

Gender Wage Gap

Ontario's Sunshine List

Luiza Antonie, Miana Plesca, Jennifer Teng

¹Thanks to Andrew D'Angelo and Gary Grewal for collaboration

Data Collection and Cleaning

The data used for this study is from the Public Sector Salary Disclosure, also known as the Ontario's Sunshine List. This list provides the public sector salaries of those making **\$100,000** or more. The collection and storage of data for this analysis ranges from the year **1997 to 2014**.

Data Collection and Cleaning

| | |
|-----------|---|
| # Records | 652,804 |
| Sectors | colleges crown agencies hospitals and boards of public health hydro one and Ontario power generation judiciary legislative assembly and offices ministries municipalities and services school boards universities other public sector employees |
| Years | 1997 to 2014 |
| Variables | employer, position surname, given name salary, taxable benefits |

Data Collection and Cleaning

The formatting of the data varied from year-to-year with substantial changes occurring in 2009, again in 2011 and then again in 2013.

- Sectors were expanded from 7 in 1997 to 13 in 2014
- Names of employer changed (e.g. Guelph in early years and University of Guelph in later years)
- Position and department in separate fields
- Position and department in the same field
- Information being provided in French only
- Information being provided in English only or Information being provided in both French and English (same field).

Gender Prediction

Gender prediction based on name lists and frequencies provided by the USA Social Security Bureau [Social Security Administration, 2014].

$$P(\text{Male}|\text{Name}) = \frac{\text{Male_Frequency}(\text{Name})}{\text{Total_Frequency}(\text{Name})}$$

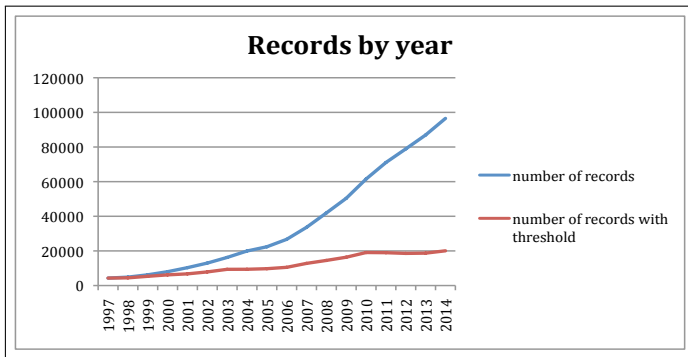
$$P(\text{Female}|\text{Name}) = \frac{\text{Female_Frequency}(\text{Name})}{\text{Total_Frequency}(\text{Name})}$$

If the name is not on the name lists, we use letter patterns within the name to decide the gender (e.g. last two letters are vowels → gender = female)

Summary Statistics

| Year | Number of records | Cut-off dollar value | Number of records |
|------|-------------------|----------------------|-------------------|
| 1997 | 4307 | \$100,000.00 | 4307 |
| 1998 | 4866 | \$101,814.00 | 4445 |
| 1999 | 6210 | \$102,721.00 | 5332 |
| 2000 | 8008 | \$104,762.00 | 6168 |
| 2001 | 10331 | \$107,823.00 | 6751 |
| 2002 | 12973 | \$111,111.00 | 7873 |
| 2003 | 16237 | \$113,379.00 | 9369 |
| 2004 | 19947 | \$116,440.00 | 9404 |
| 2005 | 22387 | \$118,594.00 | 9730 |
| 2006 | 26694 | \$121,202.00 | 10524 |
| 2007 | 33618 | \$123,356.00 | 12796 |
| 2008 | 41920 | \$125,624.00 | 14505 |
| 2009 | 50383 | \$128,458.00 | 16359 |
| 2010 | 61496 | \$128,912.00 | 19068 |
| 2011 | 71052 | \$132,086.00 | 18971 |
| 2012 | 78910 | \$136,168.00 | 18564 |
| 2013 | 86941 | \$138,095.00 | 18708 |
| 2014 | 96524 | \$139,456.00 | 20063 |

Summary Statistics

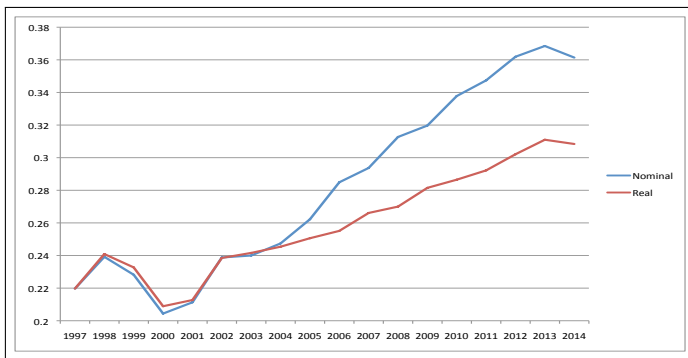


Summary Statistics

| Sector | Nominal \$ Threshold | Real \$ Threshold |
|----------------------|----------------------|-------------------|
| College | 19853 | 3093 |
| Crown | 31215 | 15301 |
| Electric | 110565 | 45706 |
| Hospital | 65131 | 24305 |
| Judiciary | 2869 | 1216 |
| Legislative assembly | 1930 | 853 |
| Ministries | 68145 | 18260 |
| Municipal | 123537 | 19280 |
| Ontario public | 11282 | 8922 |
| Other | 23102 | 8380 |
| School board | 68488 | 8226 |
| University | 126687 | 59395 |

Gender Wage Differences and Analysis

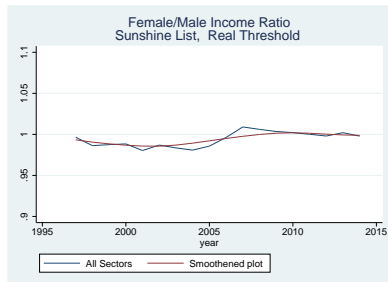
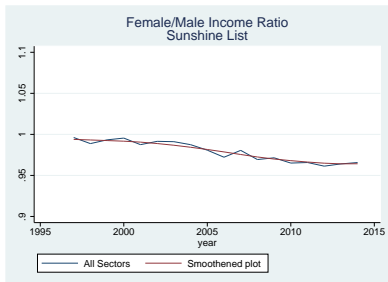
Females are **underrepresented** - figure shows the percentage of women by year, using both nominal \$ threshold and real \$ threshold



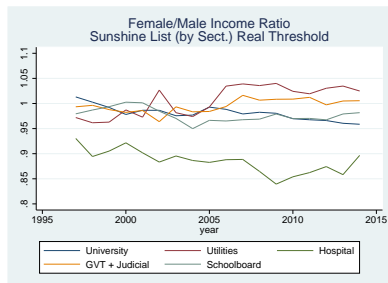
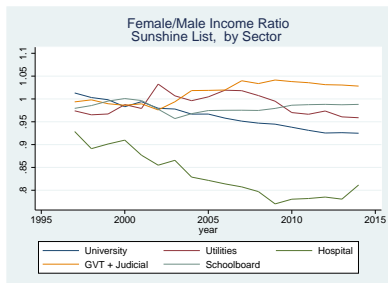
Gender Wage Differences and Analysis

| Year | Average Salary Females | Average Salary Males | Ratio |
|-------------|------------------------|----------------------|-------|
| 1997 | \$120,556.753 | \$121,379.055 | 0.993 |
| 2014 | \$124,530.748 | \$128,940.102 | 0.966 |
| 2014 (Real) | \$180,816.745 | \$181,190.152 | 0.998 |

Gender Wage Differences and Analysis

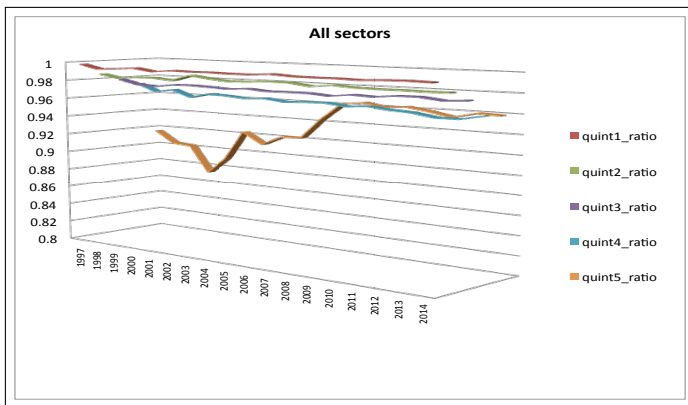


Gender Wage Differences and Analysis



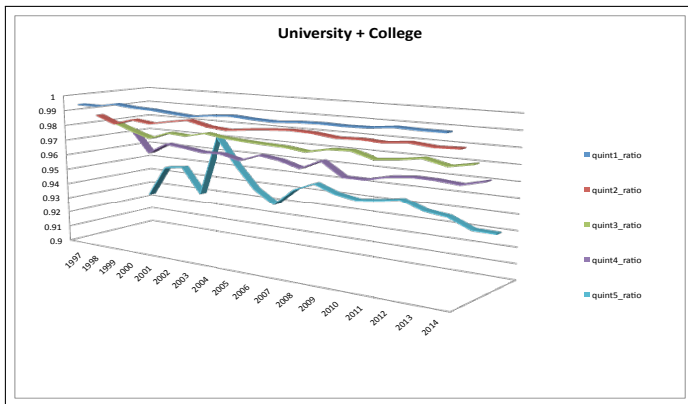
Gender Wage Differences and Analysis

University sector - 5 quantiles analysis



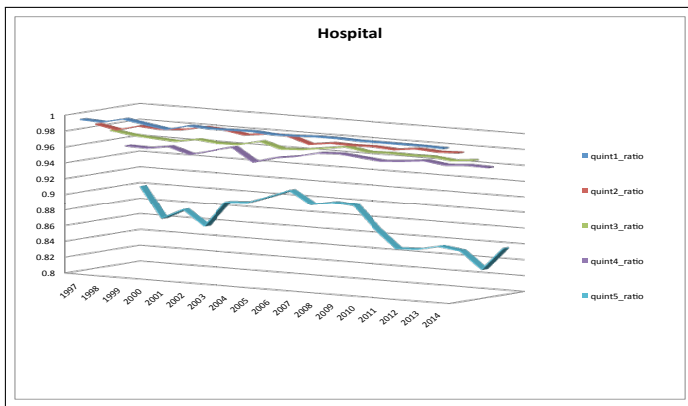
Gender Wage Differences and Analysis

University sector - 5 quantiles analysis



Gender Wage Differences and Analysis

Hospitality sector - 5 quantiles analysis



Future Research Directions

- Sensitivity analysis for gender prediction
- Create and use longitudinal data for wage gap analysis

Thank You