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Exploring the Gender Pay Gap in Rural Scotland

Jane Atterton, Elliot Meador, Marianna Markantoni, Steven Thomson and Sarah Jones

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Rural Policy Centre Research Report

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Executive Summary

Background

- This scoping study explored the extent of the gender pay gap in rural Scotland, how it has changed in recent years, and potential reasons that might explain it.
- A review of existing literature on the gender pay gap, focusing particularly on rural areas, was undertaken, followed by analysis of secondary data on the extent of the gender pay gap in urban and rural Scotland and possible explanatory factors. This study was small-scale and exploratory but, overall, it has revealed a more positive picture in rural Scotland with regard to the gender pay gap than in urban Scotland. Several avenues for further work are suggested in order to improve our understanding of why this might be the case.
- There has been increasing policy, research and media attention paid to the gender pay gap in the UK and in Scotland in recent years, including through the passing of the Equality Act 2010 (Gender Pay Gap Information) Regulations 2017.
- At UK level, the data for 2018 suggests a gender pay gap of 8.6% (full-time employees only, based on hourly earnings, excluding overtime); the gender pay gap in Scotland in 2018 was slightly lower at 5.7% (Office for National Statistics 2018).
- Existing research suggests a range of reasons for the existence of a gender pay gap, including horizontal and vertical segregation (i.e. inequality in terms of the distribution of women and men across occupational groups and between sectors in the labour force), women's tendency to work reduced hours (especially part-time), often to accommodate additional caring or family responsibilities, or to take jobs in professions that have particular characteristics (but which might be lower paid), and discrimination and bias. Particular work focusing on the agriculture sector has highlighted the barriers faced by women in accessing appropriate and accessible training. This issue was also highlighted more broadly across the rural economy at a gender pay gap workshop held at the Scottish Rural Parliament in November 2018.
- A report published by the Scottish Government in February 2018 ('Understanding the Scottish Rural Economy') revealed that, in 2016, women in remote rural areas (according to the Scottish Government's rural urban classification) had the lowest annual median pay across Scotland, and that the largest gap between men and women in terms of annual median wages (in absolute terms) was in remote rural areas. Remote rural areas were found to have a gender pay gap of 17%.
- Although there is some existing research which has explored the reasons for the gender pay gap specifically in rural areas – including more opportunities for highly-qualified, highly-paid women in urban areas, more egalitarian attitudes to equal opportunities for men and women in urban areas, the more limited employment opportunities in (remote) rural areas and (linked to that) a greater tendency for women to work part-time – the Scottish Government (2018) concluded that this was an area worthy of further study. This study aims to build on the Scottish Government's work to further explore the extent of, and reasons for, the rural gender pay gap.

Findings

- Data was obtained from the Annual Survey of Hours and Earnings (ASHE) which shows trends in hourly (median) pay for men and women using the RESAS

classification of rural and urban local authorities (which has four categories: larger cities, urban with substantial rural, mainly rural and islands and remote rural). This data shows that hourly pay for men and women has increased in all four areas between 2012 and 2018, with some variability evident in that trend in islands and remote rural areas.

- From this data, the gender pay gap was calculated (for full-time employees) by place of work). Between 2012 and 2018, the largest decrease in the gender pay gap occurred in mainly rural local authorities to the point at which there was a negative gender pay gap in 2018 of -1.9% – i.e. women were earning more than men – likely due to the substantial increase in hourly (median) pay for women in these areas over this period.
- In contrast, the gender pay gap increased the most in islands and remote rural local authorities between 2012 (when the gender pay gap was almost zero, i.e. pay rates were similar for women and men) and 2016, when it peaked at 20%. The gender pay gap then fell substantially in these areas to 4.5% by 2018. It is also worth noting that the gender pay gap in islands and remote rural areas has demonstrated considerable volatility recently. The gender pay gap in urban with substantial rural and larger cities local authorities demonstrated less variability over the period, remaining at approximately 10% (i.e. higher than mainly rural and islands and remote rural local authorities in 2018).
- Both this work and the Scottish Government (2018) report therefore suggest that the gender pay gap was highest in remote rural Scotland in 2016. However, there has been a substantial downward trend in the gender pay gap for mainly rural local authorities between 2012 and 2018 and for islands and remote rural local authorities since a peak in 2016. Overall, the rural picture is more positive in terms of the gender pay gap than that in larger cities and urban with substantial rural local authorities. It therefore seems as if the declining gender pay gap in rural local authorities – and particularly in mainly rural local authorities – is driving the declining gender pay gap for Scotland as a whole. This is somewhat different to the picture which has been painted in previous literature, which has tended to highlight, and attempt to explain, a larger gender pay gap in rural areas compared to urban areas.
- This study explored a number of factors which might explain the spatial variations that were observed in the gender pay gap across Scotland. First, the difference in the number of hours worked by (full-time and part-time) women and men was explored. This analysis confirmed that, although men working full-time work slightly more hours than women working full-time, and that women working part-time work slightly more hours than men working part-time, the differences are not substantial enough nor variable enough between rural and urban areas, to explain the gender pay gap patterns observed.
- Second, the employment rates of women and men were explored and this analysis confirmed higher employment rates for women and men in rural local authorities (compared to urban local authorities) and higher employment rates overall for men than women. However, again the differences were not substantial enough nor variable enough over time and geography to explain the gender pay gap patterns observed.
- Third, differences in the distribution of women across different occupational groups in different geographies were explored to see if this could account for the geographical

differences in the size of the gender pay gap. This analysis confirmed that, although it is certainly the case that women make up a more substantial proportion of some occupational groups (e.g. in caring, leisure and other service and in administrative and secretarial occupations), again it was clear that the spatial distribution of these occupations was not a major factor explaining the gender pay gap patterns observed.

- Fourth, differences in the distribution of women across different industrial sectors and their different geographies were explored to see if this could account for the geographical differences in the size of the gender pay gap, but again it was concluded that this was not a major factor in explaining the gender pay gap patterns observed.
- Finally, using data from the Care Inspectorate, the geographical distribution of childcare services (including nurseries and registered childminders) was mapped across Scotland to see if an absence of such facilities may help to explain the geographical variations in the gender pay gap, and particularly the higher gender pay gap in islands and remote rural local authorities than in mainly rural local authorities. This analysis revealed large areas of (particularly remote) rural Scotland that have no childcare services. Further analysis of the accessibility of services confirmed that the areas (datazones) in remote rural Scotland with no childcare services are generally expansive and inaccessible suggesting that families requiring such services have limited choice and long distances to travel to reach them – or have to find alternatives to such formal childcare arrangements (i.e. women reducing/giving up work to provide childcare).

Conclusion and recommendations

- As described earlier, this work represented a short scoping study on the extent of the gender pay gap and its geographical variations across Scotland, and an exploration of potential factors which may explain the variations. It did not aim to provide definitive answers on these factors.
- The study has revealed that the gender pay gap in mainly rural local authorities has declined substantially in recent years to the point at which women earn more than men in these areas in 2018. While the gender pay gap in islands and remote rural local authorities was very high in 2016 (20%), it has also declined substantially since then. In 2018, the gender pay gaps in larger cities and urban with substantial rural local authorities (10.0% and 10.3% respectively) were higher than in islands and remote rural (4.5%) and mainly rural local authorities (-1.9%).
- This paints a very positive picture about rural Scotland in terms of this issue, which is somewhat in contrast to previous research in this area. However, while this study has explored some of the potential reasons for this, none are apparently major factors, therefore other factors must be playing an important role. The study concludes with a number of suggestions for further work in this area, including:
    - Exploration of a range of further factors which might be responsible for the substantial (and differing) declines in the gender pay gap in mainly rural local authorities since 2012 (to the point at which it now favours females), and in islands and remote rural local authorities since 2016. The factors may be largely positive ones, including for example: are there simply many more women in mainly rural areas who are working full-time in well-paid positions? Have many women managed to overcome some of the transport, childcare,

etc. challenges that rural areas are known to face, in order to work full-time? However, they may also be more negative factors, for example: have many women faced with the childcare, transport and employment challenges (dominance of low paid, often seasonal employment) that exist in rural areas, simply decided – or effectively been forced – to take themselves out of the labour market completely, or decided to work part-time, therefore they do not appear in measurements of the gender pay gap using full-time employees (as used here)? As such, further gender pay gap analysis of those working part-time and those in self-employment would be useful, as would analysis of those working in businesses of different sizes.

- The research has also revealed more volatility in pay in islands and remote rural areas which may be connected to the underlying fragility of local labour markets where there are limited opportunities to adjust to changing economic circumstances, combined with additional challenges (such as a lack of childcare) but again this is worthy of further study.
- Further quantitative work is required to explore the impact of other factors on the gender pay gap, at both local authority level and at a more fine grained geography than local authorities. This might include, for example, comparisons of the travel-to-work journey times, distances and modes by men and women, comparisons of unpaid work undertaken by men and women, and comparisons of the pay levels of men and women in businesses of different sizes. A fuller investigation of the provision of care services, including both childrens' care and care of others (including the elderly) would also be useful, including where childcare is located in relation to major roads/rail/ferry links, and the ways in which this provision can be made more flexible to enable women to work full-time or to travel greater distances to work.
- Alongside this more detailed quantitative data analysis, qualitative work would also be extremely useful. This could include in-depth work with women and men working in mainly rural and islands and remote rural local authority areas to explore their experiences and perceptions of the changing gender pay gap and wider issues relating to their pay levels and employment behaviour. Issues might include, the amount of unpaid work men and women do, the level of caring responsibilities they have, their experiences of underemployment, the extent of choice they have in their employment decisions due to family, transport or labour market constraints, the impacts of pay and working behaviour on wellbeing, and their experience of accessing appropriate training provision.
- Given the current policy importance of rural economy issues, ongoing analysis of the impacts of various initiatives to tackle the gender pay gap on rural areas would be useful (notwithstanding the larger urban gender pay gap we have observed here). This might include, for example, the Scottish Government's Gender Pay Gap Action Plan, and wider policy frameworks such as Scotland's Economic Strategy which promotes equality in the workplace and emphasises the need to maximise opportunities for women and families, through increasing the availability of free childcare and offering more flexible working.

1. Introduction

There has been considerable UK media coverage relating to the gender pay gap in recent years. This is partly a result of the passing of the Equality Act 2010 (Gender Pay Gap Information) Regulations 2017, which introduced a requirement for all companies with 250 or more employees to file a report on the pay levels of their male and female employees. Companies with less than 250 employees can voluntarily file a report. This information must be posted on the individual company websites and on a Government website from where it is freely available.

The first data from approximately 10,000 companies was available in April 2018, and revealed that three quarters of these companies paid their male employees more than their female employees. The data also showed that males made up most of the higher paid jobs[1]. Other media articles in recent years have focused on exploring the extent of the gender pay gap and the 'glass ceiling' that women may experience in particular sectors and/or companies, including banking and finance, retail, education and entertainment[2].

In February 2018, the Scottish Government's 'Understanding the Scottish Rural Economy' report (p.42-3[3]) revealed that the pay gap between men and women (measured in terms of annual median wages) was highest in absolute terms in remote rural Scotland (£5,076). Table 1.1 presents the gender pay gap by geographic area in Scotland, based on the Scottish Government's urban rural classification. Accessible rural areas had the smallest gender pay gap (14%).

Table 1.1: Gender pay gap by geographic area

Gross gender pay gap by geographic area	**Remote Rural**	**Accessible Rural**	**Rest of Scotland**
Annual Median Wage difference	£5,076	£4,575	£4,966
Gender Pay gap	17%	14%	17%

Source: ASHE 2016, using Scottish Government Urban Rural Classification 2013-2014 (from Scottish Government 2018, p. 43)

The Scottish Government's report also confirmed that women working in remote rural Scotland have the lowest overall annual median pay at £23,941. Table 1.2 presents the median gross annual pay, where it can be noted that both men and women living in accessible rural areas have the highest median annual pay. This reflects the importance of (well paid) commuters living in accessible rural areas but travelling to work in nearby urban centres.

[1] See for example: https://www.bbc.co.uk/news/business-43668187
[2] See for example: https://www.theguardian.com/world/gender-pay-gap
[3] Scottish Government (2018) Understanding the Scottish Rural Economy, Scottish Government: Edinburgh. Available online: https://www.gov.scot/publications/understanding-scottish-rural-economy/

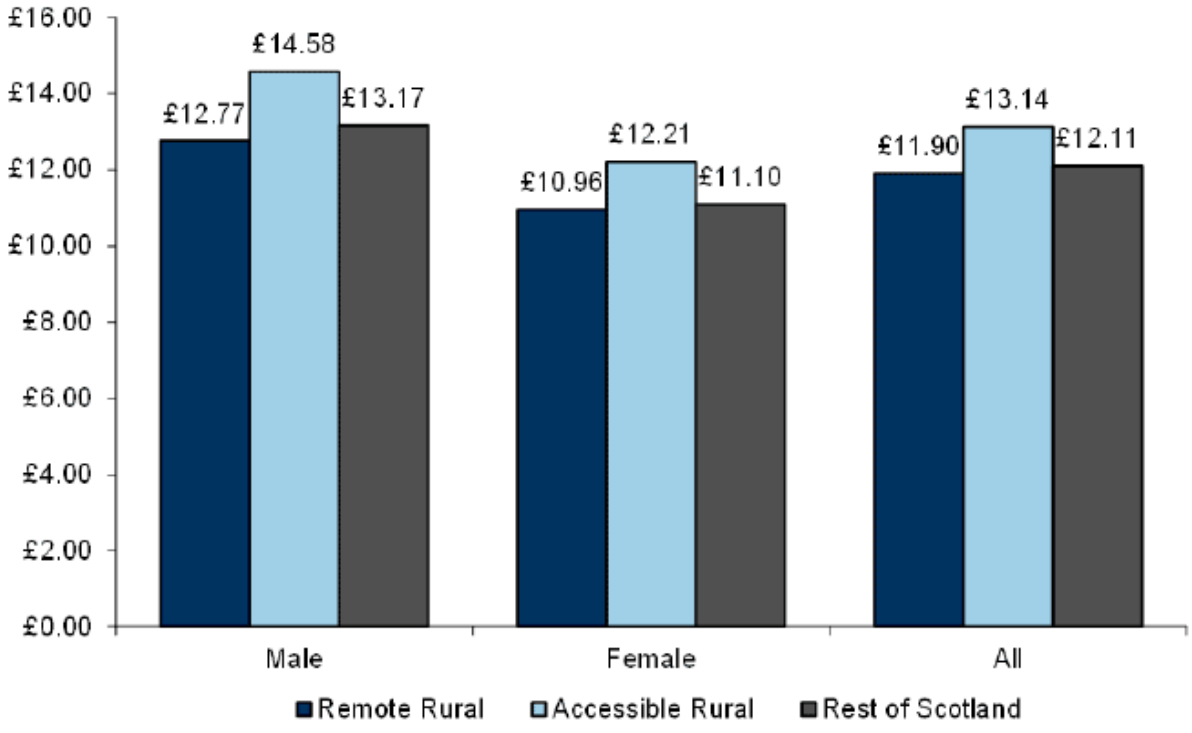
Table 1.2: Residence based median gross annual pay for fulltime employees[4] by geographic area[4]

	Remote rural	Accessible Rural	Rest of Scotland
Male	£29,017	£32,098	£29,765
Female	£23,941	£27,523	£24,799
All	£27,074	£30,452	£27,715

Source: ASHE 2016, using Scottish Government Urban Rural Classification 2013-2014 (from Scottish Government 2018, p. 43)

The report also presents data on median hourly rates of pay which further confirms the extent of the gender pay gap. In remote rural areas women earn less than men - £10.96 compared with £12.77 per hour, respectively. Figure 1.1 illustrates the comparison of median hourly rates of pay by gender for remote rural Scotland, accessible rural and the rest of Scotland.

Figure 1.1: Residence based median hourly rates of pay[5] by geographic area and gender for 2016



Source: ASHE, 2016, using the Scottish Government Urban Rural Classification 2013-2014 (from Scottish Government 2018, p. 42)

[4] Employees on adult rates who have been in the same job for more than a year.
[5] Employees on adult rates of pay for the survey pay-period was not affected by absence.

However, as the Scottish Government report notes (p. 43): *"It is not clear what drives this as we do not know whether it is the type of jobs causing the pay gap or other factors. This may be worthy of further study."* The report adds that useful areas of further study include the types and levels of jobs that women pursue and access to nurseries and informal childcare in rural Scotland.

Following on from the publication of the report in February, SRUC approached the Scottish Government with an interest in exploring this issue further. The Scottish Government agreed to fund this work as a scoping study to further investigate the gender pay gap in rural Scotland. The work was designed as an exploratory study rather than an in-depth investigation of the rural gender pay gap. It sought to begin to explore some of the data on the gender pay gap and to highlight some of the potential factors that may explain the gender pay gap in (remote) rural areas (when compared to urban areas), by drawing on existing literature and readily available secondary data. A key purpose of the report is to highlight areas which are worthy of further study.

This report is divided into six sections. Section 2 states the aims and objectives of the project while Section 3 provides a brief review of the existing literature on this topic. Section 4 outlines the methodological approach adopted and the data that was used, and then Section 5 summarises the findings. Section 6 concludes the report by providing some suggestions for further work on this topic.

2. Project aims and objectives

This project aimed to:

- Review a range of existing secondary data to provide a more in-depth understanding of the extent of the gender pay gap in rural Scotland.
- Review existing literature to understand the reasons for the particularly substantial gender pay gap in remote rural Scotland (when compared to urban Scotland).
- Recommend areas for future research on this topic.

The objectives of the project (which formed the key research questions) were to:

- Identify and review a range of secondary data sources (including the GPGD, Census, Annual Survey of Hours and Earnings, Scottish Household Survey, etc.) relating to earnings, income and pay in rural Scotland to understand better the extent of the gender pay gap, its geographical manifestations and how it may have changed over time.
- Review a range of evidence (including academic and grey literature) from Scotland and beyond that explores potential reasons for current patterns of women's participation in the rural labour force (e.g. greater levels of part-time working), gender pay gaps, etc. and the implications of the patterns observed (e.g. in relation to evidence from the Highlands and Islands on minimum income levels in remote rural Scotland[6]).
- Based on the review of evidence, to identify a range of other secondary data which can be usefully mapped alongside pay data (e.g. nursery and other childcare provision), to illustrate potential reasons for the pay gap.

[6] For more information, see: http://www.hie.co.uk/regional-information/economic-reports-and-research/archive/a-minimum-income-standard-for-remote-rural-scotland---a-policy-update.html

- Based on this scoping work, to provide recommendations for worthwhile avenues for further work (upon which we anticipate building further bids for research funding).
- To write up a short RPC report and accompanying 2-page research briefing which will be reviewed by RESAS and other relevant SG colleagues (including through a presentation of the emerging findings at SG) and then made publicly available on the RPC website.

3. Literature Review

3.1 Introduction

The first task of this project was to review existing literature on this topic. Initially, the team reviewed evidence relating to the extent of the gender pay gap in the UK and Scotland, exploring how it varies between different sectors and occupations (Section 3.2). Literature focusing on the reasons for the gender pay gap was then reviewed (Section 3.3), followed by a focus more narrowly on the extent of, and reasons for, the ***rural*** gender pay gap (Section 3.4). The final section (Section 3.5) briefly describes the gender pay gap in the agricultural sector.

It is worth noting that there is a considerable body of literature which explores a range of gender and labour force participation issues, including gender pay and women's employment in particular sectors (including agriculture) and in family enterprises, in a developing country context (see for example: Kilic et al. 2015; Croppenstedt et al. 2013; FAO 2011; Mammen and Paxson 2000). However, this literature was not considered in this study. Further work on this topic might consider incorporating some of this literature as there may be aspects that are 'transferable' to a developed country context.

3.2 The gender pay gap in the UK and Scotland

To begin with, it is important to note that there are varying ways of calculating the gender pay gap. For this section, the gender pay gap data referred to is sourced from the Office for National Statistics (ONS), which calculates the gender pay gap based on the hourly median earnings of full time employees (unless otherwise stated)[7].

In the UK, the gender pay gap for full-time employees has decreased from 17.4% in 1997 to 9.4% in 2016 (ONS 2016a), with the latest figures showing a gender pay gap of 8.6% for 2018 (ONS 2018). The gender pay gap for both full-time and part-time employees has reduced from 27.5% in 1997 to 17.9% in 2018 (ONS 2018). The gender pay gap in 2016 for only part-time employees was -6%, meaning that women in part-time employment earned 6% more than men in part-time employment (ONS 2016a). A much higher proportion of women work part-time - 41% compared with 12% - which is why the gender pay gap for all employees is higher than just for full-time employees (ONS 2016a).The gender pay gap in the UK varies across different occupations[8].

[7] The gender pay gap from ONS is calculated as the difference between the median hourly earnings (excluding overtime) of men and women as a proportion of median hourly earnings (excluding overtime) of mens earnings (ONS, 2018).
[8] For more information, see: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/articles/findoutthegenderpaygapforyourjob/2016-12-09

Evidence on the gender pay gap in Scotland confirms that overall women are paid less than men, and that this has been the case over a long period of time. The gender pay gap for full time employees in Scotland has fallen from 19.1% in 1998 to 10.8% in 2008, with the most recent figures showing a further fall in the gender pay gap to 5.7% for 2018 (ONS 2018).

3.3 Factors explaining the gender pay gap

Recent work by Olsen et al. (2018) on the gender pay gap in Scotland for 'Close the Gap' argues that the gender pay gap is: *"a defining feature of the Scottish labour market. Although it has gradually narrowed over the long term, progress has been extremely slow, particularly in recent years, with little substantive change in the everyday experiences of working women."*

According to Fortin and Huberman (2002), vertical segregation is the main driver for earnings gaps. Vertical segregation refers to the concentration of women and men in different grades, levels of responsibility or positions (i.e. hierarchies within individual occupations whereby opportunities for career progression are narrowed for women [usually] - this is also sometimes referred to as a glass ceiling).

Horizontal segregation refers to the distribution of workers across and within occupations based on demographic characteristics, usually gender. Data from 2016/7 suggests that similar proportions of men and women (29.8% and 29.5% respectively) were employed in high-pay[9] occupations (including in the medical professions and dentists, solicitors and managers and senior officials – some of which [in the private sector] are also more likely to attract bonuses[10]). However women (38.6%) were considerably more likely to work in low-pay occupations (including caring, leisure and other service occupations; sales and customer service occupations; or elementary occupations, such as cleaners or kitchen and catering assistants) than men (22.1%). As Olsen et al. (2018) argue, 'women's work' – referring both to their employment type and to their part-time working – tends to be concentrated in these occupations and it is undervalued.

Between 2010/11 and 2016/17, the gender gap in high-pay occupations decreased. This was driven by an increase in the proportion of women in high-pay occupations while the proportion of men in high-pay occupations did not change (Equality and Human Rights Commission [EHRC] 2018). Elsewhere in the labour market, large pay differences are also found across the apprentice framework. For example, women on level 2 and level 3 apprenticeships had lower mean and median earnings than equivalent male apprentices (Department for Business, Energy and Industrial Strategy 2017).

Evidence for Scotland in 2016 confirmed that in all nine occupational groups, men had higher median full-time hourly earnings than women. The size of the gap varied substantially across occupational groups, being particularly large amongst skilled trades occupations, managers, directors and senior officials and process, plant and machine operatives (Scottish Government 2017a).

In 2017, 72% of Scottish public bodies were headed by men, yet 64% of workers across the Scottish public sector were women. Moreover, only 25% company directors of FTSE 100

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[9] Low pay is defined as the value that is two-thirds of median hourly earnings and high pay is defined as the value that is 1.5 times median hourly earnings (for more information, see: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/lowandhighpayuk/2018#more-about-low-and-high-pay-and-the-distribution-of-pay).

[10] For more information see: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2018

companies were women, and women made up 0% of CEOs; women comprised 28% of public body chief executives, 26% of university principals, 23% of sheriffs and only 7% of senior police officers (Engender 2017). This report by Engender (2017) acknowledges that, while there has been a degree of positive change in some sectors and industries, progress elsewhere towards gender parity in positions of power has stalled or regressed, and leadership in certain sectors remains exclusively male-dominated.

In 2017, the full-time gender pay gap in median hourly earnings also varied between industries. The gap was particularly wide in professional, scientific and technical activities and financial and insurance activities for example, but the gap was narrower in the education and transportation and storage sectors (Scottish Government 2017a).

In addition to vertical and horizontal segregation, research has suggested a number of other inter-related reasons why a persistent gap exists in the levels of pay between men and women. Culliney (2016), for example, argued that the key reason is that women are likely to work reduced hours than men (even amongst the most highly educated individuals), which means lower pay (see also Triventi 2013). EHRC (2018) also found that women in Scotland were less likely to be in employment, more likely to be working part-time, more likely to be in low paid work and were under-represented in senior positions, even in sectors where they account for the majority of the workforce (such as education and health). This under-representation was maybe because these higher positions tend to be less flexible and they often cannot be undertaken on a part-time basis.

Work by Petit and Hook (2009) and Polachek (1976) suggested that women are likely to choose 'women-friendly jobs' – which are likely to offer lower economic rewards - in order to accommodate their dual role whereby they have both economic and family responsibilities. Triventi's (2013) work argued that in the UK, a country where working parents are largely expected to make their own childcare arrangements, the role of the family in care-related activities is weak and there is a strong association between positive attitudes to careers and wages. As Gash (2008) argues, however, these 'preferences' do not necessarily reflect a free choice as, in the absence of public support, many women are bound to adjust their occupational choices so that they can meet familial responsibilities.

Recent work by the ONS (2016b) confirmed that women tend to take on a disproportionate responsibility for unpaid care and domestic work, with women carrying out an average of 60% more unpaid work than men, including cooking, childcare, housework, laundry, volunteering and adult care. The only area where men put in more unpaid hours than women is transport. The ONS suggested that if unpaid work were to be paid, the average man would earn an extra £166.33 per week, whereas the average woman would earn £259.63 extra per week.

Previous research has found that women also value job attributes that allow social contacts and have a low level of stress (Glass 1990) therefore, although these jobs may offer lower material rewards, they offer better work conditions such as time autonomy and security as well as better physical and emotional conditions (Stier and Yaish 2014). Moreover, as Fagan and Burchell (2002) argue, in reality, women's occupations are often associated with relatively high levels of work strain, which might result from the fact that these occupations often involve service or caring dimensions which create emotional stress and/or that women often experience stress before entering the labour force due to the burden of family. While women-dominated occupations may offer better conditions for combining work and family, they usually leave women with sole responsibility for care work at home. Added to this, as Reskin and Roos (1990) argue, women often make these 'choices' from a disadvantaged position in both society and the labour market relative to that of men.

Drawing on evidence collected at European level, Triventi (2013) argues that the most important factors explaining differences in the monthly wages of men and women are working hours and employment characteristics (i.e. the occupational [horizontal] segregation

of women in less remunerative occupations, such as public organisations, retail, cleaning and teaching). Triventi (2013) also argues that wage discrimination is lower in countries that have high trade union density, centralised collective bargaining, family-friendly policies, and a high level of women's empowerment in society.

Busch and Holst (2008) found that education has a stronger effect on women's earnings than on men's but, on the other hand, men's professional experience is much more strongly reflected in higher earnings than that of women. One reason for this may be that women's careers are generally more interrupted and characterised by discontinuities than men's. All other things being equal, ten years of continuous professional experience are worth more on the labour market than, for example, the same amount of experience with an interruption of several years in the middle (during which a loss of human capital occurs). Added to this, women are also more likely to work in occupations in which increased professional experience is less likely to lead to higher earnings, and it is usually the case that the more someone's experience is based on part-time working, the greater the likelihood that the part-time experience will be penalised.

Busch and Holst's (2008) work also found that when all variables (including qualifications, professional experience, place of residence, etc.) are identical, women still earn less than men. This work found that women have a lower level of regional mobility than men due to family commitments. In practice, this means that they would be less capable of using the possibility of moving to a new employer as a threat in wage negotiations than men, and for that reason, would have to accept poorer conditions. In addition, structural processes resulting from gender-typical segregation probably also influence negotiation processes. For example, women are concentrated in a smaller range of occupations than men, which means they are faced with more competition making it harder for them to negotiate a better level of pay.

Finally, bias and discrimination may be further factors explaining the gender wage gap, including in terms of pay and grading systems and in recruitment, development and progression practices. For example, as Blau and Kahn (2003, in Triventi 2013) argue, the incremental costs associated with mandated leave policies may increase employer incentives to discriminate against women when hiring, or to lower their wages.

To summarise, Olsen et al.'s (2018) work on the gender pay gap nationally in Scotland concludes that there are four main, inter-related factors contributing to the persistent gender pay gap in Scotland:

- **Bonus earnings** – women are less likely to work in occupations that attract bonuses, and when they do receive them they tend to be smaller;
- **Company size** – women who work in smaller companies are more likely to receive lower pay than women working in medium sized or larger companies.
- **Occupational segregation** – men are more likely to work in male-dominated sectors (e.g. engineering) which tend to have higher pay while women tend to work in female-dominated sectors (e.g. care) which tend to have lower pay; often recruitment, development and progression practices are not transparent and sometimes biased;
- **The 'gender residual'** – the most significant cause of Scotland's gender pay gap is gender itself; in other words the penalty for being a woman. This manifests itself in terms of the structural inequalities and systemic disadvantage that women experience in entering and progressing in employment. These include women feeling excluded from male-oriented work cultures that do not value their skills, experience and contributions. Moreover, they have a disproportionate burden of care which prevents them progressing into more senior roles and means that they are more likely to take on (often lower quality) part-time and/or flexible work (often in the long-term), and 'women's work' is consistently undervalued across the labour market, as are gendered assumptions about women's abilities and preferences in the workplace.

Finally in this section it is worth noting that, despite the existence of the gender pay gap and the disadvantages that women face in the workforce, there is evidence which demonstrates the considerable contribution that women make to the national economy in terms of creating jobs and driving economic growth, particularly through self-employment. A recent report by the Federation of Small Businesses (FSB) and Women's Enterprise Scotland (WES) found that women-owned businesses contributed £105bn GVA to the UK economy, an increase of 40% since 2012 (2018). Women-owned businesses represented 6.3% of total GVA, an increase from 5.1% in 2012. WES (2017) argued that women are still persistently under-represented in self-employment and business ownership, but that considerable gains can be made by encouraging and supporting women to start up in business. The work by WES found that the major obstacle for women starting and growing a successful enterprise is access to finance. Women-led businesses start with lower levels of overall capitalisation and are much less likely to use private equity or venture capital. Evidence also suggests that women-led businesses, due to their smaller size, often face constraints in their access to markets.

3.4 Factors explaining the rural gender pay gap

There is an existing body of literature specifically focusing on the rural gender pay gap. Much of this literature supports the Scottish Government's finding in its 2018 report that it is larger than the pay gap in urban areas, and it outlines specific reasons for the gender pay gap in rural areas. This section describes this literature, but it is worth noting at this point that the findings of this study suggest that the picture is much more complex - and indeed they suggest a much more positive situation for rural local authorities in Scotland, particularly since 2016.

Busch and Holst (2008), for example, found in Germany that the gender pay gap in 2006 was especially pronounced in rural areas at 33%, compared to 12% in urban areas. This study concluded that this was mainly due to the increased employment opportunities for highly-qualified women in cities, suggesting that there are different labour market conditions for women in rural and urban areas. For example, the higher level of women's earnings and lower gender pay gap in urban centres may partly be explained by the fact that the concentration of large service-industry enterprises in metropolitan areas increases the chances of, in particular, highly qualified women being employed, over those in other regions. In addition, the higher availability of education, the more frequent involvement of women in the labour force, and a greater heterogeneity of lifestyles (an 'urban culture') should mean that attitudes towards equal opportunities for men and women would be more egalitarian than in rural areas. This would make these regions particularly attractive to highly qualified women.

Building on the literature cited in Section 3.2, the higher incidence of part-time working in rural areas, particularly for women, may be a key reason for the larger gap between men's and women's pay (i.e. more women working less hours). Culliney's (2016) work for example found that, removing female part-time workers (which were sizeable in number due to the relative lack of regular full-time work in many rural places) from the wage analysis reduced the gap between men and women. In rural areas, there is less competition and so wages are kept low and it is less likely that women can bargain for better pay. In contrast, in urban areas, labour competition is higher as there are only a few jobs in a particular sector so wages may be forced up and it is harder for employers to discriminate against women.

Hirsch et al.'s (2013) work found a considerable difference in pay gaps between rural and urban areas in Germany – about 10 percentage points larger in rural areas compared to urban areas. This work also found that this difference was remarkably stable over time. The researchers attributed this persistent difference to a number of different factors, including the continuation of the different competitive environment in rural and urban areas whereby labour

markets in cities remained more competitive with more firms in them, thus limiting employers' ability to discriminate against women.

Mauthner et al.'s (2001) work found that, despite women reporting that they value the financial, personal and social rewards of paid work, rural locales offer restricted paid work opportunities for those who are not prepared or able to travel what are often considerable distances for work (see also Breeze et al. 2000). Thus, women living in rural areas are reported to be more prone to work near their home (see also Little and Austin 1996) and to take jobs that do not match their formal qualifications (Little 1994). As a consequence, rural women have a reduced likelihood of holding professional or managerial posts (Mauthner et al. 2001).

One topic which has not received much attention in academic literature is the presence (or absence) of formal care services for children, older people and those with disabilities, and its influence on the working behaviour and pay of rural women. Work at European scale has found that due to a relative lack of care services in rural areas, women who have caring responsibilities may be forced to work shorter hours and/or closer to home for lower pay rather than having the freedom to travel for better paid employment (European Union (EU), 2012). This is a situation which has been termed 'underemployment' – where people are working shorter hours or in lower qualified/paid jobs than they wish to be or could be if they had free choice in where/how they work. On the other hand, it may be that rural women have easier access to more informal care services (e.g. through family, friends, neighbours) which may reduce the challenges of less formal care services being available. It may also be the case that the lack of public transport within and to and from rural places, and/or the cost of running private transport, means that women are forced to take less well paid and/or part time jobs more locally in order to reduce the transport costs that they face.

The make-up of businesses in rural areas may also be a factor in explaining the larger gender pay gap in rural compared to urban areas. Rural areas have a higher proportion of sole traders and micro businesses, which may be less likely to have family-friendly or anti-discrimination policies, which are expensive for employers to implement. Indeed, Olsen et al. (2018) argue that one of the main factors contributing to Scotland's gender pay gap is women who work in smaller companies are more likely to receive lower pay than women working in medium or large sized organisations.

3.5 The gender pay gap in agriculture

Finally, it is worth noting that there is a considerable body of literature focused on women's participation in the agriculture sector (see for example, World Bank 2018; Shortall 2017, 2010; EU 2012; Henderson and Hoggart 2003; Hughes 1997). Although this sector is now relatively small in terms of its contribution to national (and indeed rural) economies in most OECD countries, it is worth just briefly mentioning the key findings from this work, particularly as this is a current policy focus for Scottish Government.

The recent 'Women in Farming and the Agricultural sector' report[11] (2017) in Scotland set out to establish a baseline position on women in farming and the agriculture sector in order to inform future policies to enhance the role of women in these sectors. The work found that women play a significant role across the agriculture sector, participating in the full range of agricultural activities but the biggest barrier to womens' participation is the cultural practice of passing farms intact onto one son. Women are also under-represented amongst the elected leadership of national-level farming organisations (indeed, the report goes as far as to

[11] Scottish Government, 2017b. Women in Farming and the Agricultural sector report. Available online: https://docs.wixstatic.com/ugd/0fc63c_50e4e3478f52403b92696f075ae942d7.pdf

suggest that 'exclusionary practices' may be operating, or at least that women feel 'not welcome by existing male leaders') and also face barriers in advancing their on-farm roles, including their need to juggle family responsibilities, housework, off-farm employment and volunteering. The report concludes that women in family businesses outside of agriculture face far fewer barriers to business involvement and leadership, and it argues for a clear need for more access to, and uptake of, vocational, practical training for women.

4. Methodology and data

4.1 Introduction

This section outlines the methodological approach taken in this scoping study and the secondary data that was identified and analysed.

4.2 Methodological approach

This research was designed as a scoping study to build on the Scottish Government's (2018) 'Understanding the Scottish Rural Economy' report. Based on data from the Annual Survey of Hours and Earnings and the Government's rural-urban classification, the 2018 report revealed that, in 2016, the gender pay gap was most substantial in remote rural Scotland and it suggested that further work to explore why this might be the case would be useful.

The research on which this report is based involved several methodological stages:

- A review of existing (academic and other) literature from Scotland and beyond which explores reasons for the gender pay gap, with a particular focus on exploring reasons for the rural gender pay gap (as reported in Section 3);
- A review of a range of existing secondary data relating to earnings, income and pay in rural Scotland to understand better the extent of the rural gender pay gap, its geographical manifestations and how it may have changed over time (see Section 5);
- An identification and review of other secondary data which might help to explain the rural gender pay gap, including for example childcare provision (see Section 5).

The remainder of this section explains the data used in this study.

4.3 Defining and calculating the gender pay gap

The gender pay gap is the difference between women and men's earnings[12]. However, as noted by Close the Gap (2017) the gender pay gap is a complex issue and there is no universally accepted, definitive way in which to report a single figure which fully captures those complexities (Hicks and Thomas 2009).

For example, some analyses of the gender pay gap use mean earnings data while others use the median; analyses may use hourly, weekly or annual earnings information; and some

[12] It is worth noting that the gender pay gap does not tell us whether women are being paid less than men for the same work, which has been against the law in the UK since the 1070 Equal Pay Act.

analyses include overtime pay, part-time working, the self-employed, and those earning below the 'pay as you earn' (PAYE) income tax level, while others do not. It is therefore important to be clear about which data is being used when analysing and reporting the gender pay gap.

The denominator most often used to calculate the gender pay gap is men's full-time pay. Most analyses (including the ONS and the Scottish Government) provide a figure which is a like-for-like comparison, for example with men's full-time earnings as the denominator for the full-time figure and part-time compared to part-time for the part-time pay gap (Close the Gap 2017). The EU however uses overall figures, including full- and part-time earnings, which gives an overall picture of gendered pay inequalities in the labour market. More women work in lower paid, part-time work[13], which is usually referred to as 'the part-time effect' – only using full-time employees eliminates this effect (but it is important to remember that the effect is itself gendered).

The median average is calculated using the midpoint in terms of pay and discarding the lowest and highest rates of pay (i.e. the outliers, therefore half of the employees' earnings will be above the midpoint and half below the midpoint). The median is therefore a more statistically accurate measure than the mean as it is not skewed by very low or very high hourly pay (as is the case for the mean). However, as the highly paid tend to be men and the lower paid tend to be women, it may obscure some gendered differences.

In contrast, the mean is calculated by adding all employees' rates of pay together and dividing by the total number of employees. This includes the lowest and highest rates of pay, thereby including a number of low paid employees who are more likely to be women. International data, including the Global Gender Pay Gap, tends to use mean figures, for example.

4.4 The Annual Survey of Hours and Earnings (ASHE)

For the purposes of this work, data from the UK ONS' Annual Survey of Hours of Earnings (ASHE) was used. This survey produces data on the hourly earnings of women and men. The ASHE survey is administered once a year to businesses around the UK and businesses are chosen to participate based on a sample of the national tax registry. Questionnaires are mailed to each business and must be completed and mailed back to the ONS.

The questionnaire is comprised of questions that businesses answer about their employees, including about their gender, specific job title, a brief description of the job, the nature of their contract (temporary/permanent), the employee's home postcode, the employee's basic income (before deductions), and the number of hours worked per week[14]. The data on employees' earnings is drawn from payslip information.

All of this data is made publicly available through the ASHE tables. These tables include information about the levels, distribution and make-up of earnings and hours paid for

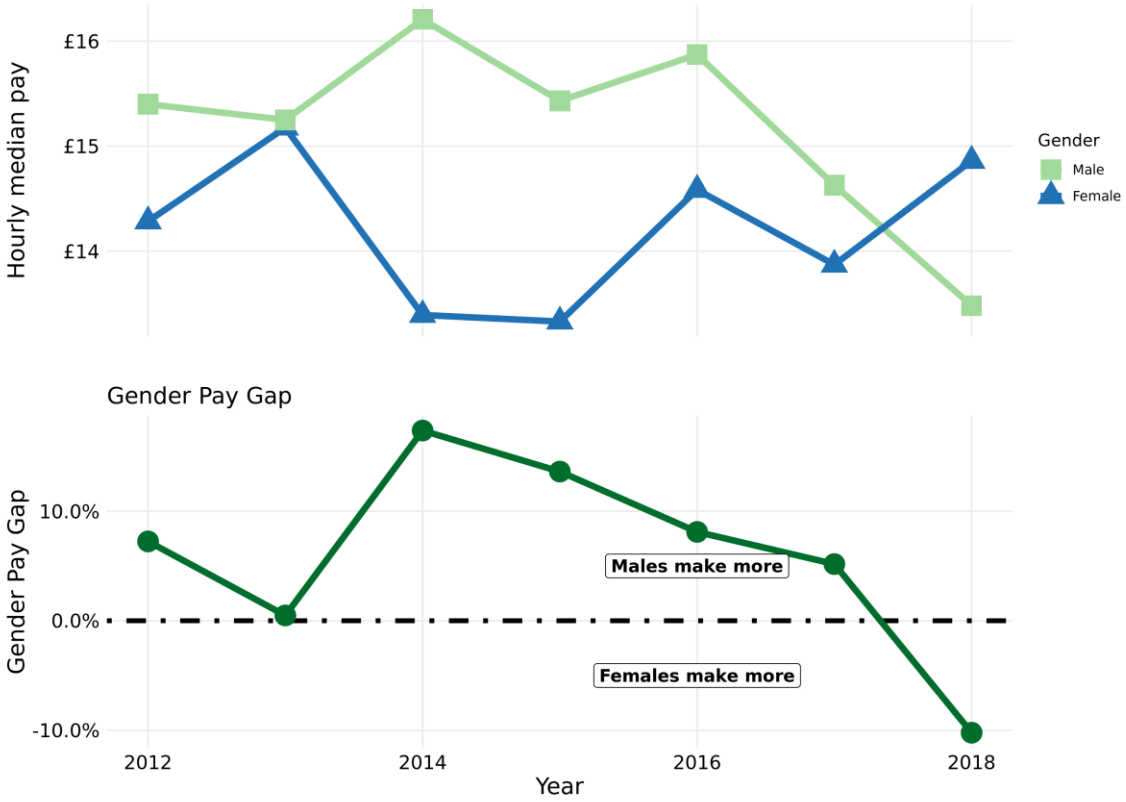
[13] 75% of part-time workers are women and just under half of employed women are working part-time (42%) compared to 13% of men. Men are also less likely to be in part-time positions over a long period of time. Part-time work is usually in low-paid and undervalued work, and wages are more likely to be lower in female-dominated workplaces than male dominated workplaces or workplaces which are more diverse.

[14] For a complete list of questions or a copy of the ASHE questionnaire, visit https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/methodologies/annualsurveyofhoursandearningsashemethodologyandguidance.

employees within industries, occupations and regions[15]. It also provides data on earnings for employees by sex for full-time and part-time workers. The figures in these databases are used to create the gender pay gap figures that ASHE releases. They are calculated as the difference between the average earnings of women and men as the proportion of average earnings for men. The equation for calculating the gender pay gap is:

$$Gender\ pay\ gap = \frac{Male\ earnings - Female\ earnings}{Male\ earnings}$$

Figure 4.1: Example showing how the gender pay gap is calculated



Calculating the gender pay gap using the above formula means that the gender pay gap data will be a negative number if the pay gap favours women (i.e. if women earn more than men) and a positive number of the gender pay gap favours men (i.e. if men earn more than women). An example of how ASHE reports the gender pay gap is shown in Figure 4.1.

[15] It is worth noting some changes have occurred, for example to the Standard Occupational Classification codes in 2010-11, which must be taken into account when comparing time series data. A change also occurred in 2014 to account for the National Minimum Wage rate for those aged 16 to 18 or 19 and in the first year of apprenticeship training. A further change occurred in 2016 with the introduction (on 1st April) of the new National Living Wage, a mandatory minimum age for employees aged 25 or over.

As seen in Figure 4.1, as mens' and womens' earnings become more equal, the gender pay gap (shown in the bottom graph) moves closer to zero. Likewise, if men earn more than women, the gender pay gap is a positive percentage; when women earn more than men the gender pay gap is a negative percentage.

In order to undertake this work a special data request was made by the research team to Scottish Government statisticians. The request was to obtain data on the median hourly gender pay gap for the RESAS classification. The publicly available data on this from ASHE contains some missing data points due to the lower number of respondents in some more remote areas, so our request was for aggregated data including from local authorities whose data is not normally in the public domain.

4.5 UK Census 2011

The most recent UK Census took place in March 2011. The Census gathers data on everyone in the UK and it contains a range of variables that are pertinent to determining the drivers of a rural-urban gender pay gap; for instance, it includes questions on job type by Standard Industrial Classification, the number of lone parents aggregated by gender and others. Although the most recent Census is now several years old as it is a census of everyone, it does contain a reliable number of responses for (remote) rural areas. The Census also does not contain a question that directly measures income. So, while it cannot be used to explore the gender pay gap itself, it is useful for exploring some of the factors that may explain it (see Section 5 of this report). The data used in this research are from the standard output tables[16].

4.6 The Care Inspectorate data

Overall, the Care Inspectorate inspects about 14,000 registered care services in Scotland. They grade and collect data from care services, and data is made publicly available. Their published datasets contain information on the type of care service provided (e.g. childminders, childrens' nurseries or care for older people). In addition to the type of care, these datasets also provide the datazone[17] where the care service can be found. This is useful as it allows the care services to be geographically tagged using the Scottish Government's RESAS rural classification. The data used in this research are from the published statistics quarterly report[18].

[16] For more information or to download the data used in this research visit the Scottish Census 2011 website, found here https://www.scotlandscensus.gov.uk/census-results.
[17] Datazones are the key small area statistical geography in Scotland. There are 6,505 datazones covering the whole of Scotland. Datazones are groups of 2001 Census output areas and have, on average, populations of between 500 and 1,000 household residents.
[18] For more information or to download the data used in this research visit the Care Inspectorate's website, found here http://www.careinspectorate.com/index.php/publications-statistics/94-public/statistics/quarterly-statistical-summary-report.

4.6 Annual Population Survey

The Annual Population Survey (APS) is a social survey in Scotland that includes measurement data on local labour force statistics[19]. These data are derived from a boosted sample and are collected yearly. They provide time-series data on the full-time employment rate for local authorities. These data are aggregated overtime and used to explore employment rates across rural areas in Scotland (see Section 5.4).

4.7 Scottish Index of Multiple Deprivation

The Scottish Index of Multiple Deprivation (SIMD) 2016 data set is used to provide data on the variables that measure accessibility of areas within the RESAS rural areas[20]. The SIMD provides a ranking of each datazone in Scotland based on seven domain areas, one of which is accessibility. These data are used together with data from the Care Inspectorate to provide information on the relative accessibility of datazones that do not have a registered day care for children or childminder (see Section 5.7).

4.8 Defining rural for this study

The data analysis reported here uses the RESAS classification of the rural economy which was introduced by the Scottish Government in the 2018 'Understanding the Scottish Rural Economy' report. It provides a slightly more nuanced local authority based classification of rural and urban (than the binary 'Randall rural' classification of urban and rural local authorities which was used previously). More information on this classification is available in Scottish Government (2018)[21], but the classification categorises Scotland's 32 local authorities into four groups based on key variables:

- ***Larger Cities***: Glasgow, Edinburgh, Aberdeen and Dundee Cities;
- ***Urban with Substantial Rural***: North Lanarkshire, Fife, South Lanarkshire, West Lothian, Renfrewshire, Falkirk, East Renfrewshire, Inverclyde, West Dunbartonshire, Midlothian, North Ayrshire, East Dunbartonshire and Stirling
- ***Mainly Rural***: East Ayrshire, Aberdeenshire, Clackmannanshire, East Lothian, South Ayrshire, Moray, Angus, Perth and Kinross, Highland, Dumfries and Galloway and Scottish Borders.
- ***Islands and Remote Rural***: Argyll and Bute, Shetland Islands, Orkney Islands and Na h-Eileanan Siar.

[19] For more information on the APS see: https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/methodologies/annualpopulationsurveyapsqmi
[20] For more information on the SIMD see: https://www2.gov.scot/Resource/0050/00504809.pdf
[21] For more information on the RESAS Classification see: https://www.gov.scot/publications/understanding-scottish-rural-economy/

5. Results

5.1 Introduction

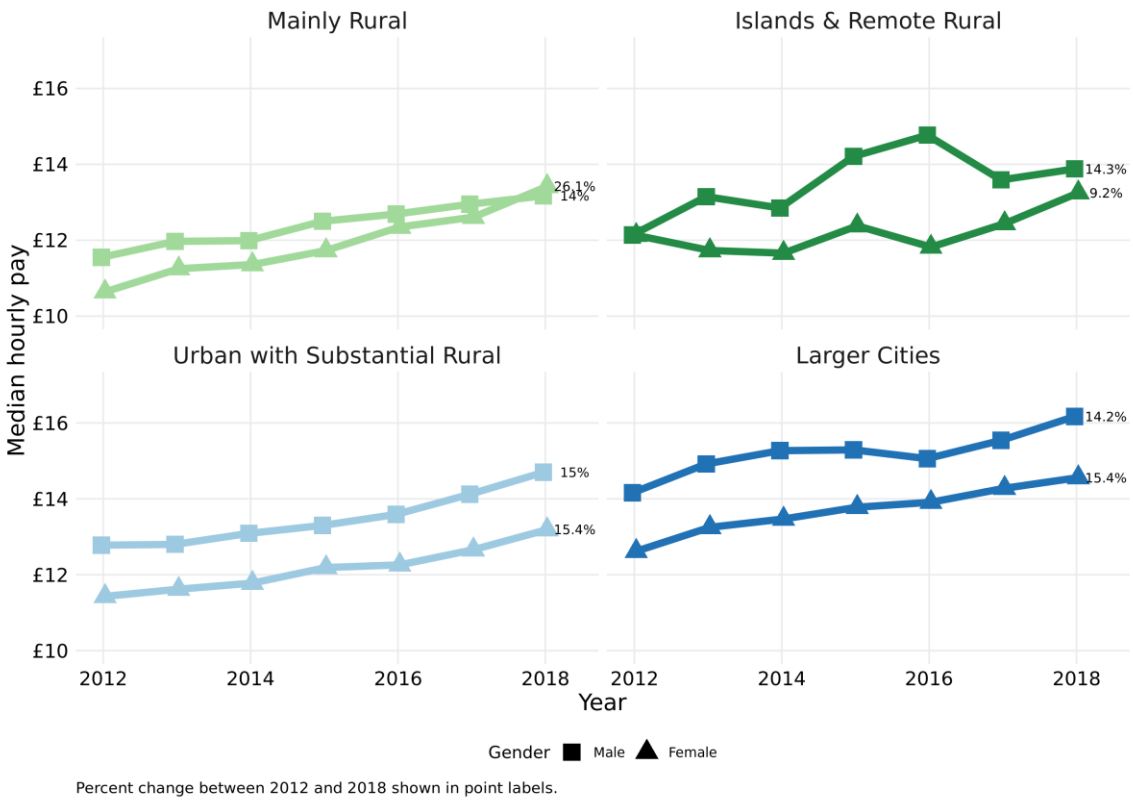
This section of the report outlines the results obtained from the analysis of secondary data. First, Section 5.2 presents data from ASHE on the hourly (median) pay for men and women according to the RESAS classification and, from this, the gender pay gap and how this has changed over time.

Sections 5.3 to 5.7 then present the results of data analysis exploring possible reasons for the observed gender pay gap, including the difference in hours worked by women and men, the differences in employment rates for women and men, the differences in the occupations and sectors for women and men, and access to childcare services in rural and urban areas. Section 6 concludes the report and provides some suggestions for further research in this area.

5.2 The gender pay gap in rural and urban Scotland

Figure 5.1 shows the change in hourly (median) pay for women and men (full-time employees only and excluding overtime, by place of work) between 2012 and 2018 using the RESAS classification of Scottish local authorities.

Figure 5.1: Hourly (median) pay for men and women by RESAS classification



Source: ASHE (special data request)

For both women and men and across all four classifications, an increase in hourly (median) pay from 2012 to 2018 can be observed. On average, hourly (median) pay increased by £1.82 for men and £1.90 for women across the four classifications. There is a steady upward trend across the four classifications, but for men and women in islands and remote rural areas, a considerable amount of variability in hourly (median) pay can be observed over the period.

While all four classifications saw an increase in hourly (median) pay for both men and women, pay levels in the larger cities and urban with substantial rural local authorities remained higher than in mainly rural and islands and remote rural local authorities. This holds true for almost all years, except 2014-16, when men in islands and remote rural local authorities experienced rapid increase in pay (to approximately £14.70 in 2016), meaning that pay levels in these local authorities exceeded those in urban with substantial rural local authorities (although not the larger cities).

However, a large decrease in hourly (median) pay was experienced by men in the islands and remote rural local authorities in 2016-17, with a slight increase observed again from 2017-18. Interestingly, women in islands and remote rural local authorities experienced an increase in hourly (median) pay from 2014-15 (although this was not as substantial as for men in 2016-17) to a level slightly higher than for urban with substantial rural areas (but again not as high as the larger cities), and then a decrease from 2015-16. Womens' hourly (median) pay increased from 2016 to 2017 at the same time as men experienced a large decline in hourly (median) pay.

The largest growth in hourly (median) pay was experienced by women in mainly rural local authorities – a change of approximately £2.78 between 2012 and 2018. As a result of this more substantial increase in pay for women, by 2018 the hourly (median) pay for women in mainly rural areas was slightly higher than that for men.

This large growth in pay for women in mainly rural local authorities is not mirrored in the other classifications, with men in the larger cities, urban with substantial rural, and islands and remote rural local authorities having higher hourly (median) pay than women in each respective classification. Women in the islands and remote rural local authorities saw the smallest increase in hourly (median) pay of all the classifications at only £1.12 per hour.

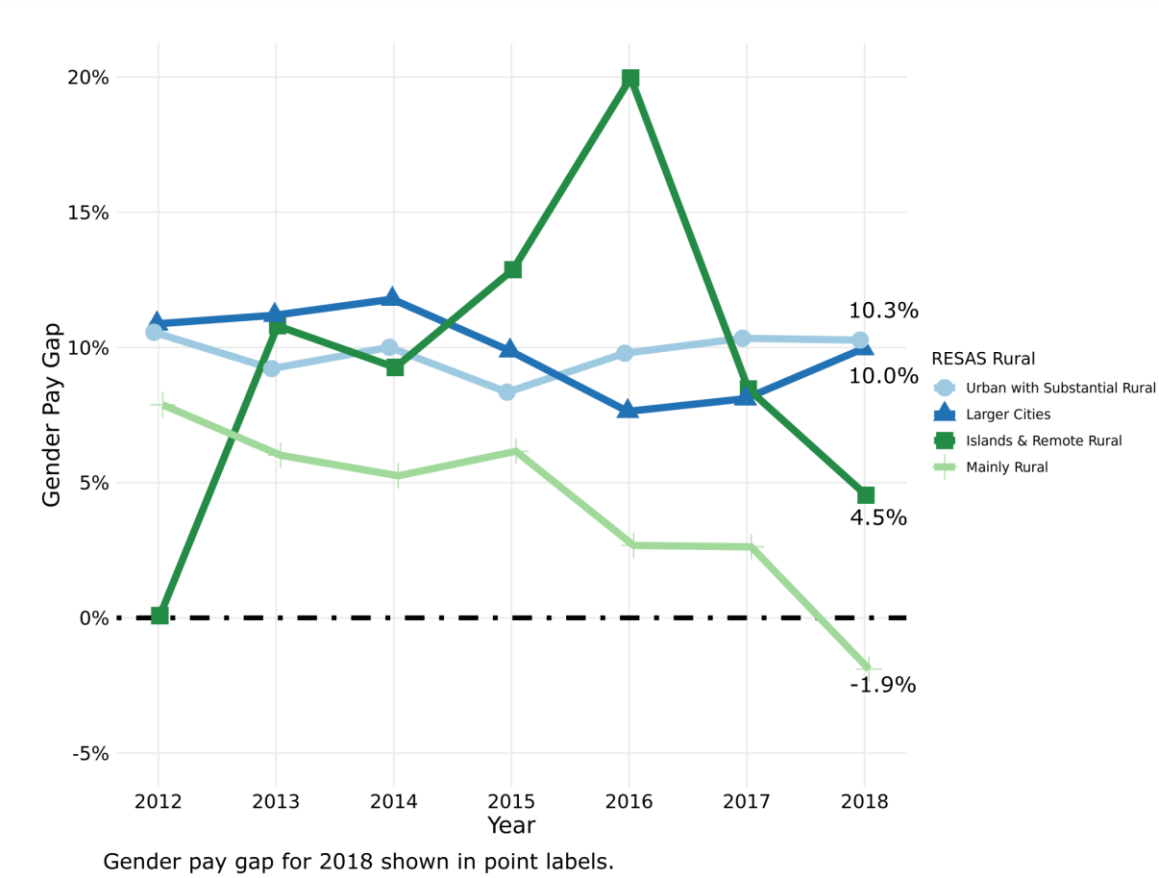
As explained in Section 4 of this report, the gender pay gap in each of the years from 2012 to 2018 can be calculated based on this hourly (median) pay data for men and women (by place of work)[22]. Overall in Scotland, the gender pay gap in 2012 was 7.35% and this had decreased to 5.7% in 2018 (representing a decrease of 1.65%) (based on hourly earnings and full-time employees only). Figure 5.2 shows the hourly (median) gender pay gap, again using the RESAS classification.

It is clear from Figure 5.2 that the largest decrease in the gender pay gap occurred in mainly rural local authorities from 2012 to 2018 (a decrease of about 9.8% from a gender pay gap of 7.9% in 2012 to -1.9% in 2018). This is the only one of the four categories in which there is a negative gender pay gap, i.e. women were earning more than men in mainly rural local authorities in 2018. This is likely to be due to the substantial increase in hourly (median) pay for women over the 2012-2018 period in mainly rural local authorities (see Figure 5.1). Overall, it could be suggested that much of the decline in the gender pay gap nationally in Scotland is being driven by this change in mainly rural local authorities.

[22] As a reminder, female pay is subtracted from male pay and then that number is divided by the male pay. The result is a percentage which is positive when males earn more than females, and negative when females earn more than males. A gender pay gap of zero means that males and females are paid the same.

In contrast, the gender pay gap increased the most in islands and remote rural areas between 2012 – when the gender pay gap was almost zero (0.1%, i.e. pay rates for men and women were close to the same) – and 2016, when the gender pay gap was 20%. The gender pay gap in islands and remote rural areas then fell substantially from 2016 to 2018 to 4.5%. Again, improvements in the national gender pay gap in Scotland since 2016 are therefore also likely being driven by this decline in islands and remote rural local authorities.

Figure 5.2: Gender pay gap (measured using hourly (median) pay for men and women by RESAS classification



Source: ASHE (special data request)

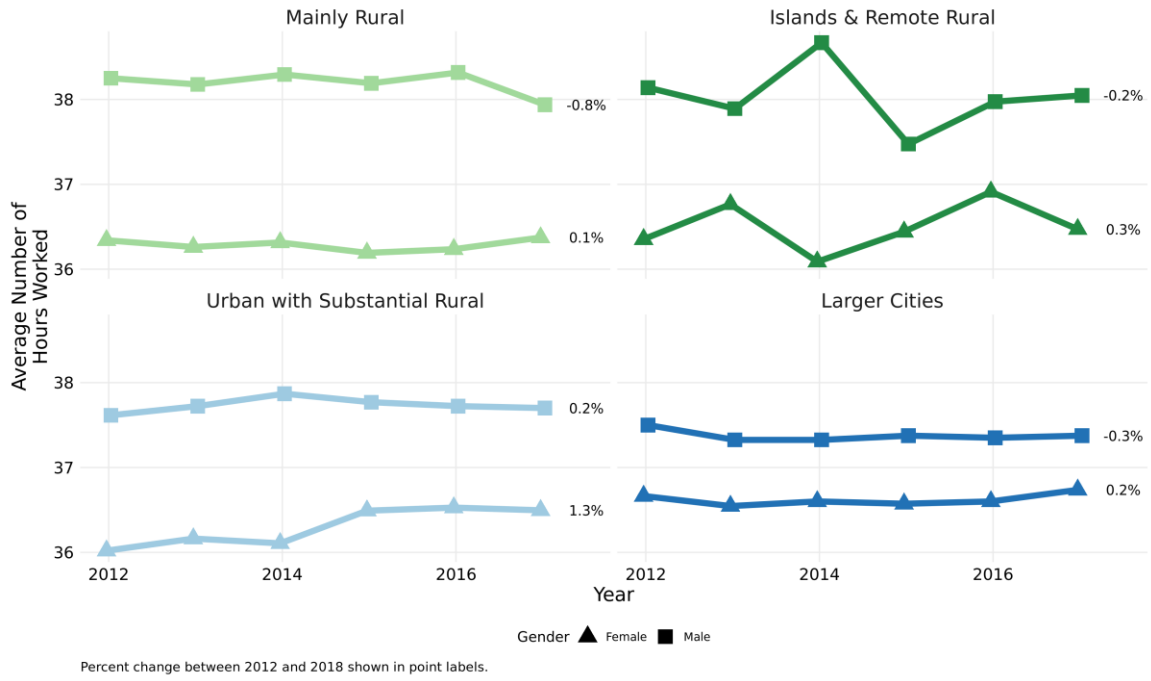
The gender pay gap in urban with substantial rural and in larger cities local authorities demonstrated less variability over the period, remaining at approximately 10%. Overall, although islands and remote rural local authorities had the largest gender pay gap in 2015 and 2016 (reaching the peak of approximately 20% in 2016), by 2018 the largest gender pay gap was in urban with substantial rural local authorities (at 10.3%), followed closely by larger cities (10.0%).

It is worth at this point reflecting on the findings of the Scottish Government (2018) report which also found the highest gender pay gap in remote rural Scotland in 2016, although in this case the data was analysed and presented at a lower geography than local authority level using the Scottish Government rural urban classification. In terms of further research, providing the data can be made available, it would be interesting to analyse the gender pay gap data for 2017 and 2018 at this lower geography, as well as at local authority level.

5.3 Hours worked by men and women

Building on the literature reviewed in Section 3 of this report, this section now moves onto explore possible reasons for the different urban and rural gender pay gaps that were explained in Section 5.2. First, we explore differences in the hours worked per week by men and women. It could be hypothesised that men in larger cities and urban with substantial rural areas are working longer hours than women, thereby generating higher pay and a large positive gender pay gap in favour of men. Data from 2017 is the most recent data available at the time of writing this report (from ASHE). Figure 5.3 shows the difference in the number of hours worked by men and women (full-time employees only and excluding overtime) across the RESAS classification.

Figure 5.3: Average number of hours worked by men and women (full-time employees only) by RESAS classification



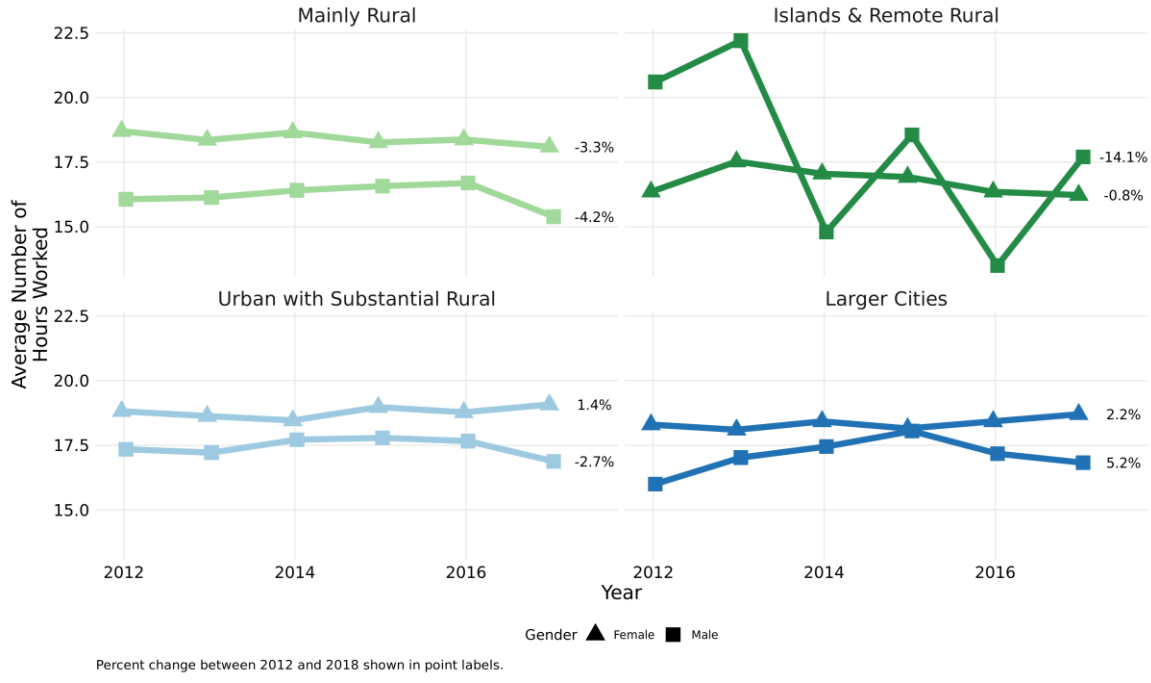
Source: ASHE- annual summary of hours worked 2018

Full-time men work about 38 hours a week in mainly rural, islands and remote rural, and urban with substantial rural local authorities, while full-time women work close to 36 hours a week. The difference between men and women in hours worked per week is smallest in larger cities where both work approximately 37 hours a week, and it is largest in mainly rural areas and in islands and remote rural areas.

On average, men working full-time work about 2 hours more per week than women working full-time across the four categories. There are only a few instances where men work more than 2 hours more per week than women: one instance is in islands and remote rural areas in 2014 (in this year men worked almost 3 hours more per week than women in these areas); the second instance is for mainly rural areas in 2015 and 2016 (indicating that men in these areas worked just over 2 hours more per week than women). On average, there has been little change in the number of hours worked by full-time workers over the period 2012-17 (an increase of approximately 0.03 hours per week).

Returning to the changes in the gender pay gap over time and the differences across rural and urban areas as reported in Section 5.2, the substantial decline in the gender pay gap in mainly rural areas from 2012 to 2018 was clear. Figure 5.3 shows that over the period 2012-17, full-time men worked more hours than full-time women, with a slight increase in the difference between 2012 and 2016 and then a slight decrease (the latter indicating an increase in the hours worked by women between 2016 and 2017). Had there been a clear trend here of a gradually smaller difference in the number of hours worked by men and women over this period (i.e. full-time women working an increasing number of hours), this might have explained a rise in women's pay and hence a narrowing of the gender pay gap in mainly rural areas, but this is not the case. It is also interesting to note that the 'peak' in terms of hours worked by full-time men in islands and remote rural areas in 2014 does not correspond with the 'peak' in terms of the gender pay gap in these areas, which occurred in 2016. It can therefore be concluded that differences in the hours worked by full-time men and women is not a factor in explaining the gender pay gap patterns reported in Section 5.2. However, it is worth observing the small variations in the differences in hours worked between men and women in urban with substantial rural areas and in larger cities, which can be compared to the relatively small changes in the gender pay gap in these areas over the 2012-17/8 period.

Figure 5.4: Average number of hours worked by men and women (part-time employees only) by RESAS classification



Source: ASHE- annual summary of hours worked 2018

Turning now to the differences in hours worked per week by men and women in part-time employment (as shown in Figure 5.4), it is clear that across three of the four RESAS classifications women part-time workers consistently work more hours per week than men part-time workers. It is only in islands and remote rural areas and in some years where part-time men work more hours per week than part-time women (i.e. in 2012, 2013, 2015 and 2017). It is mainly rural areas where there tends to be the greatest difference in the hours

worked per week between part-time men and women (with part-time women working approximately 2.5 hours per week more than part-time men).

As reported earlier, mainly rural areas saw the largest decrease in the gender pay gap over the 2012-2018 period but, as suggested above, it does not seem that this can be explained by a substantial increase in the number of hours worked by full-time women as this was not evident in Figure 5.3[23]. We also cannot draw any inferences regarding the gender pay gap from this part-time working data as the gender pay gap is measured using pay for full-time employees only. However, this data does confirm the tendency reported in the literature for women to be more likely to take on part-time employment - perhaps due to their additional caring or family responsibilities – and for this to be particularly the case in the more rural local authority areas (i.e. the mainly rural and islands and remote rural classifications). However, interestingly, Figure 5.4 suggests that in islands and remote rural areas, part-time working is more important for men than in the other categories. Interestingly, the lowest number of hours worked by part-time men in 2016 in islands and remote rural areas, corresponds to the 'peak' gender pay gap (20%) in these areas.

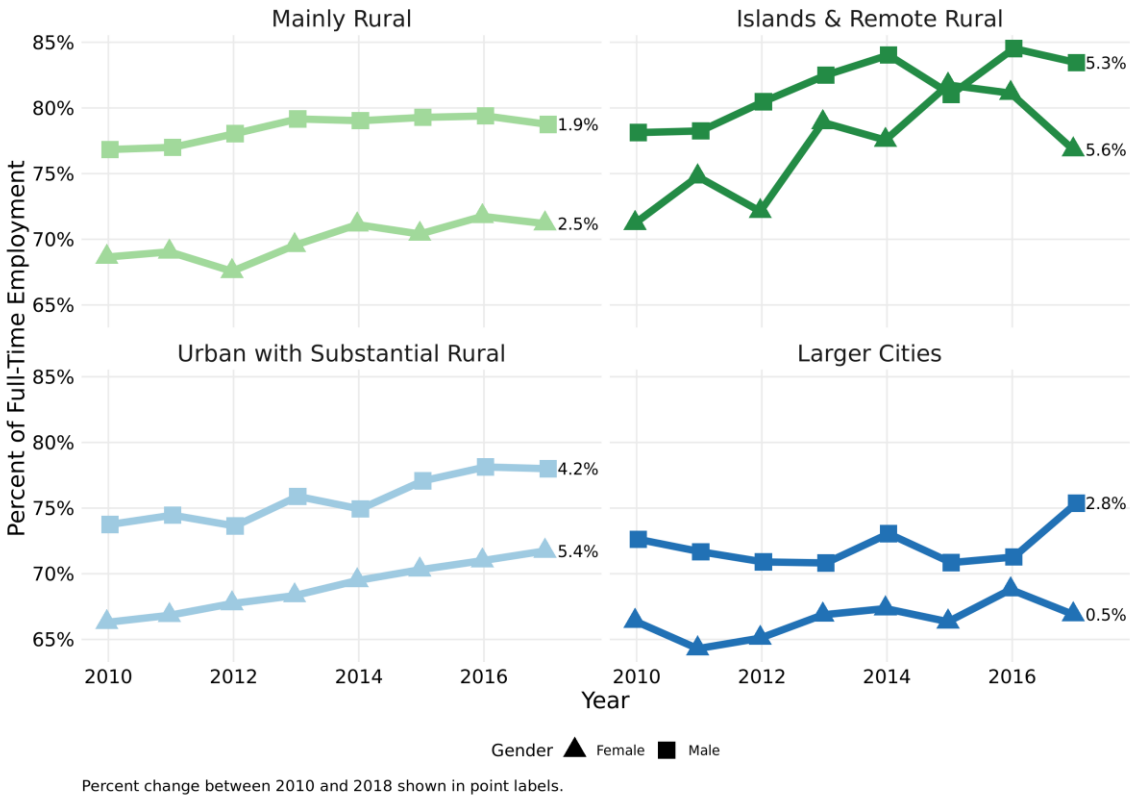
5.4 The employment rates of men and women

The employment rate is a measure of the extent to which available labour resources (people available to work) are being used. It is calculated as the ratio of the employed to the working age population. Data from the Scotland Annual Population Survey is used to illustrate the employment rate from 2004-2017. Figure 5.5 shows the full time employment rate for men and women over this period according to the four-fold RESAS classification.

Figure 5.5 illustrates the employment rates for men and women in the four categories of the RESAS classification. In all four categories, employment rates for men are higher than employment rates for women, with the largest difference between the two evident in mainly rural areas (in favour of men), although it has narrowed over this period (due to an increase in the employment rate for women). In islands and remote rural areas, the employment rates for men and women converged in 2015 as the employment rate for men declined while the employment rate for women increased. Since then, while the employment rate for women has declined, the employment rate for men has increased. Islands and remote rural areas have the highest employment rates for both men and women.

[23] From this data it can be calculated men in mainly rural areas work about 1.6 hours a week more in full-time employment whereas women in mainly rural areas work about 2.6 hours a week more in part-time employment.

Figure 5.5: Employment rates for men and women (full-time employees only) by RESAS classification



Source: Annual Population Survey – workplace analysis data 2018

In urban with substantial rural areas, employment rates for both men and women show an increase over this period (although there is more variability in terms of the employment rate for men). In larger cities, the two employment rates also converged in 2016 (largely due to a rapid increase in the employment rate for women between 2015 and 2016) but they have since diverged as the employment rate for women has steeply declined.

We do not see a large change in the employment rate over time, which suggests that any change in employment rate does not likely explain the patterns observed in the gender pay gap in the different categories in this period.

5.5 The employment of men and women in different occupations

As reported in Section 3 occupational (i.e. vertical) segregation may be an explanatory factor in the gender pay gap (i.e. inequality in the distribution of men and women across different occupations) (Scottish Government 2017a). At national level, skilled trade occupations and managers, directors and senior officials have particularly large gender pay gaps. Indeed, the gender pay gap at the top of the earnings distribution is particularly substantial and persistent (and it is worth noting that using median data somewhat masks this), and this has many potential explanatory factors, including the disruption of women's careers meaning that they take longer to reach, or do not reach, higher paid roles as they have (or are perceived to have) less experience. It is also worth noting again that there has been an increase in the

gender pay gap in caring, leisure and other service occupations, which are areas with relatively high proportions of women workers.

Table 5.1 shows the gender pay gap in the occupational classification (header 1), the proportion of the workforce in each occupational classification that were women (header 2) and the proportion of the total Scottish workforce employed in each of the standard occupational classifications (header 3) for the years 2011 and 2018. The ranking within the occupational classifications is also provided, which gives a quick reference for relative change.

Approximately 20% of the workforce was employed in professional occupations over this time (with a slight fall between the beginning and end of this period). This occupation is substantially larger in terms of its proportion of the workforce than all other occupational classifications. The other occupational classifications are relatively equally distributed, each having between approximately 6% and 13% of the workforce, with the proportions in each category not changing much between 2011 and 2018 (the largest increase - 1.7% - was in the professional occupations category). It is worth considering the relative stability in the proportions of the workforce in these different occupational categories in the context of the changes in the gender pay gap over time (as reported in Section 5.2).

Table 5.1: Gender pay gap, proportion of the total workforce and proportion of women in each classification by Standard Occupation Classification, 2011-2018

	Gender pay gap			Proportion of women in the classification			Proportion of total workforce in the classification		
Standard Occupational Code	**2011**	**2018**	**Change**	**2011**	**2018**	**Change**	**2011**	**2018**	**Change**
Skilled trades occupations	26.9% (1st)	28.5% (1st)	**1.6%**	9.2% (8th)	8.9% (9th)	**-0.3%**	11.3% (3rd)	11.4% (4th)	**0.1%**
Process, plant and machine operatives	14% (3rd)	25% (2nd)	**11%**	8.9% (9th)	12.3% (8th)	**3.4%**	6.7% (9th)	6.7% (9th)	**0%**
Managers, directors and senior officials	21.1% (2nd)	20.6% (3rd)	**-0.5%**	38.2% (7th)	36.3% (7th)	**-1.9%**	8.5% (7th)	8.2% (8th)	**-0.3%**
Elementary occupations	10.6% (5th)	15.6% (4th)	**5%**	44.9% (5th)	45.2% (5th)	**0.3%**	11.1% (4th)	11.5% (3rd)	**0.4%**
Associate professional and technical occupations	11.1% (4th)	10.8% (5th)	**-0.3%**	44.1% (6th)	41.6% (6th)	**-2.5%**	13.3% (2nd)	12.9% (2nd)	**-0.4%**
Administrative and secretarial occupations	7.7% (7th)	8.2% (6th)	**0.5%**	76.5% (2nd)	78.8% (2nd)	**2.3%**	10.2% (5th)	10.9% (5th)	**0.7%**
Professional occupations	8.5% (6th)	6.5% (7th)	**-2%**	53.8% (4th)	51.7% (4th)	**-2.1%**	20.7% (1st)	19.0% (1st)	**-1.7%**
Sales and customer service occupations	5.9% (9th)	5.6% (8th)	**-0.3%**	64% (3rd)	67.8% (3rd)	**3.8%**	8.4% (8th)	9.4% (7th)	**1%**

Table 5.1: Gender pay gap, proportion of the total workforce and proportion of women in each classification by Standard Occupation Classification, 2011-2018

	Gender pay gap			Proportion of women in the classification			Proportion of total workforce in the classification		
Standard Occupational Code	**2011**	**2018**	**Change**	**2011**	**2018**	**Change**	**2011**	**2018**	**Change**
Caring, leisure and other service occupations	6.6% (8th)	3.8% (9th)	**-2.8%**	84.3% (1st)	79.4% (1st)	**-4.9%**	9.8% (6th)	10.0% (6th)	**0.2%**

Source: ASHE - OCEAES: Economic Statistics: Labour Market Statistics

Focusing now on the distribution of women across different occupational classifications between 2011 and 2018 (see Table 5.1), there is a high degree of variability in the proportion of women working in different occupations, although again the changes in the proportions over time have been relatively limited.

The highest proportions of women are in the caring, leisure and other service occupations and in administrative and secretarial occupations (where 80% of the employees are women). Caring, leisure and other service occupations is the occupational classification in which there has been the largest increase in the proportion of women (4.9%). Women make up much lower proportions of the workforce in skilled trades and process, plant and machine operatives occupations.

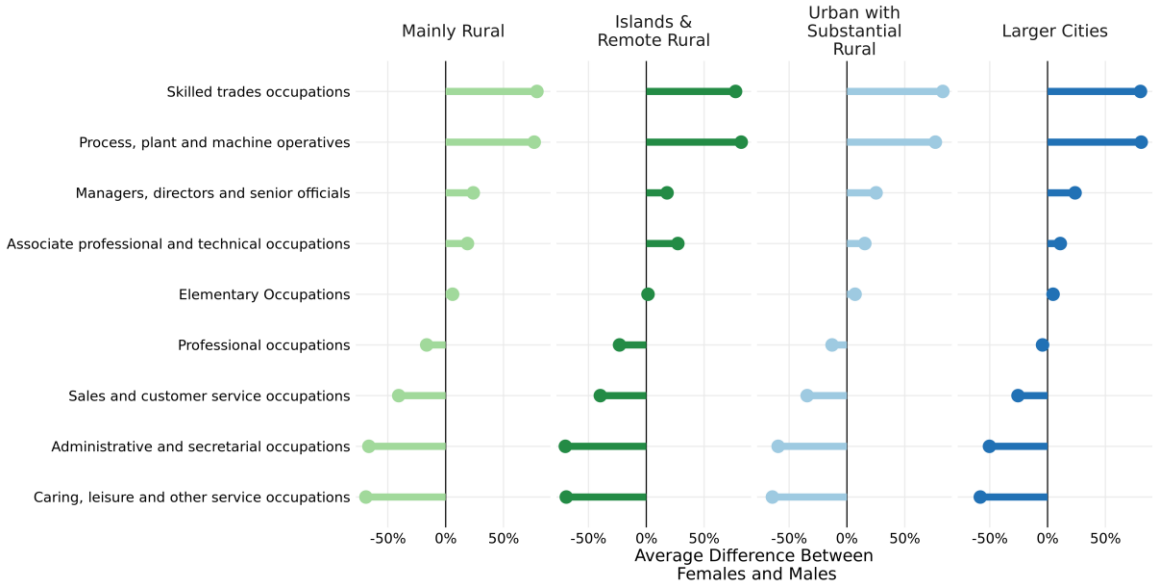
Table 5.1 also shows the gender pay gap between 2011 and 2018 by standard occupational classification. It is interesting to note that the skilled trades occupational classification has one of the largest gender pay gaps but only a small proportion of women workers. Indeed, the three occupational classifications with the lowest proportion of women workers (skilled trade occupations; process, plant and machine operatives; and managers, directors and senior officials) had the largest gender pay gaps over the 2011-2018 period (although the gender pay gap in process, plant and machine operative occupations also decreased by the largest amount over the period – approximately 11%). In contrast, occupational classifications with the highest proportions of women workers have the lowest gender pay gaps (sales and customer service occupations; caring, leisure and service occupations; and administrative and secretarial occupations). Professional occupations also have a relatively low gender pay gap.

In order to explore the extent to which occupational segregation may be a possible explanation for the different rural and urban gender pay gaps, Figure 5.6 shows the differences in the average proportions of men and women in the occupational classifications according to the RESAS classification. In Figure 5.6 the proportions of men and women in each SOC were calculated; then the proportion of women was subtracted from the proportion of men. Positive values, which extend towards the right, indicate that more men are in a category then women and show how much more of a percentage of men are in that category than women; negative values indicate that more women are present in a category and show how much of a percentage of women are in that category than men.

It is clear from Figure 5.6 that there is very little variation in the spread of men and women across the occupational categories in the four categories, which would suggest that occupational segregation is not a major factor in explaining geographical variations in the gender pay gap. However, the ratio of women to men in the skilled trades and process, plant

and machine operatives (two of the top three occupations in terms of the gender pay gap) are slightly smaller (in terms of favouring men) in mainly rural areas compared to the other three classifications.

Figure 5.6: Differences in the average proportions of men and women in the standard occupational classifications by RESAS classification



NOTE: Bars that extend towards the right of the centre axis indicate a higher presence of men within an occupational category, and bars that extend towards the left of the centre axis indicate a higher presence of women in an occupational category.

Source: Scottish Census 2011

5.6 The employment of women and men in different sectors

As reported in Section 3, it is also clear that the different distribution of women and men across industrial sectors (i.e. horizontal segregation) may also explain the gender pay gap. Nationally, the gender pay gap is particularly high in the financial services and professional, scientific and technical activities sectors but it is also high in the other services and manufacturing sectors. Broadly-speaking, evidence suggests that, on average, private industries have a gender pay gap that is about 6.8% higher than occupations in the public sector[24].

Table 5.2 follows a similar structure to Table 5.1. The Standard Industrial Classifications[25] are listed in column 1, followed by the gender pay gap in each sector in column 2, the

[24] For more information on the gender pay gap in public and private sectors see https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/2017provisionalandrevisedresults#public-and-private-sector-pay

[25] For more information on SIC codes see https://www.ons.gov.uk/methodology/classificationsandstandards/ukstandardindustrialclassificationofeconomicactivities/uksic2007

proportions of the workforce that are women in column 3, and the proportion of the total workforce in column 4. Again the rankings are included within the standard industrial classification categories to show change over time.

Focusing now on the employment of women across these sectors, as Table 5.2 shows, approximately 80% of the workforce in the human health and social work activities sector are women, with a slight increase in the proportion (by 1.9%) from 2011-18. Approximately 72% of the workforce in the education sector are women (again this sector includes a broad spread of jobs and pay levels, including teachers, university researchers and lecturers), and approximately 63% of the workforce in the other services activities sector (which includes a broad spread of service sector activities, including hairdressing, funeral activities and pet care services).

There are variations over time in terms of the proportion of the workforce that are women in the different sectors. The largest increase in women workers was in the administrative and support service activities sector (from 42.4% to 48.1%, a change of 5.7%) (this includes work in rental and leasing, travel agencies and office administration and support). The largest decrease in the proportion of women workers was in the electricity, gas, steam and air conditioning supply sector which decreased from 28.8% in 2011 to 16.8% in 2018, a decrease of 12% (this sector includes some relatively high paying jobs, for example the production, transmission and distribution of electricity).

Table 5.2: Gender pay gap, proportion of the total workforce and proportion of women in each classification by Standard Industrial Classification code, 2011-18

	Gender pay gap			Proportion of women in the classification			Proportion of total workforce in the classification		
Standard Industrial Classification	**2011**	**2018**	**Change**	**2011**	**2018**	**Change**	**2011**	**2018**	**Change**
Financial and insurance activities	31% (1st)	36.1% (1st)	**5.1%**	48.7% (9th)	54.2% (6th)	**5.5%**	3.8% (11th)	4.1% (11th)	**0.3%**
Professional, scientific and technical activities	30.1% (2nd)	29.5% (2nd)	**-0.6%**	43.3% (11th)	42.4% (11th)	**-0.9%**	6.3% (7th)	5.4% (7th)	**-0.9%**
Other service activities	-7% (18th)	22.5% (3rd)	**29.5%**	64.2% (3rd)	62.7% (3rd)	**-1.5%**	2.9% (13th)	2.7% (13th)	**-0.2%**
Manufacturing	17.2% (5th)	21.8% (4th)	**4.6%**	21.9% (14th)	25.7% (14th)	**3.8%**	7.9% (4th)	8.4% (4th)	**0.5%**
Electricity, gas, steam and air conditioning supply	17.7% (4th)	21.2% (5th)	**3.5%**	16.8% (17th)	28.8% (13th)	**12%**	0.9% (18th)	1% (17th)	**0.1%**
Real estate activities	6.2% (9th)	17.5% (6th)	**11.3%**	52.4% (6th)	55.2% (5th)	**2.8%**	1.1% (17th)	0.8% (18th)	**-0.3%**
Agriculture, Forestry and Fishing	16.9% (6th)	16.9% (7th)	**0%**	22.4% (13th)	22.7% (15th)	**0.3%**	1.8% (16th)	1.9% (15th)	**0.1%**
Human health and social work activities	13.6% (7th)	16.3% (8th)	**2.7%**	81.2% (1st)	79.3% (1st)	**-1.9%**	14.8% (1st)	15.6% (1st)	**0.8%**
Public administration and defence; Compulsory social security	5.7% (11th)	14.6% (9th)	**8.9%**	53.6% (4th)	48.6% (8th)	**-5%**	7.3% (5th)	6.7% (6th)	**-0.6%**

Table 5.2: Gender pay gap, proportion of the total workforce and proportion of women in each classification by Standard Industrial Classification code, 2011-18

	Gender pay gap			Proportion of women in the classification			Proportion of total workforce in the classification		
Standard Industrial Classification	**2011**	**2018**	**Change**	**2011**	**2018**	**Change**	**2011**	**2018**	**Change**
Information and communication	18.7% (3rd)	14.3% (10th)	**-4.4%**	30% (12th)	34.3% (12th)	**4.3%**	3% (12th)	2.5% (14th)	**-0.5%**
Wholesale and retail trade; Repair of motor vehicles and motorcycles	11.6% (8th)	14.2% (11th)	**2.6%**	51.3% (7th)	50.2% (7th)	**-1.1%**	12.9% (2nd)	14.2% (2nd)	**1.3%**
Construction	0.6% (14th)	9.2% (12th)	**8.6%**	12.3% (18th)	10.8% (18th)	**-1.5%**	7.2% (6th)	7.6% (5th)	**0.4%**
Mining and Quarrying	4% (12th)	8.1% (13th)	**4.1%**	17.7% (16th)	16% (17th)	**-1.7%**	2.4% (15th)	1.5% (16th)	**-0.9%**
Arts, entertainment and recreation	6.1% (10th)	7.9% (14th)	**1.8%**	49.5% (8th)	48.4% (9th)	**-1.1%**	2.8% (14th)	2.9% (12th)	**0.1%**
Accommodation and food service activities	3% (13th)	4.5% (15th)	**1.5%**	52.6% (5th)	55.8% (4th)	**3.2%**	6.1% (8th)	5.4% (8th)	**-0.7%**
Education	-0.5% (15th)	1% (16th)	**1.5%**	72.3% (2nd)	70.5% (2nd)	**-1.8%**	8.8% (3rd)	9.7% (3rd)	**0.9%**
Administrative and support service activities	-1.1% (16th)	0.3% (17th)	**1.4%**	48.1% (10th)	42.4% (10th)	**-5.7%**	4.6% (9th)	4.3% (10th)	**-0.3%**
Transportation and storage	-2.9% (17th)	0.1% (18th)	**3%**	21.2% (15th)	16.6% (16th)	**-4.6%**	4.5% (10th)	4.5% (9th)	**0%**

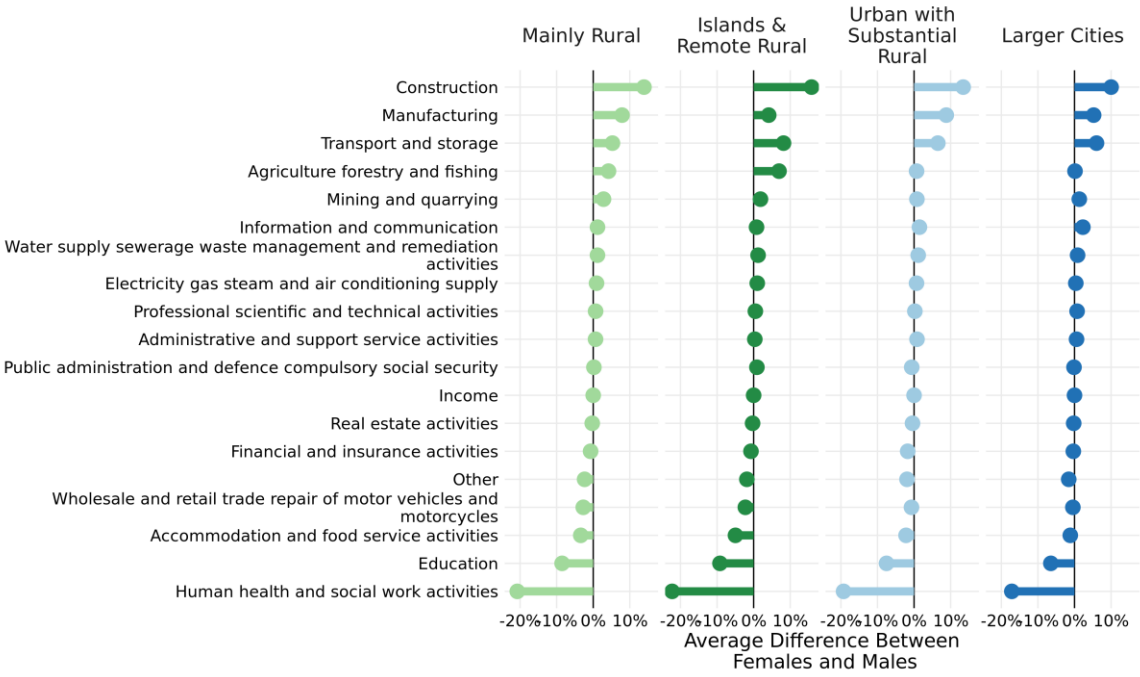
Yearly ranks are shown in parenthesis.
The only reported gender pay gap for Agriculture, Forestry and Fishing was 16.9% in 2017.
All values of Water supply; Sewerage, waste management and remediation activities are missing; it is not shown in the table.
Source: ASHE - OCEAES: Economic Statistics: Labour Market Statistics

Table 5.2 also shows the proportion of the total workforce in Scotland employed in each standard industrial classification (of which there are 19 in total). The largest proportion of the workforce in Scotland is in human health and social work activities with 14.8% of the workforce employed in this category in 2018 (and a change of -0.8% over the 2011-18 period). It is worth noting the broad spread of jobs and associated pay levels in this classification, which includes doctors and dentists, nurses and a range of care providers, including in hospitals, nursing homes, dental practices and, children's nurseries. The wholesale retail and repair trades sector is also substantial in terms of its proportion of the Scottish workforce (approximately 15%). Education, manufacturing and construction are the next largest sectors with approximately 7-10% of the workforce.

As was the case for occupations, it is interesting to explore whether there are geographical variations in the distribution of sectors which, due to their different proportions of men and women workers, may account for the variations in the gender pay gaps observed in Figure 5.2. Figure 5.7 below shows the differences in the average proportions of men and women in

the standard industrial classifications across the RESAS classification, and it can be interpreted in same way as Figure 5.6 above.

Figure 5.7: Differences in the average proportions of men and women in the standard industrial classifications by RESAS classification



NOTE: Bars that extend towards the right of the centre axis indicate a higher presence of men within an industrial category, and bars that extend towards the left of the centre axis indicate a higher presence of women in an industrial category.

Source: Scottish Census 2011

5.7 Access to childminder and children's nurseries services

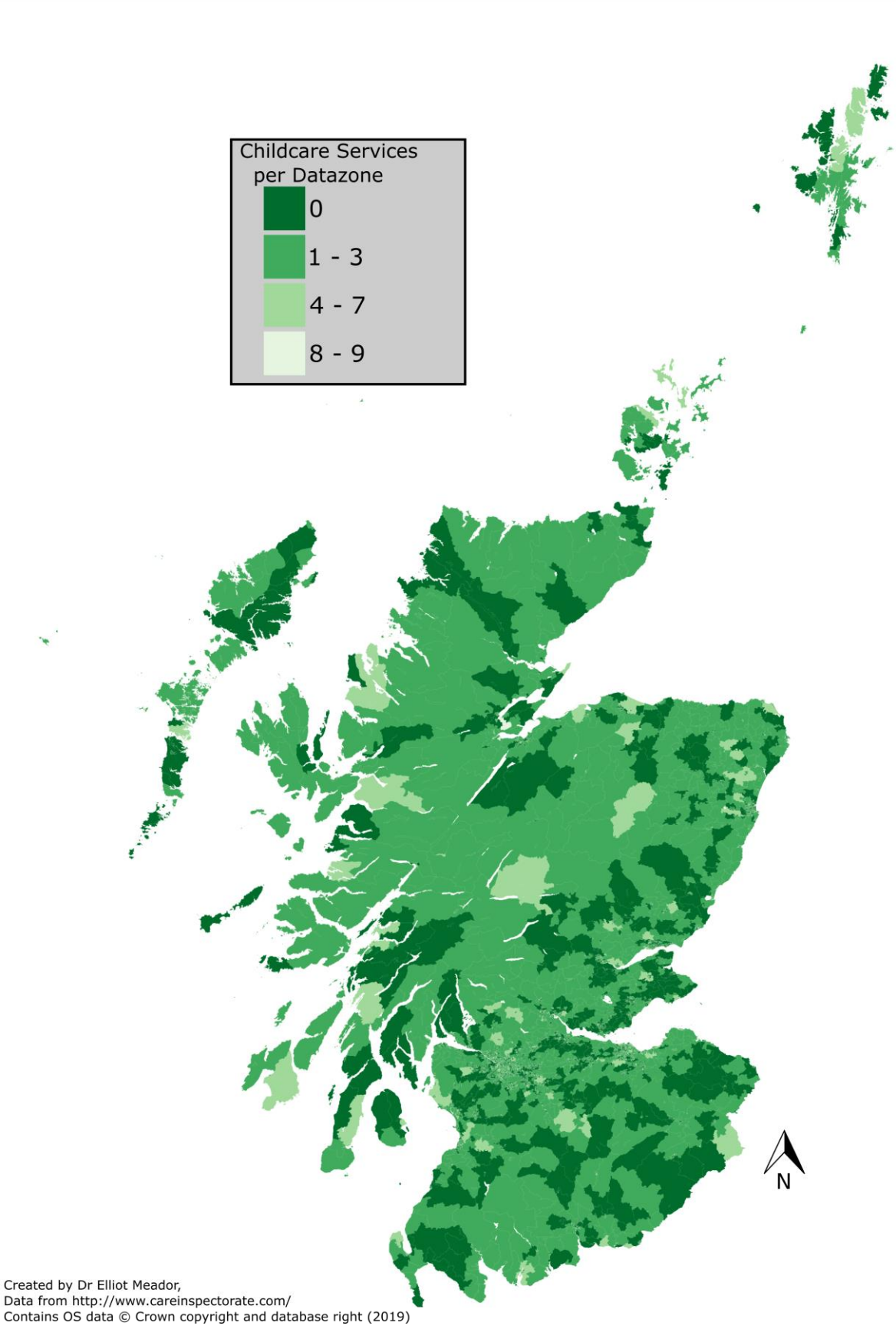
As explained in Section 3.4, access to registered children's nursery services and childminders may be a factor which impacts on women's working behaviour, and therefore pay levels and the gender pay gap. In rural areas, where there may be inadequate availability of childcare services, women (who more often than not take on more responsibilities with regard to childcare) may be forced to only take part-time work, or to work locally rather than commute to urban centres for (higher-paid) work.

Data on the number of childcare services, their location and other information is gathered and held by the Care Inspectorate. The following section reviews results from the analysis of this data. For the purposes of this report we have grouped children's nursery services and registered childminders together, into one category - childcare services. A map of the total number of childcare services by datazones across Scotland is shown in Figure 5.8.

Dark green areas are those that do not have any registered childcare services and it is evident that there are parts of rural Scotland, including in the islands, on the west coast (including Argyll and Bute), Highland and in the Scottish Borders and Dumfries and Galloway areas where there are no childcare services. For families living in these areas, they may be required to travel to access childcare services or women (usually) will be required to work

no/fewer hours in order to provide childcare. In addition to those areas with no childcare services, there are many parts of rural Scotland which have only a small number of childcare services per datazone.

Figure 5.8: Number of childcare services by datazone across Scotland



Source: The Care Inspectorate 2018

Datazones consist of about 500 to 1,000 people (see footnote 17 for more information), but they can vary greatly in geographical size depending on how rural and remote they are. For example, while a datazone in a large city could be comprised of one city street, a datazone in a remote area might be several hundred square kilometres in size. It is therefore somewhat difficult to judge the accessibility of specific places within datazones. For instance, a datazone could have no childcare services registered within its boundaries, but there may be care services available just outside of these boundaries. To explore this phenomenon, we merged data from the Care Inspectorate with the Scottish Index of Multiple Deprivation 2016 domain on accessibility rankings for datazones, as well as data indicating the geographical size of all datazones. The SIMD accessibility domain ranks datazones according to the time needed to travel to a variety of services – including primary and secondary schools, GP's and retail stores[26]. This domain does not include a variable that specifically relates to childcare provision (nurseries and childminders), but it does offer a suitable indicator for overall accessibility. We then took an average for both accessibility ranking and area for datazones with differing number of childcare services from each RESAS rural classification. This allows for a better understanding of the relative accessibility and expansiveness of areas that do not have access to childcare.

It is important to note that Figure 5.9 uses a log scale of average area and average accessibility ranking. Meaning that incremental changes in Figure 5.9 are shown in measures of magnitude. This is done to allow for the variability and clustering of areas to be more easily identified. Though, this comes at the expense of readers' ability to easily grasp just how large and remote areas are in reality. For example, when we consider the average accessibility and size of datazones with no childcare services within their boundaries to average datazone accessibility and size with no childcare services in larger cities:

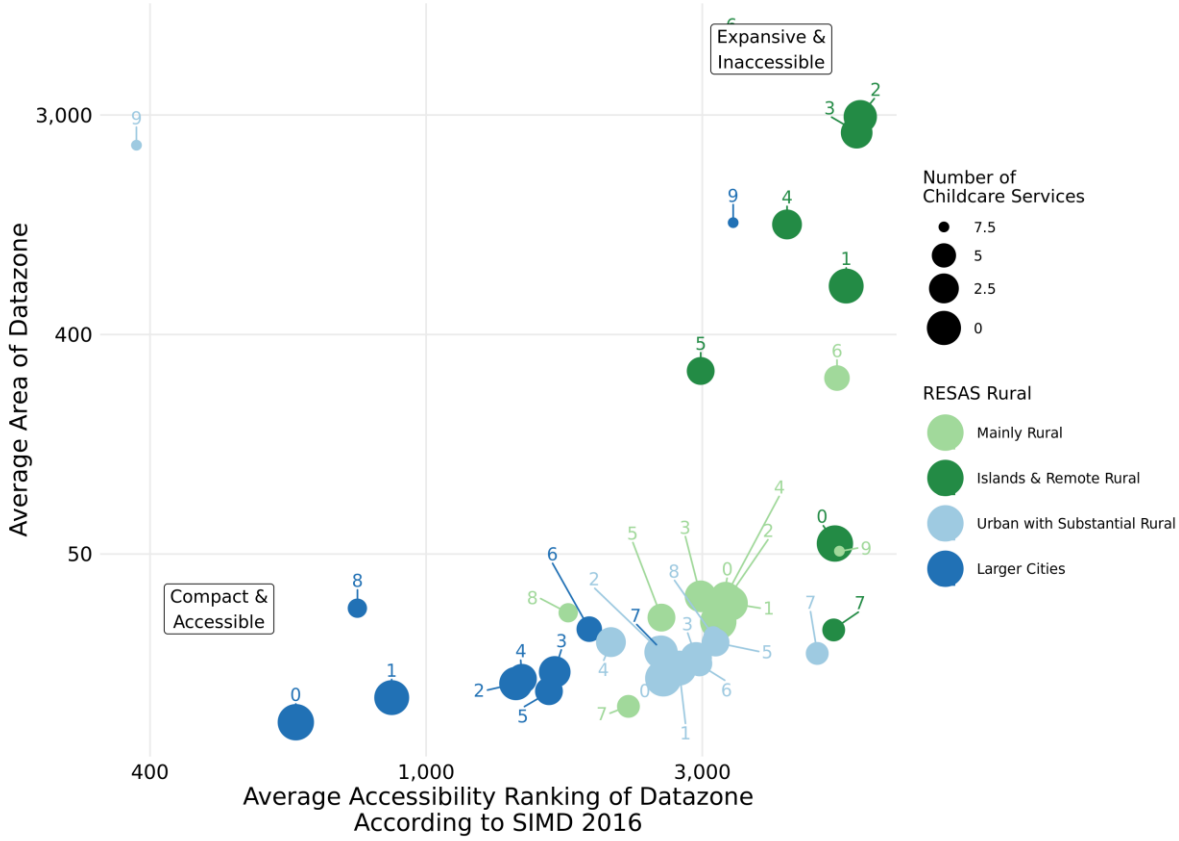
- islands and remote rural areas are 336% less accessible and 500% larger;
- mainly rural areas are 202% less accessible and 250% larger; and,
- urban with substantial rural areas are 166% less accessible and 149% larger.

Figure 5.9 shows a clear delineation between average accessibility and size of datazones for local authorities located across the RESAS classification. A few points particularly stand out:

- datazones in large cities with no childcare services are very accessible to other services and geographically small – indicating that childcare services are very likely within or close to walking distance;
- datazones in mainly rural areas are clustered quite tightly with urban with substantial rural areas, and their datazones with no registered childcare services are relatively close;
- and datazones in the islands and remote rural areas that are inaccessible and quite expansive where there are no registered childcare services. This suggests that families and single adults living in these areas have little choice in childcare services and may have to travel a great distance to access it.

[26] For a complete list see: https://www2.gov.scot/Topics/Statistics/SIMD

Figure 5.9: Comparing Accessibility, Area Size and Number of Childcare Services



NOTE: Log scales are used for both axes, meaning that change is shown by order of magnitude.

SIMD Accessibility ranking has been inverted so that MOST deprived areas are represented with higher numbers.

The scale measuring number of childcare services extends from smaller points - representing more childcare services - to larger points - representing fewer childcare services. The largest point therefore indicates zero childcare services.

Source: The Care Inspectorate and SIMD 2016

Figure 5.8 and 5.9 suggest that people with children in rural areas, especially islands and remote rural areas, may struggle to find care. According to the literature discussed previously, women are more likely to take time away from work to care for children, which takes time away from careers. These findings provide some evidence for this, but more research is needed in order to determine if this is indeed the case.

6. Conclusion and Recommendations

6.1 Conclusion

This report has discussed the results of exploratory work on the extent of, and potential reasons for, the gender pay gap in rural Scotland. This final section of the report provides some concluding comments and then suggests some areas for further work on this topic.

This work builds on the Scottish Government's (2018) 'Understanding the Scottish Rural Economy' report which demonstrated that in 2016 (the most recent year for which data was available at the time of publication), women in remote rural Scotland has the lowest annual median income and the lowest hourly median rates of pay. The gender pay gap between women and men (measured in terms of median wages) was highest in absolute terms in remote rural Scotland (£5,076).

The purpose of this work was to build on this report and explore the extent of the rural gender pay gap in more detail and to uncover potential reasons for it.

Using the RESAS classification of local authorities, and based on full-time employees only, this work confirmed the large gender pay gap – approximately 20% - in islands and remote rural local authorities in 2016. However, the work has also demonstrated the substantial decline in the gender pay gap in islands and remote rural local authorities since 2016 (to 4.5% in 2018). It has also shown that mainly rural local authorities experienced the largest decrease in their gender pay gap between 2011 and 2018 and that by 2018, the gender pay gap favoured women (i.e. women working full-time were actually earning more than men in these areas in 2018). By 2018, it was larger cities and urban with substantial rural local authorities that had the highest gender pay gaps (approximately 10%).

Following on from this exploration of the changes in the gender pay gap over time, the work has analysed a range of secondary data to explore potential reasons for the gender pay gaps observed. The choice of data to analyse was guided by previous literature on the rural gender pay gap, albeit this literature has tended to argue that rural areas tended to have higher gender pay gaps than urban areas. However, from our analysis of hours worked, employment rates, occupational and sectoral distribution and the provision of childcare services, it is difficult to draw firm conclusions regarding the factors that are most important in providing explanations for the gender pay gaps observed across the RESAS classification.

Two key conclusions can be drawn from this work. The first is the need to recognise geographical variations in the extent of the gender pay gap across Scotland. The second is the need for further research into this topic, ideally at a finer geographical scale than has been possible for this work, in order to explore why this is the case. This work is particularly interesting in that the patterns observed are different to those found in previous studies i.e. we have observed lower gender pay gaps in 2018 in mainly rural and islands and remote rural local authorities than in larger cities and urban with substantial rural local authorities, albeit in 2016, the gender pay gap in islands and remote rural local authorities peaked at almost 20%. This research therefore paints a very positive picture for rural Scotland in terms of this issue which is certainly worthy of further detailed study.

6.2 Suggestions for further policy and research work on the gender pay gap

The recent policy, research and media attention on the extent of the gender pay gap in the UK and in Scotland and the reasons for it, can only be welcomed. This research has highlighted important geographical variations in the gender pay gap that must be taken into account in future policy and practice work in this area. For example, exploring and monitoring the potentially different spatial implications and impacts of the Scottish Government's forthcoming Gender Pay Gap Action Plan will be critically important. It is also important to ensure that relevant wider policy frameworks such as Scotland's Economic Strategy which promotes equality in the workplace and emphasises the need to maximise opportunities for women and families through increasing the availability of free childcare and offering more flexible working, are 'rural proofed' to ensure that specifically rural challenges and opportunities in relation to the gender pay gap – such as the varying availability and accessibility of formal childcare - are taken into account. It is perhaps worth noting that, as rural issues are currently relatively high on the policy agenda in Scotland, it may be

especially timely to tackle the rural specificities of this issue - notwithstanding the apparent particular challenges with the larger gender pay gap in Scotland's larger cities and urban with substantial rural local authorities that we have observed here.

The Equality Act 2010 (Gender Pay Gap Information) Regulations 2017 requires all private and third sector employers across Britain with 250 or more employees to publish information on their gender pay gap by 4 April 2018, and by 4 April each year thereafter (EHRC 2018). This represents an important step in gathering more detailed evidence about the gender pay gap. However, one limitation is that employers are not required to publish any narrative alongside their figures or an action plan to address any gaps (Olsen et al. 2018). Moreover, this requirement is limited to businesses with 250 employees or more, but only 18% of businesses in remote rural areas are this size and 26% of businesses in accessible rural. This requirement does not therefore apply to the vast majority of rural businesses. Without increasing the burden on small businesses, it may be worth considering ways to encourage more smaller businesses to provide this information in order to be able to better identify the extent of the gender pay gap challenge across the UK's small and micro businesses.

This exploratory analysis of some of the secondary quantitative data has revealed some interesting avenues for follow up analysis, including:

- The reasons for the substantial decline in the gender pay gap in mainly rural local authorities over recent years, and in islands and remote rural local authorities since 2016, which is in contrast to previous work on this topic. Different reasons may be at play in the different types of rural areas, and when comparing rural and urban local authorities, and this is worthy of further study. For example, have many women in mainly rural local authorities managed to overcome some of the transport, childcare, etc. challenges that rural areas are known to face, in order to work full-time? Or, more negatively, have many women faced with these (and other) challenges simply taken themselves out of the labour market or decided to work part-time, and therefore they do not appear in measurements of the gender pay gap using full-time employees? The greater volatility in terms of pay in islands and remote rural local authorities is also interesting – this may reflect the underlying fragility of local labour markets where there are limited opportunities to adjust to changing economic circumstances.
- Calculating the gender pay gap for both full-time and part-time employees may be a useful exercise to explore whether or not the same geographical variations are observed as in this study which only included full-time employees. This would be interesting to explore, given the higher proportion of women who tend to work part-time, particularly in rural areas.
- Undertaking this data analysis, where possible, at more fine-grained scale (i.e. datazones) would be useful as local authority level data covers up local level variations.
- The extent of unpaid work in rural and urban areas (such as caring, family and household responsibilities) – it is possible to identify, map and quantify this, and explore whether there has been a change over time in terms of the amount of such work undertaken by men and women? Similarly, exploring training availability and accessibility as well as the levels of self-employment would be useful follow-up studies to assess the extent of different barriers to these activities in different locations, across all sectors.
- Can the travel to work behaviour (particularly the time/distance travelled and the mode of transport used) of women and men be identified in order to ascertain if rural women are working closer to home?

- Is it possible to analyse the pay levels of men and women (and therefore the gender pay gap) across businesses of different sizes in different locations? It may be that women working in small businesses are more vulnerable to lower pay than those working in larger corporations.
- A fuller investigation of the distribution of childcare and other care (e.g. for the elderly) services would be valuable, including for example mapping the locations of services vis-à-vis population centres, roads, etc. and also comparing the location of services with the demographic characteristics of the local population (i.e. the number of children who would be accessing those services). Such an analysis could focus on how to make formal care services more flexible in order to enable more women to work full-time and/or to travel greater distances to work.

Equally, further follow-up qualitative work on this topic would be very valuable. This would help to explore a number of issues, including:

- The issue of underemployment, which would include an exploration of whether those women who are; working part-time; working in low-skilled/paid sectors; working close to home in rural locations; or taking themselves out of the labour market; are choosing to do so, or are effectively forced into that situation due to poor availability of local childcare or due to restricted mobility.
- Exploring further the links between women's working behaviour and pay, and women's role in the rural labour force more broadly, and mental health would also be an interesting line of enquiry. Low pay, combined with the range of demands on women's time may be factors which lead to mental ill health, but the links between these issues have not been explored in detail.

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