

Teaching, gender and labour market incentives

David Carroll, Jaai Parasnis and Massimiliano Tani

David Carroll

(Monash University)

Jaai Parasnis

(Department of Economics, Monash University)

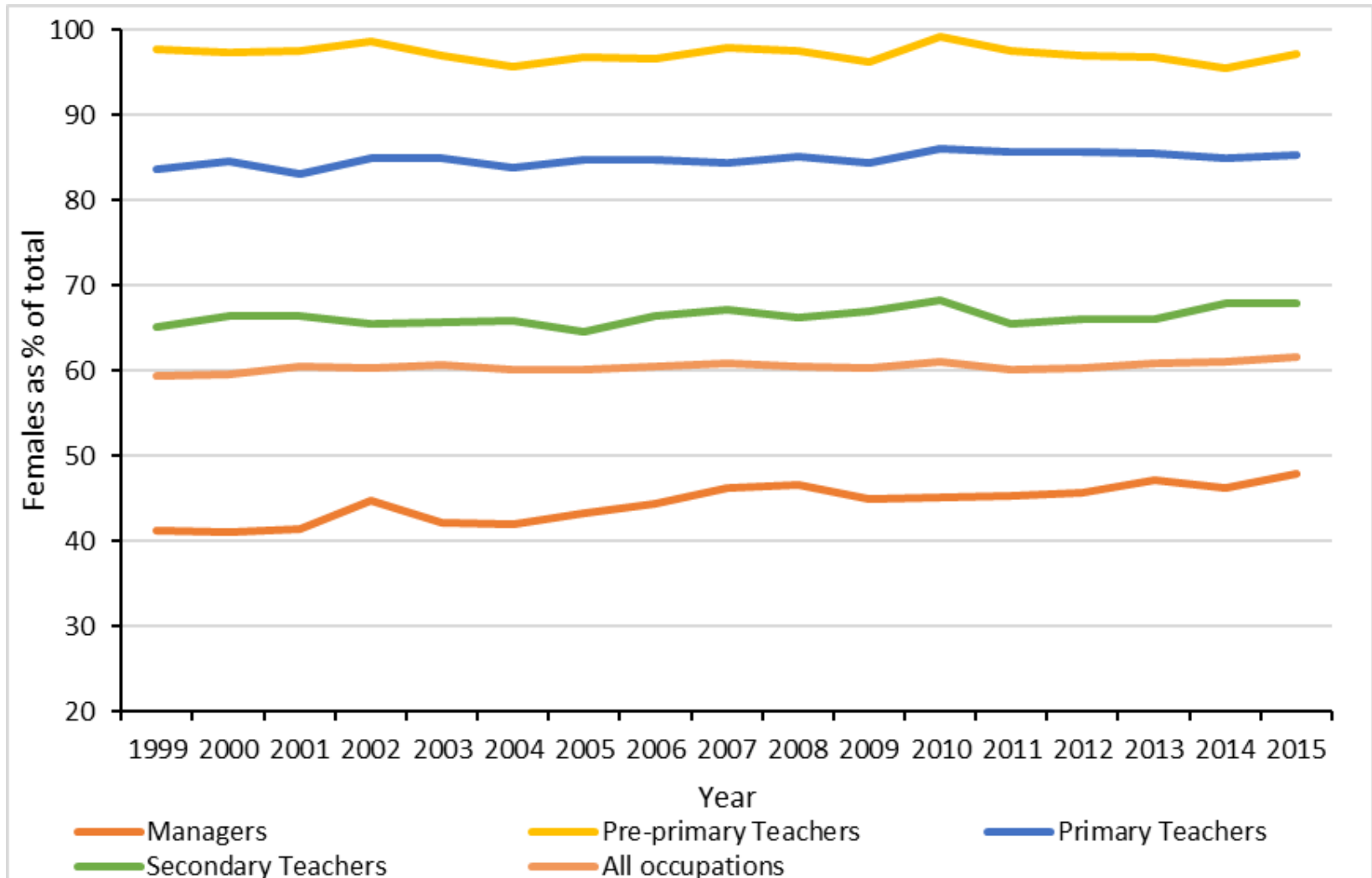
Massimiliano Tani

(School of Business, UNSW Canberra)

The authors acknowledge funding support under Graduate Research Program research grants scheme from Graduate Careers Australia.

A question: Why are teachers mostly female?

Figure 1: Proportion of women across occupations 1999-2015



Explanations so far

- Preferences
- Job attributes
- Innate gender attributes

Our contribution:

To what extent is this gender structure in teaching a response to economic incentives from the labour market?

Empirical approach

- An individual making a occupational choice
 - Teacher versus non-teacher
 - **opportunity cost** (of becoming a teacher) = potential salary in non-teaching occupations
- We compare the salaries of women choosing to become teachers relative to women choosing other professions.
- Do the same for men
- Compare the opportunity cost of becoming teacher for women and men

Empirical approach

- Formally, decomposition of salary differences between teachers and non-teachers
 - at mean: Binder-Oaxaca decomposition
 - over entire distribution: unconditional quantile regression (RIF decomposition)
- By gender: women and men
- By qualification level: Graduate, Graduate Diploma, Post graduate
- Controlling for: age, ATAR, year, state and employment (sector, part-time status)

Data

- Graduate Destination Survey (GDS), covering individual and institutional characteristics of Australian graduates over the period 1999-2015.
- Job (and salary) relates to current job immediately after completion of degree.
- exclude observations with gross annual starting salaries reported as less than \$10,000 or more than \$150,000.

Descriptive statistics

		Teachers		Non-Teachers	
		Men	Women	Men	Women
Wage (\$)	Mean	47,558	43,034	57,413	42,395
	(Std dev)	(27,688)	(35,354)	(49,289)	(47,269)
Age (years)	Mean	32	30	29	29
	(Std dev)	(9.8)	(9.8)	(8.9)	(9.1)
ATAR	Mean	77.7	77.7	82.5	81.6
	(Std dev)	(6.5)	(6.1)	(8.6)	(8.5)
Qualification Level					
Bachelors & Honours Degree	(%)	44	54	59	65
Graduate Certificate/ Diploma	(%)	32	26	12	13
Masters Degree	(%)	16	13	22	16
Employer Sector					
Public\Govt	(%)	63	63	29	38
Private	(%)	35	35	67	55
Not-for-profit	(%)	1	2	4	7
Observations		32,051	111,435	508,249	711,112

Source: GDS, 1999-2015.

Blinder Oaxaca decomposition of the wage differential between teachers and non-teachers by gender.

	Women		Men	
	Coefficient (\$)	P>z	Coefficient (\$)	P>z
Average Salary				
With Bachelors qualification				
Non-teachers	38440	0.000	44360	0.000
Teachers	41651	0.000	43977	0.000
Difference	-3211	0.000	383	0.027
Explained	-558	0.000	-1320	0.000
Unexplained	-2653	0.000	1703	0.000
With Graduate Diploma qualification				
Non-teachers	50719	0.000	62885	0.000
Teachers	43535	0.000	46254	0.000
Difference	7184	0.000	16631	0.000
Explained	618	0.000	2786	0.000
Unexplained	6565	0.000	13846	0.000
With Masters qualification				
Non-teachers	59608	0.000	68091	0.000
Teachers	57162	0.000	64142	0.000
Difference	2446	0.000	3949	0.000
Explained	-1851	0.000	-3044	0.000
Unexplained	4296	0.000	6993	0.000

Notes: Figures in A\$. Estimations includes controls for ATAR, age, year, state and employer sector (Public/Government, Private or Not for Profit). Sample restricted to wage range of \$10,000 to \$150,000.

RIF decomposition of the wage differential between teachers and non-teachers by gender.

Percentile	10	20	30	40	50	60	70	80	90
Women									
Non Teachers (\$)	20392	27264	32947	37533	41240	46399	52077	60542	72898
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Teachers (\$)	24563	32516	37539	41388	44535	48505	53003	57068	63153
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Difference (\$)	-4171	-5252	-4592	-3855	-3295	-2106	-926	3475	9745
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Men									
Non Teachers (\$)	22590	32026	37296	42621	48901	55023	62632	72386	92798
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Teachers (\$)	31469	36907	41306	44102	48203	51283	55973	60691	70390
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Difference (\$)	-8879	-4881	-4010	-1481	698	3741	6659	11695	22408
(p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Figures in A\$. Estimations includes controls for ATAR, age, year, state and employer sector (Public/Government, Private or Not for Profit). Sample restricted to wage range of \$10,000 to \$150,000.

Main results

- For bachelor degree holders, women earn higher salaries as teachers.
- For postgraduate qualifications, the salaries in non-teaching occupations are higher,
- the opportunity cost of becoming a teacher is always lower for women
- Decomposition reveals, for same characteristics, men get higher returns as non-teachers (the unexplained component).
- Incentives for becoming a teacher differ for men and women
- Additional role of non-wage job attributes, preferences and social norms.

Implications and discussion

- Gender wage gap in labour markets have important and continuing effects.
 - Average salary for men is higher
 - Average salary for women is lower
 - Makes teaching an attractive occupational choice for women
- Solutions to address gender (im)balances in occupations
 - Accounting for returns in the occupation and relative to other occupations
 - Preferences versus (or and) incentives: different role for policies