Women by Individual and Job Characteristics

	All Individuals			Workers		
	Women	Men		Women	Men	
By Educ. Attainment	Mean	Mean	Gender Gap	Mean	Mean	Gender Gap
Primary Education	12,9%	14,2%	-3,67%	9,0%	12,0%	-3,13%
Secondary Education	44,3%	47,0%	-3,97%	43,4%	46,4%	-3,94%
Tertiary Education	42,8%	38,8%	-4,93%	47,6%	41,6%	-5,02%
By Occupation						
Legislators, senior officials and managers (1)	5,6%	9,6%	-5,3%	6,0%	10,2%	-5,3%
Professionals (2)	21,2%	15,3%	-7,7%	22,9%	16,0%	-7,7%
Technicians and associate professionals (3)	16,1%	14,5%	-5,4%	17,2%	15,2%	-5,4%
Clerks (4)	14,9%	6,1%	-3,4%	14,9%	5,9%	-3,4%
Service workers and shop and market sales (5)	27,6%	13,4%	-5,2%	26,05%	12,8%	-5,2%
Skilled agricultural and fishery workers (6)	1,12%	2,5%	0,1%	1,07%	2,63%	0,1%
Craft and related trades workers (7)	2,94%	18,9%	-1,5%	2,73%	18,63%	-1,5%
Plant and machine operators and assemblers (8)	2,95%	12,5%	-5,4%	2,67%	12,44%	-5,4%
Elementary occupations (9)	7,64%	7,2%	-4,8%	6,46%	6,16%	-4,8%

Indeed, the higher the share of women by occupation, the higher the GG

Figure 2: Gender Gap by Occupation and share of women in the sector



2. *IS THE INCREASE IN THE NUMERACY GAP BY AGE AN AGE/COHORT EFFECT?*

✓ For the 1988 cohort we can measure GG in numeracy with PISA 2003 (at 15) and About 24-26 with PIAAC (2012) – Unfortunately not at older ages.

✓ Standardize PISA (2003) scores to have zero mean and variance 1 and use 5 Plausible values and the PV command to estimate gender gaps:

Table 6: Unconditional GG Cognitive Skills (within PIAAC countries)

1988 Cohort	PISA (2003) – 15 years	PIAAC (2012) – 20-29 years(*)
GG in Numeracy	-0.097***	-0.176***
s.e.		0.03
GG in Literacy	0,285***	0.034
s.e.		0.03

*Somewhat smaller for 20-24 years, somewhat higher for 25-29

Conclusion:

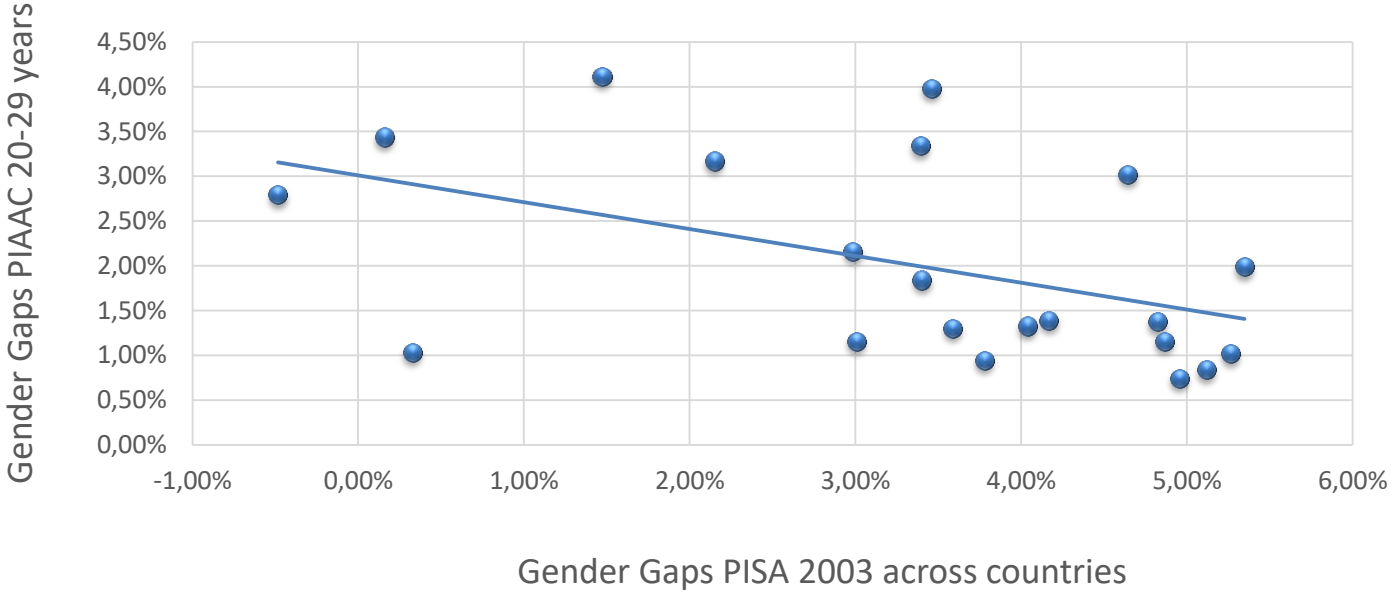
1. IF measures of GG in cognitive skills are comparable across PISA and PIACC, then:

    1. Gender Gaps in Numeracy skills, which were around 10 pp of a s.d. at 15 (within countries), INCREASE SUBSTANTIALLY by the age of entrance to the LM (20-29) – 7 pp a of S.D (around 80%)

    2. Gender Gaps in Literacy skills, very substantial towards females at 15, dissappear by the age of 20-29.

Caveat: Are they comparable? Some “disturbing” evidence:

Figure 3: Correlation GG in Numeracy Skills across countries
Cohort 1988 - At 15 and at mid twenties -



Summarizing GG in Cognitive Skills:

✓ On Average, GG in Numeracy cognitive skills for adults across 22 OECD countries amounts to 10 PIAAC scores - 4%. No Gaps in literacy.

✓ Average GG in Numeracy skills are higher among high performers than among low performers.

✓ Conditional on similar individual (and job (for workers)) characteristics, the gap does not decrease, but rather, increase.

✓ Conditional GG in numeracy seem to increase slightly from entrance (20-29) to prime age – No clear pattern from then on.

✓ Substantial Gender differences were already there at 15, but substantial increase by 20-29.

3. From GG in Cognitive Skills to Gender Wage Gaps

What do we know about cognitive skills and wages?

- ✓ Hanushek et al (2015), using the same dataset, find that cognitive numeracy skills have a straightforward, positive link with wages, e.g. a one-standard deviation increase in numeracy skills is associated with an average wage increase of 18% among prime-age workers.

- ✓ The purpose is to learn the association between gg in numeracy skills and gg in wages.

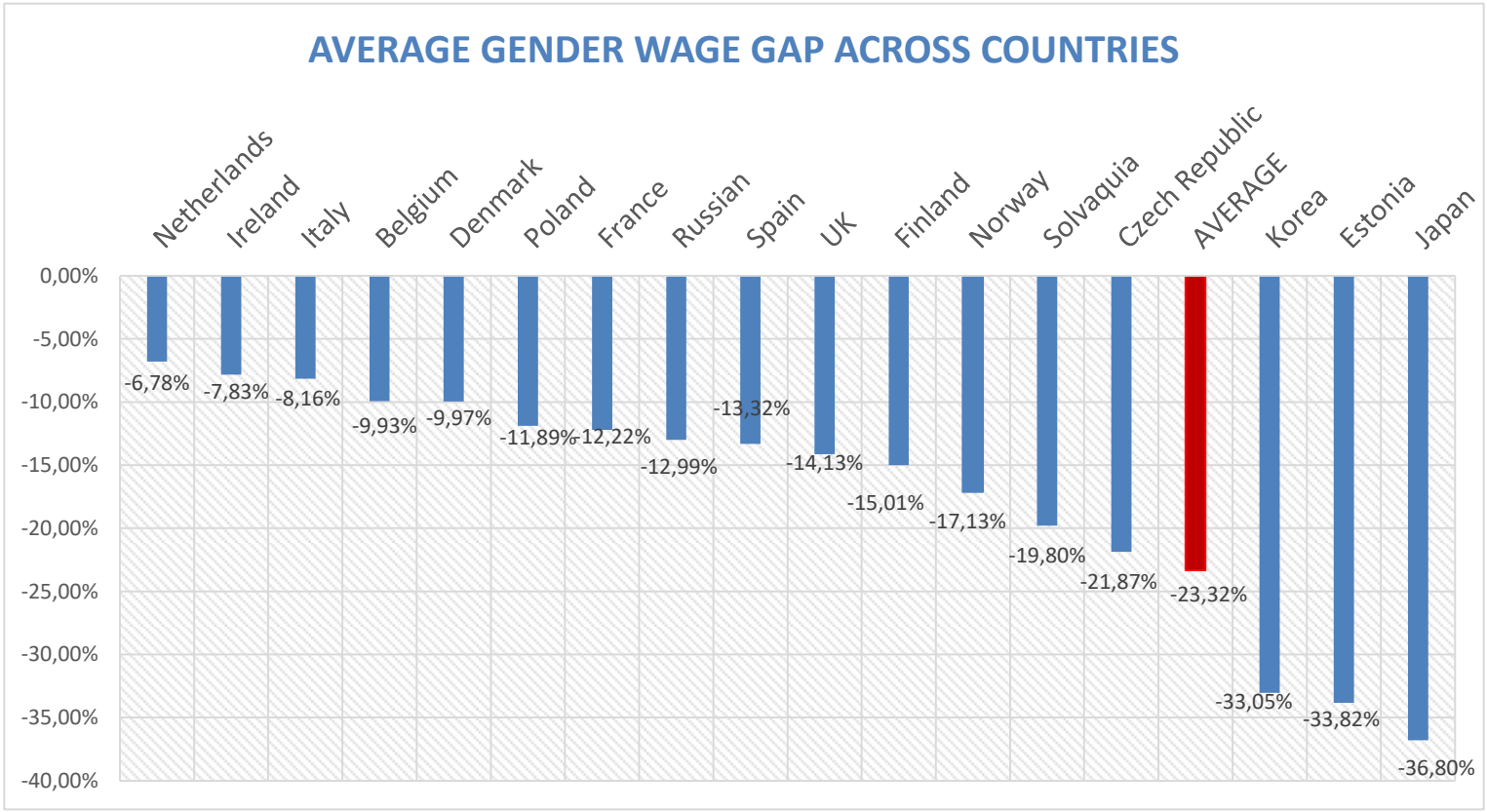

AVERAGE GENDER WAGE GAP ACROSS COUNTRIES
Netherlands
Ireland
Italy
Belgium
Denmark
Poland
France
Russian
Spain
UK
Finland
Norway
Solvaquia
Czech Republic
AVERAGE
Korea
Estonia
Japan
0,00%
-5,00%
-10,00%
-15,00%
-20,00%
-25,00%
-30,00%
-35,00%
-40,00%
-6,78%
-7,83%
-8,16%
-9,93%
-9,97%
-11,89%
-12,22%
-12,99%
-13,32%
-14,13%
-15,01%
-17,13%
-19,80%
-21,87%
-23,32%
-33,05%
-33,82%
-36,80%

Table 7: Estimation of GWG (overall) – Dep. Variable Log(H.Wage)

Covariates	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Female	-0.22***	-0.23***	-0.22***	-0.20***	-0.21***	-0.20***	-0.20***
(s.e)	0,01	0,01	0,01	0,01	0,01	0,01	0,01
Numeracy	---	---	---	0.18***	0.11***	0.10***	0.11***
(s.e)				0,01	0,01	0,01	0,01
Fem*Numeracy							-0,019
(s.e)							0,01
Other Controls							
Country	X	X	X	X	X	X	X
Occup.(9)		X	X		X	X	X
Other			X			X	X

- ✓ Unconditional GWG are about 22% and increase slighly within occupations (not when numeracy is included).
- ✓ Numeracy skills are highly relevant for wages.
- ✓ Differences in Numeracy skills contribute to explain around 9% of the observed GWG
- ✓ Returns to numeracy do not differ by gender.

Individual characteristics include: Education (3 cat.) and age indicators (overall);
Job Charact. Include: LM experience (cuadratic), contract type and work schedule.

Table 8: Estimation of GWG (By Age) – Dep. Var.Log(Hourly Wage)

By Age		[1]	[2]	[3]	[4]	[5]	[6]
20-29	Female	-0.08***	-0.12***	-0.12***	-0.07***	-0.10***	-0.11***
(s.e)		0,02	0,02	0,02	0,02	0,02	0,02
	Numeracy	---	---	---	0.13***	0.09***	0.07***
(s.e)					0.01	0.01	0.02
30-39	Female	-0.18***	-0.21***	-0.20***	-0.15***	-0.18***	-0.18***
		0,02	0,02	0,02	0,02	0,02	0,02
	Numeracy	---	--	---	0.18***	0.13***	0.11***
					0.01	0.02	0.02
40-49	Female	-0.32***	-0.31***	-0.27***	-0.28***	-0.27***	-0.24***
		0,03	0,02	0,03	0,03	0,02	0,03
	Numeracy	---	---	---	0.20***	0.14***	0.11***
					0.01	0.01	0.01
50-59	Female	-0.27***	-0.24***	-0.19***	-0.24***	-0.22***	-0.17***
		0,03	0,03	0,03	0,03	0,03	0,03
	Numeracy	---	---	---	0.21***	0.12***	0.10***
					0,01	0,01	0,02
Controls							
Country		X	X	X	X	X	X
Occup.(9)			X	X		X	X
Other				X			X

1. Big increase in GWG by age, even when conditioning by covariates.

2. For young workers, the estimated GWG Increases within occupations. Not so for Older workers.

3. The impact of NUMERACY: Strong its Correlation with wages Increases with age.

4. Numeracy and the GWG (6) – (3):
- At 20-29, the impact of dif. In numeracy to explain the GWG is 8%.
- By 30-39, its contribution increases to 10%.
- By 40-49, it increases slightly (to 11%.)

Individual characteristics include: Education (3 cat.) and age indicators (overall);
Job Charact. Include: LM experience (cuadratic), contract type and work schedule.

Table 9: Estimation of GWG (By Quantiles) – Dep. Var.Log(Hourly Wage)

By Quantiles						
p25	[1]	[2]	[3]	[4]	[5]	[6]
Female	-0.22***	-0.21***	-0.20***	-0.18***	-0.18***	-0.17***
(s.e)	0,01	0,01	0,01	0,01	0,01	0,01
NUMERACY	---	---	--	0.15***	0.10***	0.08***
(s.e)				0,01	0,01	0,01
p75						
Female	-0.21***	-0.26***	-0.25***	-0.19***	-0.24***	-0.22***
(s.e)	0,01	0,01	0,01	0,01	0,01	0,01
NUMERACY	---	---	---	0.19***	0.11***	0.08***
(s.e)				0,01	0,01	0,01
Controls						
Country	X	X	X	X	X	X
Occup.(9)		X	X		X	X
Other			X			X

1. The GWG increase for high performers only conditioned on similar men and women.

2. The impact of NUMERACY: Around 10%, similar for 25 pct and 75 pct if it is conditioned on similar covariates.

4. Numeracy and the GWG [5]:

- For low performers, diff. In numeracy explain 15% of the GWG.
- However, for high performers, the contribution is smaller: 12%.

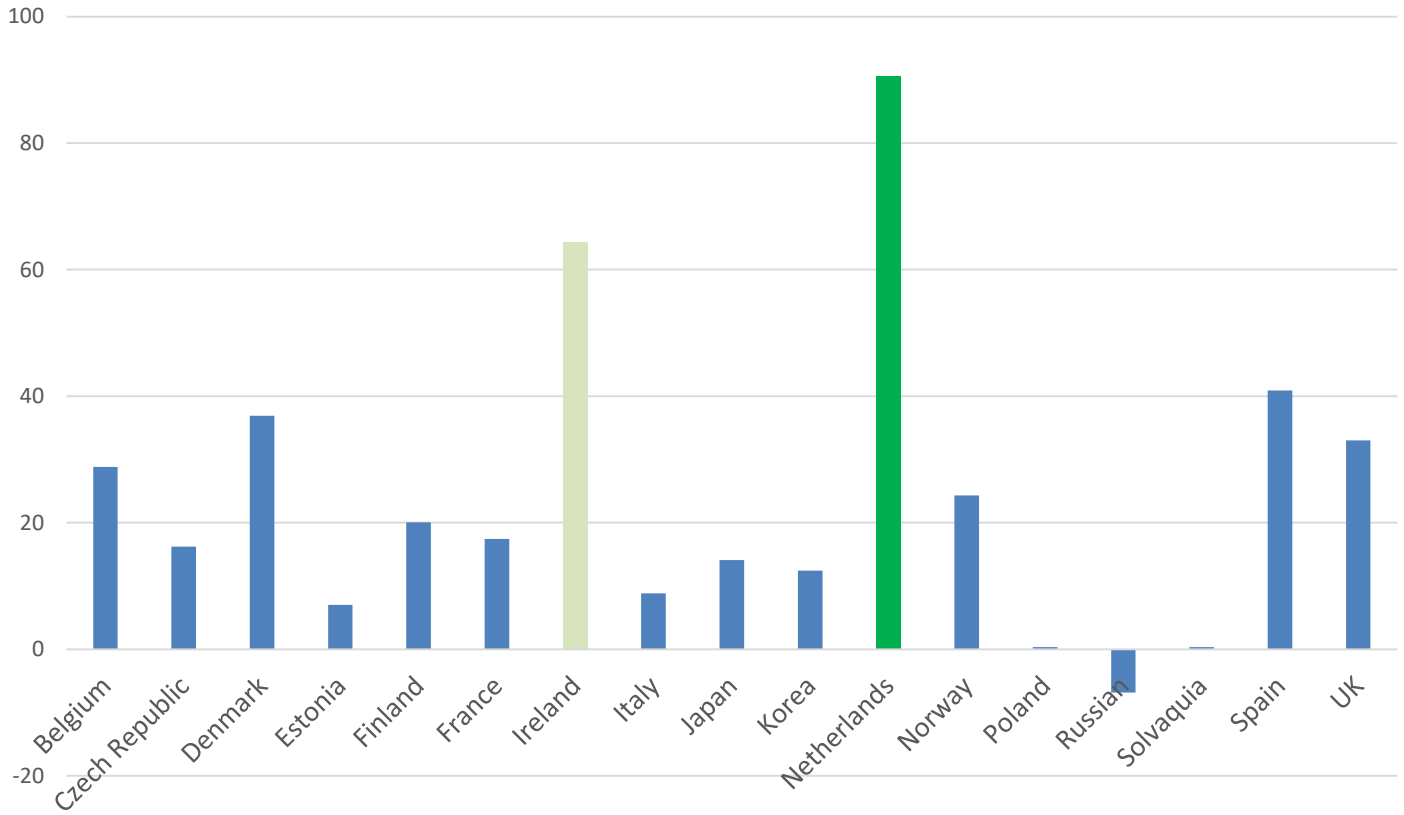
- Explanation? The impact of numeracy on wages is similar (full model) but GWG are bigger for high performers.

Individual characteristics include: Education (3 cat.) and age indicators (overall);
Job Charact. Include: LM experience (cuadratic), contract type and work schedule.

Heterogeneity across countries

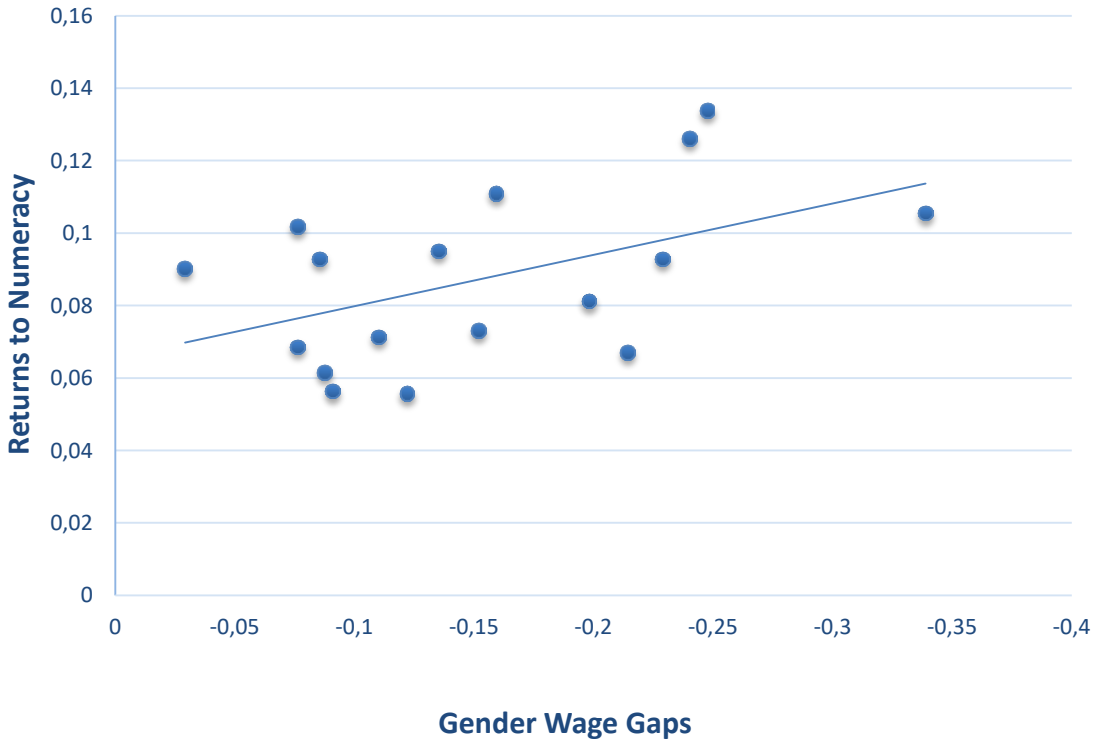
1. *To what extent GG in numeracy skills contribute to explain the observed GWG? Heterogeneity Across Countries*

Figure 5: Fraction of the GWG explained by differences in Numeracy Skills



2. *Are GWG associated to higher returns to (numeracy) cognitive skills? Cross-country correlations*

Figure 6: Gender Wage Gaps and Returns to Numeracy - Correlation across countries



Higher GWG are associated to higher returns to numeracy skills.

Robustness checks:

1. Common support issue
2. Accounting for selection into employment
3. Reverse Causality

1. *Accounting for the Common Support Issue*

Table 10: Common Support Issue

	Common Support					
Models	[1]	[2]	[3]	[4]	[5]	[6]
Women	**100%**	**100%**	**95%**	**99%**	**99%**	**84%**
Men	**100%**	**99%**	**89%**	**99%**	**96%**	**72%**
Controls						
Country	X	X	X	X	X	X
Occup.(9)		X	X		X	X
Numeracy				X	X	X
Other			X			X

No problem of common Support for women and Men within occupations:

99% of women have men in their cells and 96% of men have Women in their cells (even within Similar numeracy skills).

2. *Accounting for selection bias in employment*

Table 11: Wage Estimations – Heckman vs OLS

	[OLS]	[OLS]	[Heckman]	[Heckman]
Female	-0.22***	-0.20***	-0.25***	-0.25***
	(0,01)	(0,01)	(0.02)	(0.02)
Numeracy	---	0.10***		0.10***
		(0,01)		(0.01)
Mills Ratio	---	---	0.203*	0.317***
			(0.09)	0.08
Controls				
Country	X	X	X	X
Occup.(9)	X	X	X	X
Other	X	X	X	X

Individual characteristics include: Education (3 cat.) and age indicators (overall);
Job Charact. Include: LM experience (cuadratic), contract type and work schedule.

Identification variables
In selection Equation:
- Partner work
- Mother education
- Father Education
- Children

Result:
1. GWG increases if the prob. Of working is taken into account.

2. Numeracy is positively associated with wages but it seems to affect primarily the selection of women into the labour market and not so much the GWG.

3. Accounting for Reverse causality

Table 12: Wage Estimations – IV Estimation

IV: Parent´s schooling level

COVARIATES	[OLS]	[3]
Women	-0.20*** (0.01)	-0,10*** (0,03)
Numeracy	0.10*** (0,01)	0,53*** (0,11)
Controls		
Country	X	X
Occup.(9)	X	X
Other charact.	X	X

Individual characteristics include: Education (3 cat.) and age indicators (overall);
Job Charact. Include: LM experience (cuadratic), contract type.

Results:

1.Hausman test rejects exogeneity of Numeracy.

2. IV of numeracy extracts the genetic part of numeracy ability (predetermined).

3. When doing so, the impact of such predetermined part increases substantially (but more noise).

4. Justification decresase GWG:If we only considered the fraction of the skill that is predetermined, men and women are more alike (very similar to young workers!!!)

Summary and Conclusions

- Aim of the Study:
  Compute gender gaps in numeracy skills for a cross-section of 22 OECD countries and assess the extent to which they help to explain the observed gender wage gap. No empirical study has addressed such issue yet.

- To do so, the data source used in the paper is the Programme for the International Assessment of Adult Competencies (PIAAC).

➢ *RESULTS (Gender Gaps in Cognitive Skills) :*

1. Gender gaps in numeracy skills for adults across 22 OECD countries amount to 4%. Furthermore, it increases from entrance age (20-29) up to the interval (30-39) – slightly. GG are negligible in literacy skills at all ages.

2. For the 1988 cohort, we compute gender gaps in numeracy skills at 15 and at 20-29 – Differences exist already at 15 but substancial increase (from 10 to 17 pp. Sd). *Are PISA and PIAAC comparable to compute gender gaps in numeracy skills???*

3.For the same cohort, literacy advantage of girls at 15 (substantial) dissappear at the time of LM entrance.

➢ *RESULTS (From GG in Numeracy Skills to Gender Gaps in Wages) :*

1. Gender differences in numeracy skills explain around 9% of the gender wage gap observed. This is by far the variable which contributes most to explaining the gender wage gap.

2. Such contribution increases slightly by age: At 20-30 gender gaps in numeracy skills explain 8% of the wage gap observed, and then rises to 10% by mid-thirties.

3. However, if selection into work is considered, Numeracy seems to affect primarily the selection of women into the labour market and not so much the GWG

4. Numeracy is endogenous for wages: If instrumented by a pre-determined ability variable (inherited), GWG halves (indeed, very similar to workers at entrance).

Lessons from a Policy Perspective

1. Gender gaps in numeracy skills are generated very early in life – school and/or Family. In order to alleviate them, policy measures must start not in the labour market but much earlier.

2. In this paper we have seen that such GG affect the labour market, but there are other (collateral) effects, such as not enrolling in STEM studies/occupations.

3. We must deep into the determinants of such gap in numeracy skills. To do so, we need data from (young) students, adult information is not enough for this.

3. Empirical evidence (PISA 2015) tells us that girls feel more anxious with maths than boys, and anxiety makes students perform poorer. But the underlyings of such Higher anxiety are not well unknown.

4. More information must be devoted to this if we want to find the origin of such gap and try to correct it.

THANKS

More Tables -

Distribution of Men and Women by Individual and Job Characteristics

	All Individuals				Workers			
Individual and Job Characteristics	Women		Men		Women		Men	
	Mean	Sd	Mean	Sd	Mean	Sd	Mean	Sd
Primary Education	12,9%	0,34	14,2%	0,35	9,0%	0,29	12,0%	0,33
Secondary Education	44,3%	0,50	47,0%	0,50	43,4%	0,50	46,4%	0,50
Tertiary Education	42,8%	0,49	38,8%	0,49	47,6%	0,50	41,6%	0,49
Labor Market Experience	15,2	11,24	18,2	11,96	17,3	10,83	19,2	11,42
Part-time	16,4%	0,37	7,1%	0,26	15,7%	0,36	6,5%	0,25
Temporary Contract	32,1%	0,47	26,1%	0,44	27,3%	0,45	22,2%	0,42
Legislators, senior officials and managers (1)	5,6%	0,23	9,6%	0,29	6,0%	0,24	10,2%	0,30
Professionals (2)	21,2%	0,41	15,3%	0,36	22,9%	0,42	16,0%	0,37
Technicians and associate professionals (3)	16,1%	0,37	14,5%	0,35	17,2%	0,38	15,2%	0,36
Clerks (4)	14,9%	0,36	6,1%	0,24	14,9%	0,36	5,9%	0,24
Service workers and shop and market sales (5)	27,6%	0,45	13,4%	0,34	26,05%	0,44	12,8%	0,33
Skilled agricultural and fishery workers (6)	1,12%	0,11	2,5%	0,16	1,07%	0,10	2,63%	0,16
Craft and related trades workers (7)	2,94%	0,17	18,9%	0,39	2,73%	0,16	18,63%	0,39
Plant and machine operators and assemblers (8)	2,95%	0,17	12,5%	0,33	2,67%	0,16	12,44%	0,33
Elementary occupations (9)	7,64%	0,27	7,2%	0,26	6,46%	0,25	6,16%	0,24

	Gender Gaps Estimados					
	Literacy		Numeracy			% women
	Model 1	Model 2	Model 1	Model 2		
Legislators, senior officials and manag	-0.051*	-0.075***	-0.329***	-0.329***		33,58%
Professionals	-0.237***	-0.266***	-0.474***	-0.500***		55,20%
Technicians and associate professionals	-0.082***	-0.121***	-0.308***	-0.328***		49,27%
Clerks	-0,018	0,001	-0.217***	-0.197***		68,01%
Service workers and shop and market sal	-0.110***	-0.068***	-0.275***	-0.236***		63,73%
Skilled agricultural and fishery worker	0,044	-0,035	-0,029	-0.108*		26,84%
Craft and related trades workers	0.140***	0.105***	-0.101**	-0.123***		11,41%
Plant and machine operators and assembl	-0.101**	-0,052	-0.289***	-0.235***		16,43%
Elementary occupations	-0.149***	-0,041	-0.238***	-0.161***		46,85%
Covariates						46,29%
Country	X	X	X	X		
Job		X		X		
Individual		X		X		