

Disproportionally Unemployed: The Gendered Impact of the Economic Downturn on Geoscientists in Alberta

Authors

Rachael N. Pettigrew, PhD
Assistant Professor
Bissett School of Business
Mount Royal University
rpettigrew@mtroyal.ca
403-440-6846

Marian C. Hanna, ICD.D, P. Geoph., CPG
CSEG President

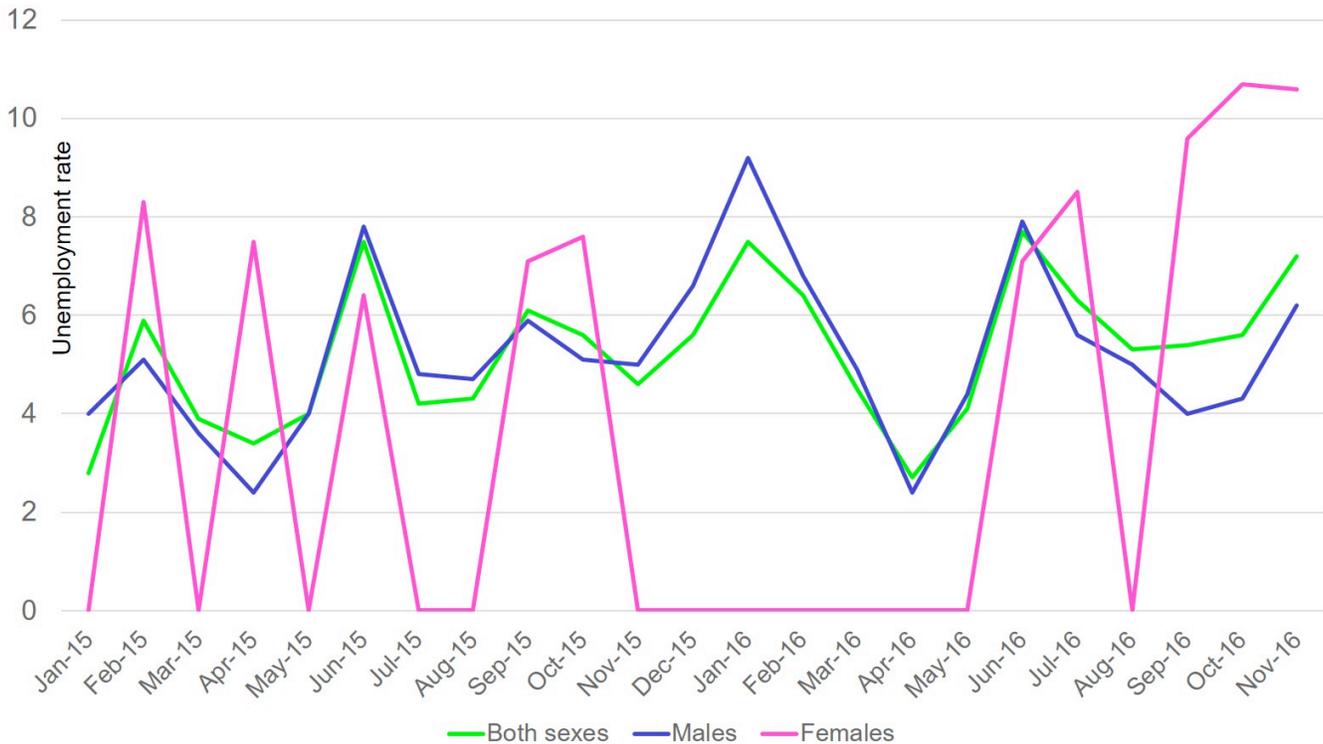
Summary

Introduction

Women in STEM, including geosciences, have faced a persistent uphill battle and despite efforts through the years conditions have not improved for women. Female geoscientists work within an industry that is male-dominated and faces issues related to the recruitment, retention, and promotion of women (Hango, 2015; Shendruk, 2015; De Welde, Laursen & Thiry, 2007). Though female students represent a significant proportion (39%) of new graduates from university STEM programs, these proportions drop sharply over the career life course with only 22% of women reporting working in STEM fields (Shendruk, 2015). Women can face pay inequality and challenging, unfriendly workplace cultures (De Welde et al., 2007). In addition, employers in STEM are less likely, than those in female-dominated industries, to offer policies and practices that facilitate the juggling of work and family needs (Beaujot, 2000), which can lead to women leaving the workplace.

Rooted within this historically gendered context, a concerning trend has emerged during the economic downturn that has hit the oil and gas sector in Alberta. Initially anecdotal and then confirmed through the exploration of Statistics Canada data, it appears that female scientists and engineers (NOC 21 – natural and applied scientists) have been realizing higher rates of unemployment disproportionately compared to their male counterparts. Figure 1 below highlights the different rates of unemployment experienced by women and men in the natural and applied sciences in Alberta. Female geoscientists already represent a small proportion of the industry and may now be chronically under presented in the field. The disproportionate unemployment of female geoscientists has severe implications on both the industry and the individuals. Potential consequences include the negative impact on career progression for women, the impact of work interruptions on earning potential, a remaining gendered applicant pool for promotions, significant challenges for workforce re-entry, the industries loss of key talent and experienced women who decide not to return. Due to this disconnection from the workforce, there may also fewer potential female STEM professionals including female geoscientists and engineers that would qualify for Executive and Board positions. For these reasons, we explore the rates of unemployment in Alberta to better understand the impact the economic downturn has had on men and women in geoscience fields.

AB Unemployment rate NOC 21
cansim 282-0141, Jan 2015-Nov 2016



No data points = Suppressed to meet the confidentiality requirements of the Statistics Act

Figure 1

(Statistics Canada, 2016c)

Method

Statistics Canada conducts a monthly Labour Force Survey (LFS), which is a phone survey exploring the current labour market climate, including provincial employment and unemployment rates (Statistics Canada, 2016a). The LFS identifies participants' job or industry of employment by using a classification system called the National Occupation Classification (NOC), which groups occupations into industries and then subcategories within each industry (Statistics Canada, 2016b). The NOC codes allow us to narrow in on the unemployment rates of a specific professional occupation, including the parent category of NOC 21: Occupations in natural and applied sciences and, more specifically, NOC 2113 (subcategory of NOC 21) for geoscience professionals (Statistics Canada, 2016b). Along with this occupational and employment data, we will use additional variables from the labour force survey (e.g., age, sex, level of education, etc) to draw meaningful comparisons between the employment characteristics of men and women in geoscience and their gendered experiences during the recent economic downturn. Data sets from several points in time, between 2014 to 2016, will be analyzed and compared to understand the potential trends during the economic downturn. Analysis including tests of significance and OLS regression will be used to determine the significant relationship between gender and unemployment in Alberta for those in the geosciences. Implications for both women in STEM and the industry will be discussed and recommendations for future steps will be suggested.

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