Women in Mining: Long-term trends and the effect of the economic cycle

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Presentation for John Curtin Institute of Public Policy
MSc (Mineral Economics) project
Outline

▸ Context

▸ Long-term Australian and industry trends

▸ Effect of the recent boom and downturn

▸ Conclusions

Note: “Mining” matches the ANZSIC Classification

▸ Includes Mining, Oil & Gas, Exploration & Services, excludes Smelting & Refining
Why this topic?

Why Female Employment?
- Female participation in Australia increasing generally but still gaps
- Evidence of positive economic & other performance outcomes
- Increase labour supply and increase GDP
- Increased regulatory, shareholder, community and research focus

Why Mining?
- Historically Australia’s most male-dominated industry
- 20+ years of industry-specific research and publications
- Industry self-focus: gender equality strategies / policies, targets, pay gap
- A once in a lifetime boom, the GFC and downturn
Data

- ABS Labour Force Survey 1984 - 2018
  - Sample
- WGEA Reports 2013-14, 2014-15 and 2015-16
  - Census non-public entities 100+ employees
- Good general alignment but some data limitations

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<tbody>
<tr>
<td></td>
<td>% Female</td>
<td>Employees</td>
<td>Females</td>
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<tr>
<td>WGEA</td>
<td>15.72%</td>
<td>190,171</td>
<td>29,895</td>
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<td>ABS</td>
<td>15.15%</td>
<td>265,928</td>
<td>40,289</td>
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Female Employment in Australia
Australia (All Industries) Long Term Trend

Percentage Female Employment by ANZSIC Category 1984 - 2018
(12MRA calculated from 6291.0.55.003 Labour Force, Australia, Detailed, Quarterly (ABS 2018))

- **Female dominated:** Females >60%
- **Mixed gender:** Females 40-60%
- **Transition to Mixed**
- **Male dominated:** Females <40%
Is it Improving?

% Female Employment by Industry 1984 - 2018
(Indexed to Australian % Female Employment = 1)
(calculated from 6291.0.55.003 Labour Force, Australia, Detailed, Quarterly (ABS 2018))
Do Mining sectors perform differently?
Key Points: Long term trends

- Australia has a gender segregated workforce
- Despite advances in female participation, limited change in segregation over 30+ years
  - Science, Construction - going backwards
  - Manufacturing, Wholesale going backwards - account for increased female employment
- Female employment in mining is low
- Has improved (slightly), accounting for increased Aust female employment
  - Mining has probably caught up to Construction
- Different mining sectors perform differently
- Female employment in Exploration and Services declining
Mining: Boom and Bust
and
How to Change your Workforce
How to change your workforce?

- Gain employees
  - Replacement & Growth
  - % Female in Labour Force and other characteristics
- Losses
  - Resignations & Redundancies
  - % Female existing workforce
- To Increase % Female:
  - % F gains > % F workforce > % F losses
Mining employment: boom and bust

Change in Australia Mining Employed Persons 1984 - 2018
(Change in number of employed persons from Nov-1984 baseline calculated from 6291.0.55.003 Labour Force, Australia, Detailed, Quarterly (ABS 2018))

“Downturn”

GFC

To Increase % Female:
% F gains >
% F workforce >
% F losses
How did the economic cycle affect females?

Percentages shown are % calculated from raw data and 12MRA (latter in brackets)

Number of Employed Mining Persons 1984 - 2018
(Indexed to November 1984 = 1, 12MRA)
Data source: 6291.0.55.003 Labour Force, Australia, Detailed, Quarterly (ABS 2018)
A model

**Retention / Redundancies**
- Distribution of females
- Gendered roles
- Site vs head office
- Production vs support
- Part-time & flexible work
- Offshoring
- Unconscious bias

**Recruitment & Attraction**
- Industry Image
- Recruitment processes
- Selection criteria
- Labour force
- Location
- Job design
- Services
- Unconscious bias
Company performance varies

# Employees vs % Female - two year change 2013-14 to 2015-16
(calculated using WGEA (2017) 40+ employees, 1% change, n = 119 + 1 point (442%, -44%) not shown due to scale)

Decline #, +ve %F 39
Growth #, +ve %F 18
Growth #, -ve %F 15
Decline #, -ve %F 48
Potential reasons?

- Culture, unconscious bias
- Females more likely to be part-time
- Higher % female in corporate offices than regional sites
  - Detailed data not available
- Workforce Composition
  - Comprise the majority of admin roles
  - Clustered in certain professional / “support” roles
  - Less likely to be trades, technicians, machine operators
  - Less likely to be in management
Maybe it’s the role & how many?

Females have higher representation in non-production roles. Companies that decreased female employment reduced these roles disproportionately more, with uneven losses across role-types in their workforce.
What works?

- Most companies have strategies and gender equality initiatives

- No clear link between strategies and performance:
  - Time-lag?
  - Implementation issues?
  - Strategy effectiveness?
  - Probably still a good start

- % Females in Management significant relationship with appt and promotion performance - not resign
  - Cause vs effect?
Conclusions

- Mining has improved (slightly) but clearly male dominated
- Female gains during boom but disproportionate loss during downturn
  - Female employment is more responsive to economic cycles
  - Failed to achieve step-change despite influx
  - Change within a stable, larger workforce harder
- Performance between companies varies
  - Those with more admin & prof do better, but roles lost during downturns
  - % Female simplistic, masks vulnerabilities
  - Need better distribution of females across roles
- No clear relationship between strategies and performance
- Significant relationship: % female mgr and non-mgr female appts and promotions
Further Research

- Construction declines, relationship to Mining?
- Case studies companies with dominant ABCD performance
- Strategies & policies vs implementation & effectiveness
- Remote site based vs corporate offices data collection
- Metrics for distribution of women in workforce
- How to improve distribution of women in workforce

- What will we achieve during this new upswing?
Questions?

Thank you to the Workplace Gender Equality Agency for providing the their dataset