The impact of a sustained gender wage gap on the Australian economy

Presentation to the Corporate Gender Equality Summit, Sydney, 12 – 13 August 2010

Presented by Justine McNamara

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The gender wage gap in Australia

- It is persistent and appears to be widening.
- Research finds that just being female explains the largest proportion of the gap.
- It has implications for the economy as well as for individual well-being.
Gender wage gap over time

Note: The gender wage gap is calculated for full time, ordinary time adult employees, using original data. The reference period for data used in this figure is February for each year.

Source: ABS Average Weekly Earnings, Data cube, 2009, Cat No. 6302.0
“Fight to close wage gap keeps going backwards

THE fight for equal pay for women appears to be going backwards, with the wage gap widening to levels not seen since the mid 1990s and fewer companies bothering to monitor pay equity in the workplace.

Figures released by the Bureau of Statistics show that on average women are paid $82 for every $100 paid to men, a difference of about $240 per week in the standard weekly wage.

The gap has steadily widened over three years, from 15.55 per cent in 2008 to 16.5 per cent last year and now 18 per cent - the highest since 1994.”

Paul Bibby, Sydney Morning Herald, May 21, 2010
Our research

Aims:

- To look at the determinants of the gender wage gap
- To quantify the costs of the gender wage gap to the economy
Finding the determinants
Methodology

Finding the determinants:

- How to decompose the wage gap
- Feedback effects
- What is the true non-discriminatory wage structure

We used Olsen-Walby technique (Olsen and Walby 2004, p.69) which focuses on ‘hypothetically moving the market in ways that equalise men’s and women’s experiences’

Sample: wage earners (full and part-time) from HILDA 2007. We excluded people who were self-employed people, people aged below 21 years, and those aged 65 years and above. We also excluded people with unusually low or high hourly wages.
## Selected characteristics

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time in paid work (years)</td>
<td>19.13</td>
<td>17.09</td>
<td>2.04</td>
</tr>
<tr>
<td>1-34 hours per week (%)</td>
<td>0.1</td>
<td>0.41</td>
<td>-0.31</td>
</tr>
<tr>
<td>35-40 hours per week (%)</td>
<td>0.4</td>
<td>0.38</td>
<td>0.02</td>
</tr>
<tr>
<td>41-49 hours per week (%)</td>
<td>0.21</td>
<td>0.11</td>
<td>0.1</td>
</tr>
<tr>
<td>50+ hours per week (%)</td>
<td>0.28</td>
<td>0.1</td>
<td>0.18</td>
</tr>
<tr>
<td>Bachelor qualification (%)</td>
<td>0.27</td>
<td>0.33</td>
<td>-0.06</td>
</tr>
<tr>
<td>Vocational qualification (%)</td>
<td>0.39</td>
<td>0.29</td>
<td>0.1</td>
</tr>
<tr>
<td>Year 12 or lower qualification (%)</td>
<td>0.34</td>
<td>0.38</td>
<td>-0.04</td>
</tr>
<tr>
<td>Occupational segregation (average level)</td>
<td>6.11</td>
<td>4.35</td>
<td>1.76</td>
</tr>
<tr>
<td>Industry segregation (average level)</td>
<td>6.01</td>
<td>4.39</td>
<td>1.62</td>
</tr>
<tr>
<td>Tenure in current occupation (years)</td>
<td>9.91</td>
<td>8.7</td>
<td>1.21</td>
</tr>
<tr>
<td>Tenure with current employer (years)</td>
<td>7.25</td>
<td>6.41</td>
<td>0.84</td>
</tr>
<tr>
<td>Firm size: Less than 20 employed (%)</td>
<td>0.37</td>
<td>0.34</td>
<td>0.03</td>
</tr>
<tr>
<td>Firm size: 20-100 employed (%)</td>
<td>0.28</td>
<td>0.33</td>
<td>-0.05</td>
</tr>
<tr>
<td>Firm size: 100-500 employed (%)</td>
<td>0.21</td>
<td>0.18</td>
<td>0.03</td>
</tr>
<tr>
<td>Firm size: 500+ employed (%)</td>
<td>0.15</td>
<td>0.14</td>
<td>0.01</td>
</tr>
</tbody>
</table>

*Source: Authors’ calculations from HILDA, 2007, Wave 7 unit record data*
Also controlled for:

- Number and ages of children
- Marital status
- Presence of a long-term health condition
- Work schedule
- Unionisation
- Public/private sector
- Urban/rural residence
Key determinants of the gender wage gap

- Being a woman (60%)
- Industry segregation (predominance of men working with men and women with women) (25%)
- Labour force history (time in paid work, tenure in current occupation and with current employer) (7%)
- Vocational qualification (the lower proportion of women with a vocational qualification) (5%)
- Firm size (higher proportion of women working in smaller firms) (3%)
Simulated effect of moving Australian women to average situation of Australian men

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Simulated change as a % of the pay gap</th>
<th>Cents/hour equivalent</th>
<th>$/35 hour week</th>
<th>Per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour force history</td>
<td>7</td>
<td>0.22</td>
<td>8</td>
<td>405</td>
</tr>
<tr>
<td>Vocational qualification</td>
<td>5</td>
<td>0.15</td>
<td>5</td>
<td>273</td>
</tr>
<tr>
<td>Industry segregation</td>
<td>25</td>
<td>0.79</td>
<td>28</td>
<td>1431</td>
</tr>
<tr>
<td>Firm size</td>
<td>3</td>
<td>0.11</td>
<td>4</td>
<td>194</td>
</tr>
<tr>
<td>Female</td>
<td>60</td>
<td>1.86</td>
<td>65</td>
<td>3394</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>3.13</td>
<td>110</td>
<td>5697</td>
</tr>
</tbody>
</table>

**Note:** The proportion of the overall wage gap is measured as the simulated change in the characteristics of women to that of the average situation of men multiplied by the reward or coefficient for that particular characteristic. Figures may not add to total due to rounding. The total gap has been derived using selected variables only. The wage gap of $3.13 per hour has been derived from the difference between the average wage of men and women for all wage earners. **Source:** Authors’ calculations from HILDA, Wave 7 unit record data.
Implications of findings about determinants

- Large effect of simply being a woman may be due to discrimination or to other differences between men and women that are **not** already controlled for (eg motivation and appetite for risk)

- Estimation of effects is **simulated**. In real world, outcomes could be different - eg changes to industrial segregation might be accompanied by changes in the value put on some types of work
The wage gap and the economy
Methodology

- the impact of gender inequality on macroeconomic outcomes has more frequently focused on gender equality in education
  - (e.g. Barro and Lee, 1994; Barro and Sala-i-Martin, 1995; Hill and King, 1995; Klasen, 1999, 2002; Dollar and Gatti, 1999; Lagerlof, 2003; Dowrick, 2003)

- several studies have begun to focus on the potential impacts of the gender wage gap but mostly in developing countries (ours is the first in Australia)
  - (Seguino, 2000; Walby and Olsen, 2002; Cavalcanti and Tavares, 2007; Caro, 2008)
Methodology

Estimating the cost to the economy:

- Time series data
  - Main concern: relatively short data length
- Need to investigate direct and indirect channels

Data sources: Various time series data from ABS 1985-2008

Method: growth regression with GDP/capita main variable

Note: does not take account of women’s unpaid contributions to the economy
The wage gap and the economy

Variables in the model:

GDP/capita (outcome)

Gender wage gap

Hours of work

Investment

Labour participation

Fertility rate

Human capital (data limitations)
## The wage gap and the economy

<table>
<thead>
<tr>
<th>Impact</th>
<th>( \sigma )</th>
<th>( \beta )</th>
<th>( \text{Coefficient} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage gap → economic growth</td>
<td>-0.25</td>
<td></td>
<td>-0.250</td>
</tr>
<tr>
<td>Wage gap → investment → economic growth</td>
<td>-0.261</td>
<td>0.081**</td>
<td>-0.021</td>
</tr>
<tr>
<td>Wage gap → fertility → economic growth</td>
<td>0.993</td>
<td>-0.182</td>
<td>-0.181</td>
</tr>
<tr>
<td>Wage gap → average hours of work → economic growth</td>
<td>(-1.432^{**})</td>
<td>(0.222^{***})</td>
<td>-0.318</td>
</tr>
<tr>
<td>Wage gap → labour participation → economic growth</td>
<td>0.378</td>
<td>0.695***</td>
<td>0.263</td>
</tr>
<tr>
<td><strong>Total effects</strong></td>
<td></td>
<td></td>
<td><strong>-0.507</strong></td>
</tr>
</tbody>
</table>

**Note:** ** significant at a confidence level of 95 per cent. Economic growth refers to economic growth of GDP per capita.

The results should be read as, for example, a one percentage point increase in the gender wage gap reduces economic growth of GDP per capita by -0.507 per cent. **Source:** Authors’ calculations
Simulated cost of the gender wage gap to the Australian economy

<table>
<thead>
<tr>
<th></th>
<th>Current situation (1)</th>
<th>Increase in the wage gap from 17 to 18 per cent (2)</th>
<th>Cost to the economy (1) – (2)</th>
<th>Elimination of wage gap from 17 per cent to zero (3)</th>
<th>Gain to the economy (1) – (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender wage gap</td>
<td>17%</td>
<td>18%</td>
<td>Na</td>
<td>0</td>
<td>Na</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>$51,114</td>
<td>$50,854</td>
<td>$260</td>
<td>$55,534</td>
<td>$4,420</td>
</tr>
<tr>
<td>GDP (millions)</td>
<td>$1,084,146</td>
<td>$1,078,649</td>
<td>$5,497</td>
<td>$1,177,595</td>
<td>$93,449</td>
</tr>
<tr>
<td>Population (millions)</td>
<td>21.21</td>
<td>21.21</td>
<td>Na</td>
<td>21.21</td>
<td>Na</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations
Key determinants of the gender wage gap: estimated cost to the economy

Note: The results in this table are estimates only, and it is important to note that they are based upon assumptions about the economy and the way in which markets operate. Each result is dependent upon the common economic assumption that all other factors will remain constant (ceteris paribus). In particular, we assume that if women were to achieve the same average characteristics of men, the rewards for these characteristics would remain unaffected. In addition, the key determinants and their relative contributions to the wage gap were calculated using data from HILDA 2007, while the macroeconomic model to which these are applied relates to the latest available data.

Source: Authors’ calculations
Words of caution

- Results are **simulated estimates**
- Possible that more data or different methodology would produce different results AND that real world outcomes might be different than the simulated outcomes
- **However** both micro (determinants) and macro (cost to economy) model rigorously tested and robust to various assumptions
Complex implications

For example:

- Macro results show that increasing hours of work is significant channel through which a lower gender wage gap would affect economic growth but working more hours in itself complex – child care availability and affordability, gendered division of household labour, work-life balance

- What type of change? Eg in relation to industry segregation, is the answer to reduce segregation or to raise wages in female-dominated industries?

- More research questions to answer (eg further examination of industries, income levels, contribution of part-time work)
Full paper available at:

www.natsem.canberra.edu.au/publications

or


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