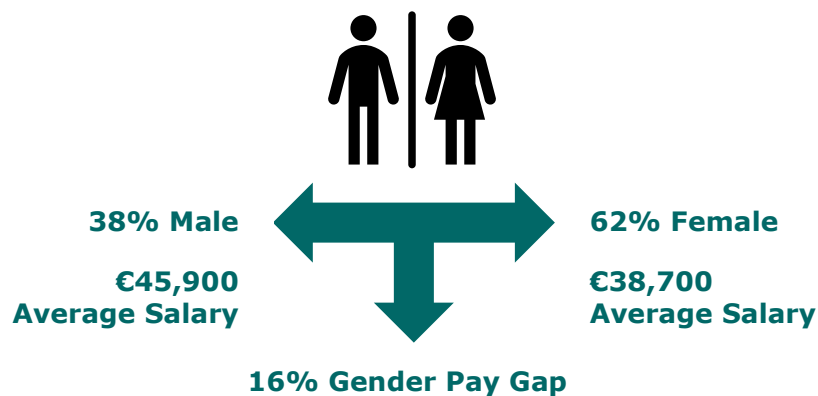


Gender and Pay in Revenue

The Gender Pay Gap Information Bill will, when enacted, provide that certain employers must publish information on their gender pay gap. In advance of the enactment of this Bill, Revenue has proactively reviewed its gender pay gap.

6,900 people employed in Revenue in 2019



Analysis of Revenue's gender and pay data shows that:



74% of the gender pay gap is explained by differences in grade
(women are underrepresented at most senior grades)



24% of the gender pay gap is explained by differences in working patterns
(women are five times more likely to work part-time)



A negligible amount of the gender pay gap is due to patterns of non-basic pay
(women earn lower amounts of non-basic pay, such as overtime)

Gender differences by grade are the leading cause of pay gap in Revenue. The analysis shows there is no unidentified explanation, such as wage discrimination, for the existence of Revenue's gender pay gap.

Table of Contents

<i>List of Tables</i>	3
<i>List of Figures</i>	3
1 Introduction	4
2 Literature Review.....	5
3 Data.....	7
3.1 Sources.....	7
3.2 Limitations	7
4 Profile of the Organisation.....	8
4.1 Grade	8
4.2 Revenue Divisions	10
4.3 Part-Time Status	12
4.4 Tenure.....	12
4.5 Age	13
5 Salary and Pay	15
5.1 Gross Salary	15
5.2 Pay Scale Points.....	17
5.3 Non-Basic Pay.....	18
6 Modelling the Gender Pay Gap	20
6.1 OLS Earnings Regressions	20
6.2 Oaxaca-Blinder Decomposition	22
7 Gender Inequalities in Reaching Senior Grade Positions	23
8 Comparison of Public Sector Gender Pay Gaps	25
9 Conclusion	26
10 References.....	27

List of Tables

Table 1: Grade Distribution by Gender	8
Table 2: Full/Part-time Status by Gender.....	12
Table 3: Full/Part-Time Status by Gender and Grade	12
Table 4: Revenue Age Profile	13
Table 5: Average Age by Gender and Grade.....	14
Table 6: Income Distribution by Gender	15
Table 7: Income Distribution by Gender – Full-Time Employees	15
Table 8: Gender Share by Income Quartile	16
Table 9: Average Salary by Gender and Grade	16
Table 10: Average Salary by Gender and Grade – Full-time Employees	16
Table 11: Top Point of Pay Scale by FTE Status	18
Table 12: Non-Basic Pay Distribution by Grade.....	18
Table 13: Non-Basic Pay by Grade and Gender.....	19
Table 14: Modelling the Gender Pay Gap	21
Table 15: Decomposing the Gender Pay Gap.....	22
Table 16: Probability of Being in Senior Grade in Revenue	24
Table 17: Gender Pay Gaps in the Public Sector	25

List of Figures

Figure 1: Gender Distribution by Grade	9
Figure 2: Gender Distribution by Grade – Civil Service Comparison.....	9
Figure 3: Gender Distribution by Revenue Division	10
Figure 4: Gender Distribution by Revenue Division – Managerial Grades.....	11
Figure 5: Gender Distribution by Revenue Division – Non-Managerial Grades.....	11
Figure 6: Tenure by Gender	13
Figure 7: Pay Scale Distribution by Gender	17
Figure 8: Average Gross Salary by Pay Scale Point – CO (Standard)	19

1 Introduction

On International Women’s Day 2018, the Government announced the Gender Pay Gap Information Bill. As of mid-2020, the Bill reached Third Stage in Dáil Éireann.¹ When enacted, the Bill will provide that employers with a certain number of employees must publish information on the gender pay gap in their organisation. In tandem with this, Action 8 of the 2014 Civil Service Renewal Plan commits to improving gender balance at each grade level.

The gender pay gap can be expressed as the difference between the average annualised gross earnings of men and women expressed as a percentage of the average annualised gross earnings of men. The gender pay gap is distinct from the concept of unequal pay. Civil Service pay scales are fully transparent and do not allow for the existence of unequal pay caused by gender discrimination.²

In advance of the enactment of the Gender Pay Gap Information Bill, Revenue has proactively decided to review its gender pay gap. This report analyses administrative data on Revenue’s employees for the year 2019 to assess differences in pay by gender and the contributory factors underlying pay gaps. Section 2 presents a short review of literature in relation to gender pay gaps to provide context for the analysis that follows. Section 3 summarises data sources, followed in Section 4 by a gender-based profile of the organisation. Section 5 reviews pay levels and Sections 6 and 7 examine the determinants of pay gaps and grade imbalances. Section 8 compares public sector gender pay gaps both domestically and internationally. Section 9 concludes.

¹ The General Scheme of the Bill is available at: <http://www.justice.ie/en/JELR/Pages/PR18000210>.

² The most recent pay circular from the Department of Public Expenditure and Reform is available at: <https://circulargov.ie/pdf/circular/per/2019/17.pdf>.

2 Literature Review

Up until relatively recently, most research on the gender pay gap focused on analysing the mean pay gap between men and women. Mean pay gaps remain the most common summary statistic on the topic.

In general, the mean gender pay gap is smaller in the public sector compared to the private sector in most EU countries (Eurostat, 2020). Gregory and Borland (1999) have argued that this is not surprising due to the collective way in which public sector wages are typically set, as compared to the market structure of the private sector. It has been shown that the public sector work attracts more risk-averse workers (Bellante and Link, 1981). For this worker cohort, the public sector offers desirable benefits for women such as maternity leave, job flexibility and job security. In addition to this, anti-discrimination legislation is more likely to be actively enforced than the private sector (Gregory & Borland, 1999).

In recent years, the literature has begun to differentiate more fully with respect to lower and higher pay workers, given the gap is not constant across the pay distribution (Barón & Cobb-Clark, 2008). This development is particularly important in a civil service setting, given its grade-based structure which is systematically linked to pay progression. Within the French public administration, for example, Vignes and Yeung (2019) find the gender pay gap increases with seniority. They estimate a gap of 34 percent for the highest grade, while the gap reduces to 9 per cent for men and women working in lower grades. There is substantial evidence of the gender pay gap widening at the higher end of the pay distribution in the public sector of other countries too, indicating a glass ceiling effect.

The presence of 'glass ceilings' is a metaphor used to illustrate the artificial barriers that make it difficult for women to progress to higher roles as well as encompassing the larger pay gaps at the higher end of the pay distribution. Wahlberg (2010) provides evidence of a glass ceiling effect within the public sector for Sweden. Similarly, Castagnetti and Giorgetti (2019) find a glass ceiling effect present in the Italian public sector, which becomes more pronounced once unobserved individual heterogeneity is considered.

The 'sticky floor' metaphor highlights the difficulties women face at the lower levels of the occupational ladder, which in turn leads to a lack of women in higher positions (Christofides et al., 2013). Past studies of the Irish civil service and public sector have shown that women generally tend to be involved with operational functions, which are not as visible to senior management and limits their chances of career progression (Humphreys et al., 1999, Russell et al., 2017).

Women may face certain barriers or obstacles preventing them from progressing in their career and in turn causing a glass ceiling or sticky floor effect. Childrearing and caring commitments

undertaken by women may impact their future wages or career trajectory. As highlighted by Russell et al. (2017), various studies have shown that breaks in employment are associated with negative effects on career and wage progression in subsequent years. Albrecht et al. (1999) suggests this is due to employers using leave-taking behaviour as a signal of future career commitment, as well as depreciation in human capital. Weeden (2005) also suggests that those who avail of flexible work (as opposed to part-time work) are signalling of a lack of commitment which can affect employers' decisions regarding training and development. It can also be shown that women who return to work after maternity leave can face lower wages compared their female counterparts within the same organisation (Beblo et al., 2009). It has been identified in past studies of the Irish civil service, that women felt that taking even the minimum level of maternity leave could hinder their chances of promotion and that it would not be possible to reach Assistant Principal level without returning to full-time work (Humphreys et al., 1999). As women are more likely to avail of flexible working hours than men in general, this also leaves a large gender gap in terms of increasing human capital in the form of on-site training, development and overall chances of promotion (Tandrayen-Ragoobur & Pydayya, 2015).

Methodologically, the most common method of analysing gender pay disparities is with a human capital model, whereby wage differentials are explained by observable and unobservable characteristics of human capital (Becker, 1985). What cannot be explained by observable factors, such as age, experience, tenure, and education level, is generally referred to as the 'unexplained part of the gender pay gap' and is attributed to discrimination (Blinder, 1983; Oaxaca, 1973). Another common technique is the Oaxaca-Blinder decomposition, which separates pay differences into two different categories: differences arising from differences in characteristics and differences arising from differential treatment (Blinder, 1973; Oaxaca, 1973).

Overall, the emerging theme from the literature is that gender pay disparities in the public sector can arise due to barriers to career progression, such as women availing of flexible working conditions owing to caring commitments, which can have knock-on effects in terms of employer perception, as well as their tendency to be in more operational roles with lower exposure for promotion opportunities.

3 Data

3.1 Sources

The used data for this analysis are accessed from Revenue's Performance Measurement & Reporting System ("PMRS"). PMRS reports information from a variety of different data sources on salary, gender, age, grade, full-time equivalent ("FTE") status, and Revenue Division.³

Salary data and the point on pay scale come from Corepay, a centralised payroll system used by a large range of public service bodies. Throughout the article, salary refers to total remuneration for 2019 (i.e., basic pay and non-basic pay) and the pay scale point is for a point in time (31 December 2019).

Other data, such as the grade, date to grade, FTE status and gender, are taken from the Human Resources Management System ("HRMS"), a Civil Service wide system which records employee information. FTE refers to the individual's average status in 2019 while all other HRMS data are for a point in time (31 December 2019).

3.2 Limitations

The salary data refer to all Revenue employees who were on the payroll on 31 December 2019 and reflects their cumulative remuneration for all payroll periods in 2019. Any employee who left Revenue during the year, including on retirement, is not included.

Employees who are on Sick Leave still appear on payroll data, but it is not possible to determine if their pay levels refer to, for example, Half Pay. It is also not possible from the data to determine whether an employee is availing of temporary unpaid leave such as the Shorter Working Year or Carer's Leave. No indicators are recorded for those who are on secondment or who are being paid by an external organisation.

³ Full-time equivalent ("FTE") status reflects the proportionate full-time working hours of staff who are on atypical working arrangements.

4 Profile of the Organisation

4.1 Grade

As of 31 December 2019, approximately 6,900 people worked for Revenue, of which 62 per cent are women (4,300). The distribution of Revenue's employees across the most common Civil Service grades is outlined in Table 2. Women are more likely than men to work at lower grades. Just over 70 per cent of all Revenue employees are either Clerical Officers ("CO") or Executive Officers ("EO"). 77 per cent of all female employees work in these grades compared to 67 per cent of all male employees. Senior management (Assistant Principal Officer ("AP") and above) account for 9 per cent of the workforce. 7 per cent of all women are senior managers compared to 12 per cent of all men.

Table 1: Grade Distribution by Gender

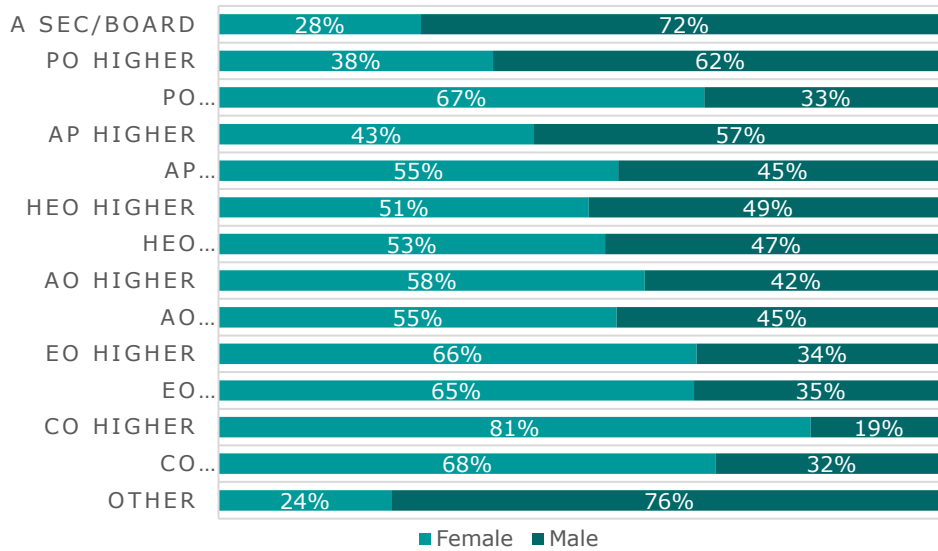
Grade	Share of Female Employees	Share of Male Employees	Share of Total Employees
	%	%	%
Assistant Secretary/Board	0.1	0.5	0.3
PO-Higher	0.6	1.6	1.0
PO-Standard	0.6	0.5	0.6
AP-Higher	1.6	3.4	2.3
AP-Standard	4.3	5.9	4.9
HEO-Higher	2.8	4.6	3.5
HEO-Standard	9.0	13.3	10.6
AO-Higher	0.7	0.8	0.8
AO-Standard	2.0	2.8	2.3
EO-Higher	6.7	5.9	6.4
EO-Standard	29.3	25.9	28.0
CO-Higher	4.2	1.6	3.2
CO-Standard	37.1	28.6	33.9
Other	0.9	4.6	2.2
Total	100	100	100

Source: Revenue analysis.

When looking at the gender share for each grade in Figure 1 (as opposed to the grade share for each gender in Table 1), women are over-represented at lower grade levels and under-represented at higher grade levels.⁴ The exception at senior grades is Principal Officer ("PO") (Standard), where women account for 67 per cent of this grade. The smallest female share is 28 per cent and occurs at Assistant Secretary/Board level.

⁴ Government Departments and Offices have discretion to assign a proportion of certain grades to a Higher salary scale (as distinct from the Standard salary scale). In Revenue, employees apply for this and it is awarded by senior management in each Division on a competitive, merit and experience basis. Grades above AP level are entirely merit based while grades below this take the individual's experience into account. At an organisation-wide level, there is gender parity in this assignment: 14 per cent of men and 14 per cent of women are on the Higher scale.

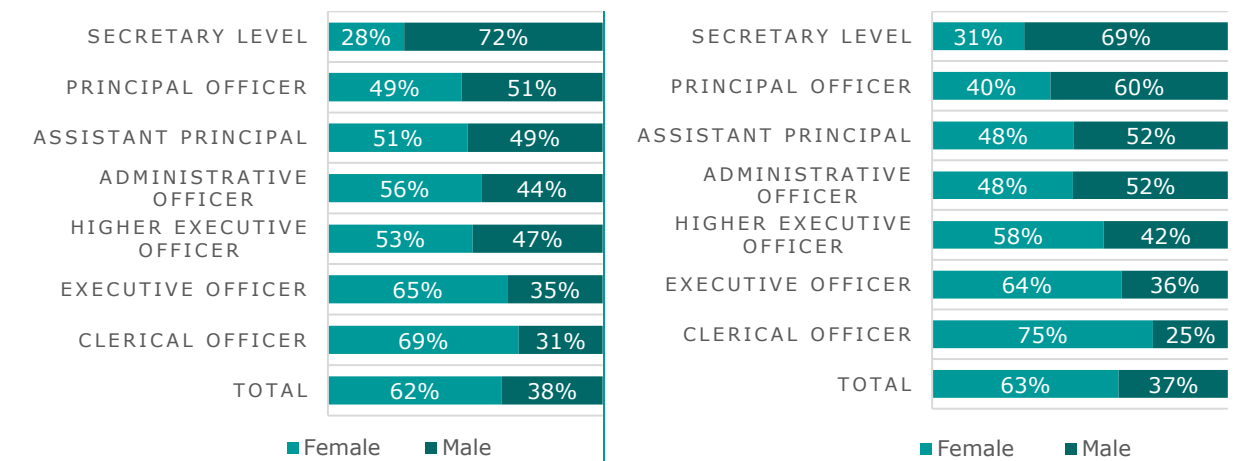
Figure 1: Gender Distribution by Grade



Source: Revenue analysis.

It is possible to compare Revenue to the Civil Service overall, but it must be born in mind that the Civil Service data are for 2016 while Revenue data are for 2019.⁵ For the most part, Revenue follows a similar trend to the Civil Service overall in terms of grade breakdown by gender. Revenue is slightly underrepresented in terms of female employees at the Secretary level. However, Revenue has a share of female POs that is 9 percentage points higher than the overall Civil Service average. In terms of non-managerial grades, Revenue has a higher proportion of female Administrative Officers (“AO”) and COs but a lower share of female Higher Executive Officers (“HEO”) and COs than the Civil Service average.

Figure 2: Gender Distribution by Grade – Civil Service Comparison



Source: Revenue analysis.

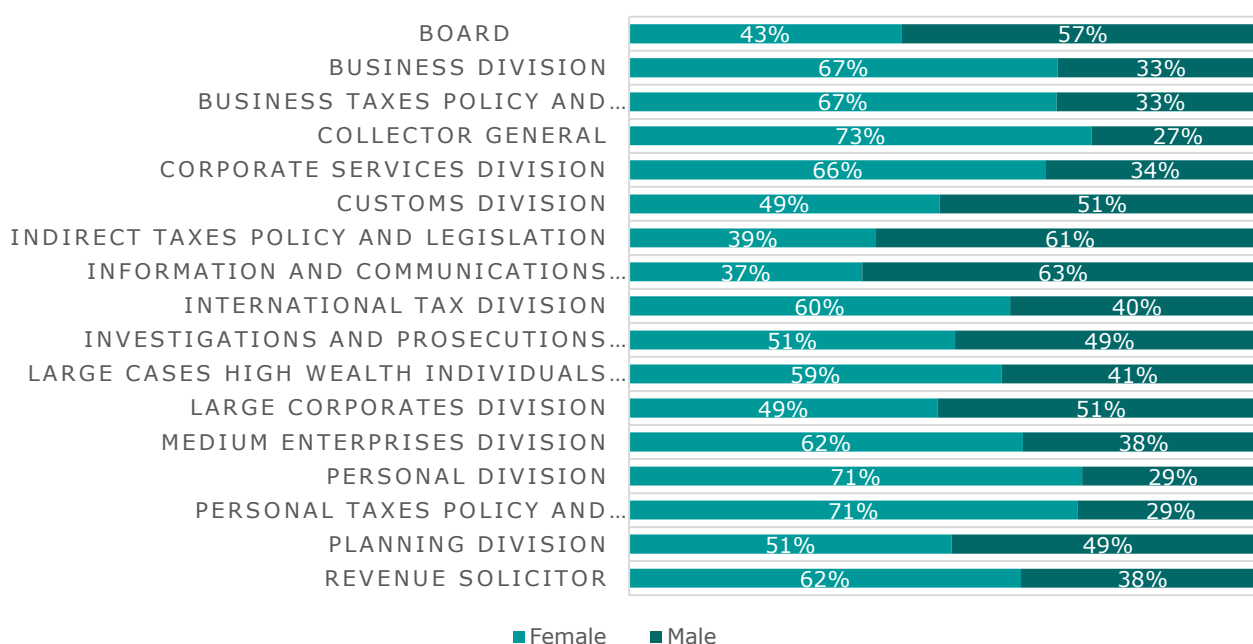
Source: Revenue analysis of Russell et al. (2017).

⁵ The ESRI reviewed gender in the Irish Civil Service. Discussion in this section is based on Figure 1 in the ESRI report (Russell et al., 2017).

4.2 Revenue Divisions

There are large variations in terms of gender at Divisional level in Revenue. Women form the majority of employees in 12 of the 17 Divisions. The Collector General’s Division has the largest share of female employees (73 per cent). Customs, Investigations & Prosecutions, Large Corporates and Planning Divisions are the most equal, all having a near balanced ratio of female to male employees. Men make up a majority of employees in 5 of the 17 Divisions. The Information, Communications, Technology & Logistics Division has the largest share of male employees (63 per cent), followed by Indirect Taxes Policy & Legislation Division (61 per cent).

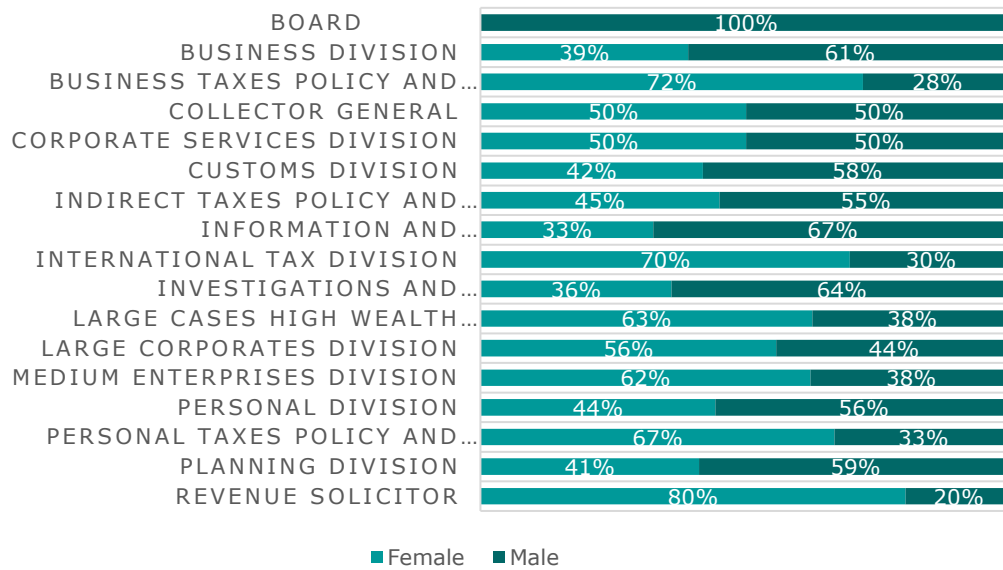
Figure 3: Gender Distribution by Revenue Division



Source: Revenue analysis.

When looking at the Divisional gender shares from the perspective of senior managerial grades (AP level and above) versus other grades, the picture changes. Men make up a larger share of managerial roles in 8 out of the 17 Divisions, while women make up a larger share in 7 Divisions (the remaining 2 Divisions are evenly split). Aside from the Board, the Information, Communications, Technology & Logistics Division has the largest share of male employees at a managerial level (67 per cent). The Revenue Solicitors Division has the largest proportion of women in managerial roles (80 per cent).

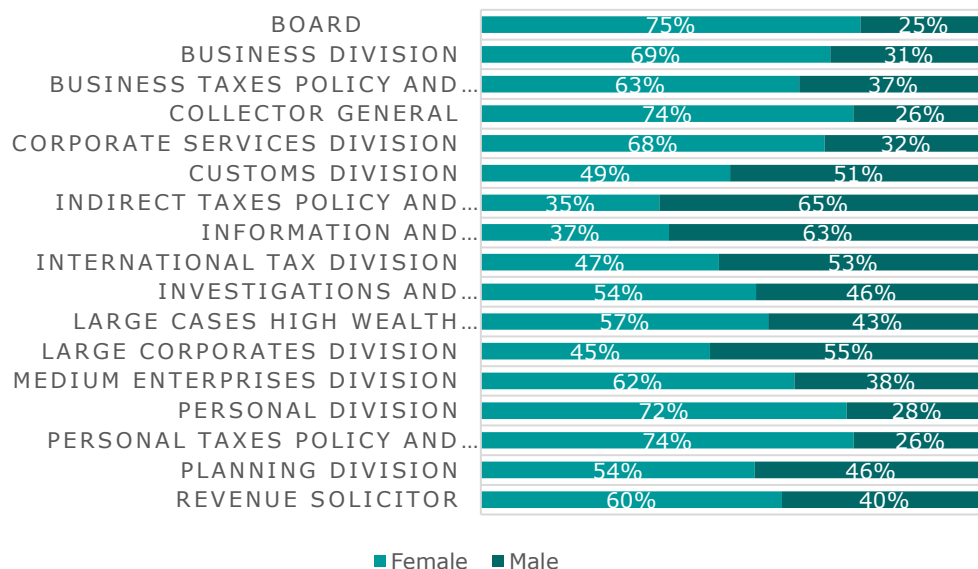
Figure 4: Gender Distribution by Revenue Division – Managerial Grades



Source: Revenue analysis.

For non-managerial grades (HEO and below), women make up a larger proportion in 12 of the 17 Divisions. In 4 Divisions, at least 70 per cent of the non-managerial roles are filled by women. Customs and International Tax Divisions are equal in terms of gender share, and Indirect Taxes Division has the highest share of male employees in non-managerial grades (65 per cent).

Figure 5: Gender Distribution by Revenue Division – Non-Managerial Grades



Source: Revenue analysis.

4.3 Part-Time Status

Around one fifth of Revenue staff avail of flexible working or part-time arrangements, with the remainder working full-time. There are significant differences between men and women: 5 per cent of men work part-time but the proportion for women is five times as high at 26 per cent. This gender breakdown of working patterns is in line with the Civil Service as a whole.⁶

Table 2: Full/Part-time Status by Gender

Full Time Equivalent (FTE) Status	Female %	Male %	Total %
FTE less than 0.5	0.4	0.1	0.3
FTE between 0.5 and 0.75	12.4	1.0	8.1
FTE between 0.75 and 1	13.5	4.1	9.9
FTE=1	73.7	94.8	81.7
Total	100	100	100

Source: Revenue analysis.

Generally, the proportion of employees working part-time decreases with increased grade level. There is a noticeable drop-off in the proportion of employees working part-time from the PO level upward. Almost half of employees at the CO (Higher) grade avail of flexible working hours, and this figure is driven by women. For grades below PO level, men and women are both more likely to work part-time if they are on the Higher salary scale. In all grades, at least 90 per cent of men work full-time. At no grade is there a larger proportion of women working full-time than men.

Table 3: Full/Part-Time Status by Gender and Grade

Grade	Female %		Male %		Total %	
	PT	FT	PT	FT	PT	FT
Assistant Secretary/Board	0.0	100.0	0.0	100.0	0.0	100.0
PO-Higher	0.0	100.0	0.0	100.0	0.0	100.0
PO-Standard	3.6	96.4	0.0	100.0	2.4	97.6
AP-Higher	19.1	80.9	3.4	96.6	10.2	89.8
AP-Standard	15.5	84.5	1.9	98.1	9.4	90.6
HEO-Higher	29.3	70.7	4.2	95.8	16.9	83.1
HEO-Standard	16.4	83.6	5.2	94.8	11.1	88.9
AO-Higher	22.6	77.4	0.0	100.0	13.2	86.8
AO-Standard	5.7	94.3	0.0	100.0	3.1	96.9
EO-Higher	39.4	60.6	7.2	92.8	28.3	71.7
EO-Standard	27.2	72.8	5.2	94.8	19.5	80.5
CO-Higher	51.6	48.4	9.5	90.5	43.7	56.3
CO-Standard	26.7	73.3	7.0	93.0	20.4	79.6
Other	5.4	94.6	3.4	96.6	3.8	96.2

Source: Revenue analysis.

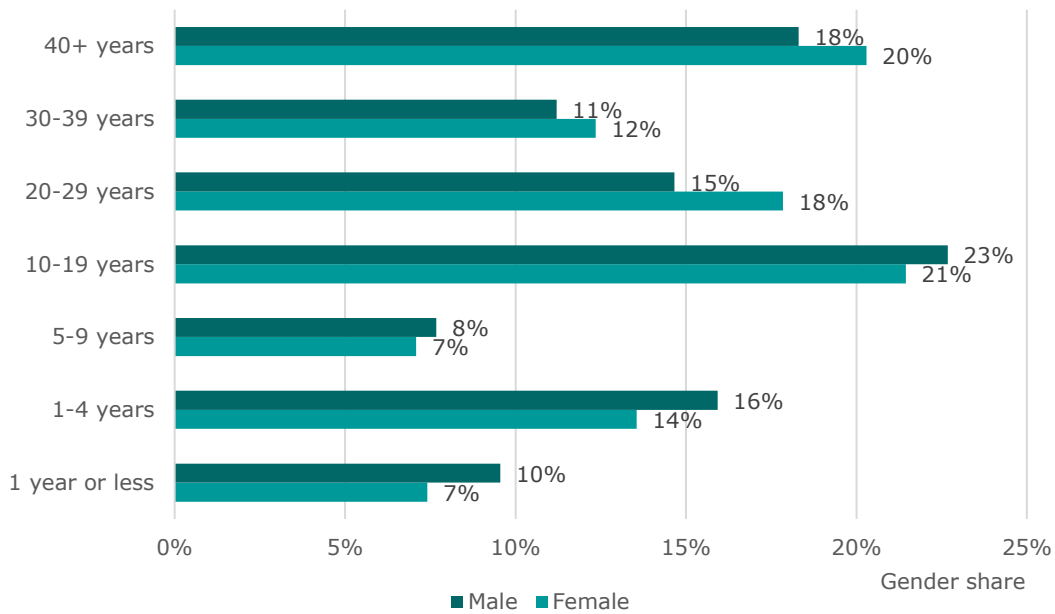
4.4 Tenure

The bulk of employees have worked in Revenue for at least 20 years. Tenure proportions are reasonably similar for female and male employees. Approximately 30 per cent of all employees have worked in Revenue for 30 years or more. Just under a tenth have been in Revenue for one year or less. This pattern of a large proportion of Revenue employees with either extremely long or short service is replicated in the Civil Service as a whole.⁷

⁶ See Table A1.4 in Russell et al. (2017).

⁷ See Table A1.3 in Russell et al. (2017).

Figure 6: Tenure by Gender



Source: Revenue analysis.

4.5 Age

The age distribution of Revenue’s employees is skewed towards older age categories: over half of all employees are 45 or older. There is no substantial gender difference in age categories, although there is a slightly higher proportion of men under 35 than women.

Table 4: Revenue Age Profile

Age Category	Female %	Male %	Total %
<25	1.3	2.6	1.8
25-34	11.8	15.0	13.0
35-44	27.6	26.1	27.0
45-54	26.9	24.9	26.2
55-64	31.6	30.2	31.1
65+	0.8	1.1	0.9
Total	100	100	100

Source: Revenue analysis.

The grades with the lowest and highest average ages are found at the non-managerial levels. The AO (Standard) grade has the lowest average age, which is unsurprising given that this is generally a graduate role within the Civil Service. This is also likely a contributor to the high share of AOs working full-time relative to other grades. At the other end of the scale, HEO (Higher) and CO (Higher) have the highest average ages, with both over 55. Just under 80 per cent of HEOs and COs at the higher scale have 30 or more years of tenure which naturally leads to a higher average age for these grades.

Table 5: Average Age by Gender and Grade

Grade	Female	Male	Total
Assistant Secretary/Board	53	58	57
PO - Higher	49	56	53
PO - Standard	46	50	47
AP - Higher	51	57	54
AP - Standard	42	46	44
HEO - Higher	55	56	55
HEO - Standard	48	48	48
AO - Higher	41	41	41
AO - Standard	38	36	37
EO - Higher	53	54	53
EO - Standard	48	45	47
CO - Higher	55	54	55
CO - Standard	45	41	43
Other	47	52	51
Total	47	46	47

Source: Revenue analysis.

5 Salary and Pay

5.1 Gross Salary

Unsurprisingly, the gendered pattern across different working patterns and grade levels (as shown in Section 4) has an impact on the gross salary received. The average (mean) annual gross salary earned by a Revenue employee is €41,400 in 2019. The average for men is €45,900 and the average for women is €38,700. Taking the difference in salaries, and expressing as a percentage of the male salary, the average gender pay gap is 16 per cent. In level terms, the gap is €7,200. In both level and proportional terms, the gender pay gap widens at higher points on the distribution: it is widest at the 90th percentile of incomes (19 per cent).

Table 6: Income Distribution by Gender

Income Cut-Off Points €	Female	Male	€ Difference	Gender Pay Gap (%)
10th Percentile	19,300	20,500	1,200	6
25th Percentile	26,100	29,700	3,600	12
50th Percentile (Median)	37,900	44,500	6,600	15
Mean Salary	38,700	45,900	7,200	16
75th Percentile	48,800	58,100	9,300	16
90th Percentile	58,900	72,300	13,400	19

Source: Revenue analysis.

Given the large proportion of female employees working part-time, it is appropriate to compare the income distribution of full-time workers as a standalone cohort. As expected, the income distribution does not change much for men but rises for women. The average annual gross salary for a female full-time employee is €40,800 while their male counterparts earned €46,400, a 12 per cent gap (€5,600 in level terms). The gender pay gap also widens at higher points on the income distribution for full-time employees, suggesting that working patterns are unlikely to be the main explanation for differences in male and female salaries overall.

Table 7: Income Distribution by Gender – Full-Time Employees

Income Cut-Off Points €	Female €	Male €	€ Difference	Gender Pay Gap (%)
10th Percentile	19,300	20,700	1,400	7
25th Percentile	27,100	30,100	3,000	10
50th Percentile (Median)	41,000	45,300	4,300	9
Mean Salary	40,800	46,400	5,600	12
75th Percentile	51,900	58,700	6,800	12
90th Percentile	62,500	72,900	10,400	14

Source: Revenue analysis.

Another measure for comparing salary gaps is to rank all of Revenue's salaries from lowest to highest and divide them into four equal parts (or quartile). Comparing the proportion of each gender who fall into each quartile illustrates where employees lie on the income distribution. 28 per cent of all women and 21 per cent of all men fall into the lowest income quartile. In contrast to this, 19 per cent of all women and 35 per cent of all men fall into the highest income quartile.

Table 8: Gender Share by Income Quartile

Quantile	Female	Male
1st Quartile (Lowest)	27.5%	20.9%
2nd Quartile	27.7%	20.5%
3rd Quartile	25.9%	23.5%
4th Quartile (Highest)	18.9%	35.1%

Source: Revenue analysis.

In all the most common Civil Service grades, average salaries for women are lower than for men. The exception is the Other category (which includes male-dominated Services Officers and female-dominated Solicitors). This salary difference by grade remains the case when only full-time employees are examined: for all the most common grades, a full-time man earns more than a full-time woman. Reasons for the difference among full-time employees could be due to the length of time in grade, which is captured to a certain extent by the point on pay scale, and the extent of allowances and overtime by gender.

Table 9: Average Salary by Gender and Grade

Grade	Female €	Male €	Total €
Assistant Secretary/Board	121,000	157,500	147,300
PO - Higher	100,200	105,100	103,300
PO - Standard	85,400	93,000	88,000
AP - Higher	75,300	81,900	79,100
AP - Standard	62,400	69,500	65,700
HEO - Higher	55,700	63,500	59,500
HEO - Standard	51,300	56,500	53,700
AO - Higher	47,000	53,600	49,800
AO - Standard	35,400	38,600	36,800
EO - Higher	44,100	52,900	47,200
EO - Standard	39,400	41,900	40,300
CO - Higher	34,800	42,600	36,200
CO - Standard	26,800	27,000	26,800
Other	51,900	38,600	41,800

Source: Revenue analysis.

Table 10: Average Salary by Gender and Grade – Full-time Employees

Grade	Female €	Male €	Total €
Assistant Secretary/Board	121,000	157,500	147,300
PO - Higher	100,200	105,100	103,300
PO - Standard	85,800	93,000	88,300
AP - Higher	78,800	82,200	80,900
AP - Standard	63,600	69,700	66,600
HEO - Higher	60,900	64,000	62,600
HEO - Standard	52,700	57,100	54,900
AO - Higher	49,400	53,600	51,500
AO - Standard	35,400	38,600	36,900
EO - Higher	49,000	54,000	51,200
EO - Standard	41,100	42,000	41,500
CO - Higher	41,000	43,800	41,800
CO - Standard	27,100	27,100	27,100
Other	52,100	39,000	42,100

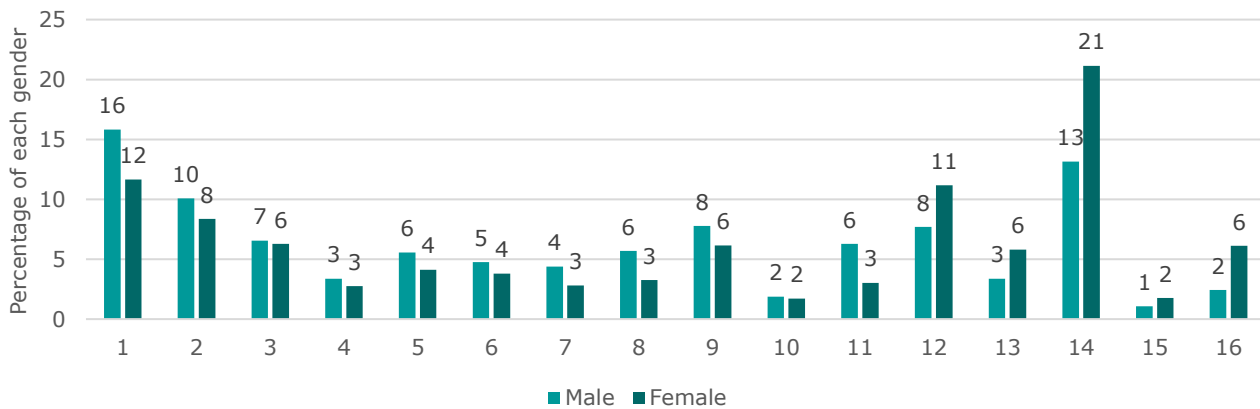
Source: Revenue analysis.

5.2 Pay Scale Points

In the Civil Service, points on the pay scale are a unique aspect of gross salary differences.⁸ For example, a full-time female AO could earn less than a full-time male AO because she is at a lower point on the pay scale (in general, employees move up one pay scale point each year). As highlighted in Figure 7, women are more likely than men to be at the top point of their grade's pay scale in Revenue (typically points 12, 14 or 16, depending on the grade).

This effect is concentrated at the AO grade and below. For the most common grade in Revenue, CO (Standard), 26 per cent of females are at the top point of the pay scale compared to 13 per cent for their male counterparts. For senior grades, however, the pattern is reversed. For example, 23 per cent of female PO (Higher) employees are at the top of their scale compared to 53 per cent of their male counterparts.

Figure 7: Pay Scale Distribution by Gender



Source: Revenue analysis.

Given tenure patterns (time in Revenue as opposed to time in grade) are reasonably similar across gender, Figure 7 is suggestive of a pattern whereby women are less likely to seek promotion or to be promoted. In 2019, 208 existing Revenue male staff were promoted, while 299 existing Revenue female staff were promoted.⁹ For males, this is a promotion rate for existing staff of 8.8 per cent, against 7.5 per cent for females.¹⁰

For both genders, the likelihood of being at the top point of a pay scale is highest for those working part-time. However, a gender disparity is notable within this cohort: for part-time employees who work a minimum of 75 per cent of the time, women are 14 percentage points more likely to be at the top of their pay scale than men.

⁸ Pay scales in this report are based on the following Department of Public Expenditure and Reform circular: <https://circulars.gov.ie/pdf/circular/per/2019/17.pdf>.

⁹ Data here are for promotion of Revenue staff across all public sector competitions (internal, interdepartmental, open and TLAC). The data do not refer to promotions of external candidates into Revenue.

¹⁰ The promotion rate for existing staff is defined as the number of promotions of existing staff divided by the 2019 staff headcount less employees who started in Revenue in 2019. As such, it includes Revenue staff who are promoted to other roles in the Civil Service but excludes other civil servants who are promoted into Revenue.

Table 11: Top Point of Pay Scale by FTE Status

Full Time Equivalent (FTE) Status	Female %	Male %	Total %
FTE less than 0.5	33.3	33.3	33.3
FTE between 0.5 and 0.75	51.4	42.3	51.0
FTE between 0.75 and 1	38.4	24.5	36.2
FTE=1	21.6	23.8	22.6
Total	27.6	24.1	26.3

Source: Revenue analysis.

5.3 Non-Basic Pay

Non-basic pay includes allowances, overtime or premia payments and is distinct from the basic salaries outlined in Government pay circulars. 57 per cent of Revenue employees were in receipt of some form or amount non-basic pay in addition to their core salary in 2019, a share that is identical for both genders. However, men received more in non-basic pay than women on average (€3,100 on average as opposed to €2,200).

There are both historical and structural reasons for the large share in Revenue, for example due to non-core hours often worked by employees in customs roles in the ports and airports. In addition, preparations for Brexit, with significant numbers of additional trade facilitation staff hired, have further increased this share upward in 2019.

The grades most likely to be in receipt of non-basic pay in Revenue are the CO (Standard) and EO (Standard) grades, which is in line with the general grade distribution in Revenue.

Table 12: Non-Basic Pay Distribution by Grade

Grade	Female %	Male %	Total %
Assistant Secretary/Board	0.0	0.1	0.1
PO - Higher	0.4	0.4	0.4
PO - Standard	0.4	0.3	0.4
AP - Higher	0.7	1.3	0.9
AP - Standard	3.0	2.7	2.9
HEO - Higher	2.8	4.9	3.6
HEO - Standard	7.1	12.5	9.1
AO - Higher	0.6	0.7	0.6
AO - Standard	1.4	1.6	1.5
EO - Higher	7.3	7.4	7.3
EO - Standard	27.5	24.9	26.5
CO - Higher	6.9	2.6	5.3
CO - Standard	41.3	34.2	38.7
Other	0.6	6.4	2.8
All Employees	100	100	100

Source: Revenue analysis.

Looking on a grade-by-grade basis, those employed at the CO (Higher) grade are most likely to be in receipt of non-basic pay (almost all employed at this grade receive non-basic pay). At least half of all EOs and HEOs are also in receipt of non-basic pay. Senior grades are least likely to receive this form of pay.

Table 13: Non-Basic Pay by Grade and Gender

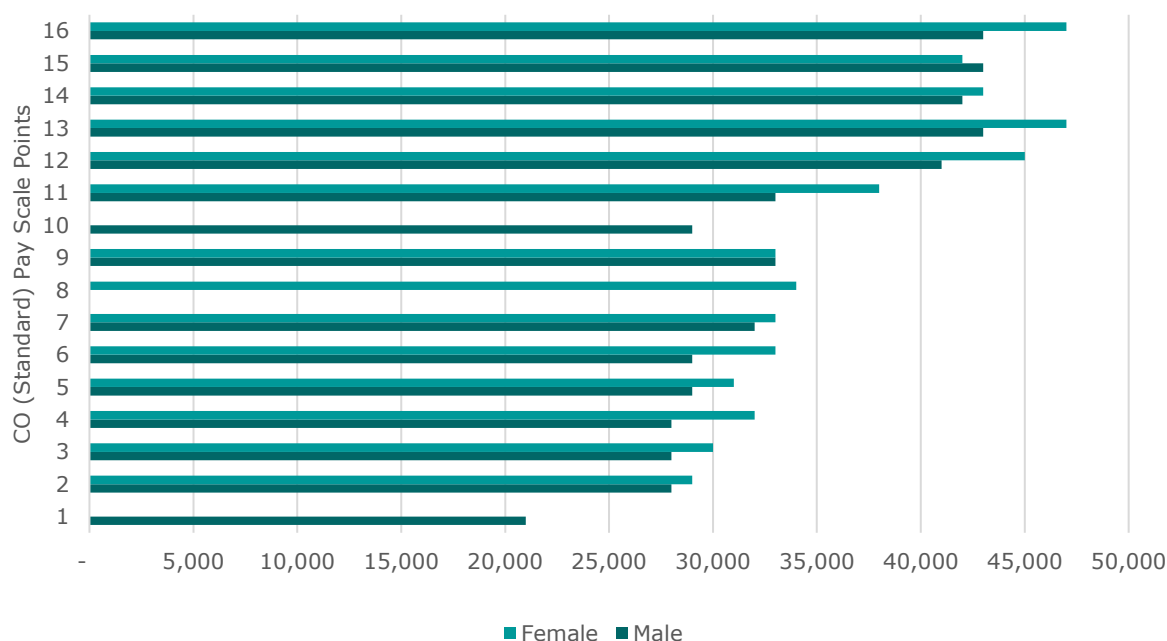
Grade	Female %	Male %	Total %
A Sec / Board	20.0	15.4	16.7
PO - Higher	42.3	14.0	24.6
PO - Standard	35.7	28.6	33.3
AP - Higher	26.5	21.3	23.6
AP - Standard	40.1	26.0	33.7
HEO - Higher	56.9	60.5	58.7
HEO - Standard	44.8	53.5	48.8
AO - Higher	45.2	45.5	45.3
AO - Standard	39.8	31.5	36.0
EO - Higher	61.6	71.2	64.9
EO - Standard	53.6	54.4	53.9
CO - Higher	93.4	92.9	93.3
CO - Standard	63.8	67.6	65.0
Other	43.2	79.0	70.5
All Employees	57.2	56.6	57.0

Source: Revenue analysis.

The Revenue Divisions with the highest share of staff in receipt of non-basic pay were the Customs Division, the Collector General, and the Investigations & Prosecutions Division.

Taking CO (Standard), the most common grade in Revenue, as an example, illustrates how non-basic pay influences the gender pay gap. For a full-time employee, the average CO (Standard) gross salary is typically higher for men than women (Figure 8). As differences in working patterns, grade and type of pay scale are accounted for in this example, the non-basic pay is the most important influencing factor in this gender pay gap.

Figure 8: Average Gross Salary by Pay Scale Point – CO (Standard)



Source: Revenue analysis. Note: to ensure a like-for-like comparison, only full-time employees who joined the Civil Service after 1995 are included in this Figure (as separate pay scales operate for those employed before 1995 to reflect modified PRSI and pension arrangements). Some bars are missing if there are no data for a gender and pay point combination.

6 Modelling the Gender Pay Gap

The previous section documents differences in pay levels between men and women in Revenue. The Civil Service grade, working patterns, the type of pay scale, the point on pay scale, and the level of non-basic pay all contribute to the observed differences. A statistical (econometric) model can assess these various factors and determine their contribution to the gender pay gap. Two types of model are used: Ordinary Least Squares (“OLS”) and Oaxaca-Blinder Decomposition.

6.1 OLS Earnings Regressions

A standard OLS earnings regression is employed with a male dummy variable included in the specification. This male dummy identifies what the average gender pay gap is, once other determinants of salary differences are controlled for.

The gross salary data are transformed using the logarithm function in order to reduce the influence of extreme, atypical values and to interpret the model results as percentages. This transformation is common when analysing income data.

The first column of Table 14 indicates a pay gap of 15 per cent between men and women, i.e., on average male employees earn 15 per cent more than female employees in Revenue. This figure differs slightly from the 16 per cent raw gap calculated in the previous section as the data here have been logged transformed.

As discussed in previous sections, Civil Service grades and the Higher pay scale are important determinants of salary differences by gender. Adding these to the model as additional control variables in column 2 reduces the gender pay gap to 5 per cent.¹¹ Accounting for employees’ work patterns in column 3 reduces the gender pay gap further to 3 per cent. Finally, once the log of annual non-basic pay is added as a final control variable in column 4, the gender pay gap is reduced to 0 per cent.

The gender pay gap in column 4 is the only coefficient in any of the models which is statistically insignificant. The coefficient is interpreted as follows: once grade, the Higher pay scale, working patterns and non-basic pay are accounted for, men earn 0.4 per cent more than women on average, but this 0.4 per cent is statistically indistinguishable from zero. This result of a zero-pay gap once observable characteristics are controlled for is expected, given the non-discriminatory nature of Civil Service pay structures.

¹¹ If only grade is accounted for, and not the Higher scale, the gender pay gap would be 6 per cent on average.

Table 14: Modelling the Gender Pay Gap

	Dependent Variable: Log of Annual Gross Salary			
	(1)	(2)	(3)	(4)
Male	0.147*** (0.014)	0.052*** (0.011)	0.026** (0.012)	0.004 (0.011)
Assistant Secretary/Board		1.775*** (0.062)	1.760*** (0.064)	1.936*** (0.069)
PO-Higher		1.452*** (0.015)	1.433*** (0.015)	1.583*** (0.023)
PO-Standard		1.305*** (0.017)	1.279*** (0.018)	1.398*** (0.030)
AP-Higher		1.182*** (0.016)	1.171*** (0.015)	1.333*** (0.019)
AP-Standard		0.966*** (0.022)	0.954*** (0.022)	1.072*** (0.023)
HEO-Higher		0.890*** (0.018)	0.887*** (0.017)	0.889*** (0.017)
HEO-Standard		0.788*** (0.014)	0.774*** (0.014)	0.823*** (0.014)
AO-Higher		0.696*** (0.043)	0.680*** (0.042)	0.756*** (0.044)
AO-Standard		0.345*** (0.041)	0.323*** (0.041)	0.434*** (0.039)
EO-Higher		0.651*** (0.017)	0.657*** (0.015)	0.642*** (0.014)
EO-Standard		0.456*** (0.015)	0.449*** (0.015)	0.483*** (0.014)
CO-Higher		0.397*** (0.022)	0.422*** (0.018)	0.302*** (0.017)
Other		0.441*** (0.044)	0.431*** (0.043)	0.396*** (0.046)
0.5<=FTE<0.75			0.275*** (0.074)	0.327*** (0.065)
0.75<=FTE<1			0.556*** (0.074)	0.620*** (0.065)
FTE=1			0.531*** (0.074)	0.624*** (0.064)
Log of annual non-basic pay				0.044*** (0.001)
Constant	10.444*** (0.008)	10.058*** (0.012)	9.562*** (0.073)	9.266*** (0.065)
Observations	6,933	6,933	6,933	6,933
R-squared	0.016	0.420	0.437	0.520

Source: Revenue analysis.

Notes: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; CO Standard is excluded from the Grade breakdown so the coefficients are interpreted as follows, using Column 4 as an example: on average, an AP Standard employee earns a gross salary that is 107 per cent higher than a CO Standard employee, once FTE, gender and non-basic pay are accounted for. FTE<0.5 is the excluded category in the FTE breakdown.

6.2 Oaxaca-Blinder Decomposition

In order to look at the relative importance of different observable characteristics, in terms of the gender pay gap, this section estimates an Oaxaca-Blinder decomposition. An Oaxaca-Blinder decomposition decomposes the difference in male and female earnings into the component that is due to men having more favourable characteristics than women, such as being in more senior grades, and into the component that is due to men and women earning a different return for given characteristics, which is typically thought to reflect pay discrimination.¹²

The raw salary gap is 15 per cent in Table 14. Decomposing the raw salary gap using the Oaxaca-Blinder decomposition, it can be established that approximately three-quarters of the gap is due to grade differences, while approximately one quarter is due to working patterns. A negligible amount is due to patterns of non-basic pay (2 per cent). None of the gap is explained by men earning a different return for the same characteristics (although this would typically be the case in economy-wide studies of gender pay where salaries are negotiated rather than set by Government pay circulars).

The vast majority of the gender pay gap in Revenue is as a result of gender imbalances in grades. Future analysis could usefully return to how working patterns interact with grade patterns in Revenue, for example through an analysis of how working patterns affect the likelihood of going for or obtaining promotion to a higher grade.

Table 15: Decomposing the Gender Pay Gap

		Share of Endowments
Due to endowments (E) – men having more favourable characteristics than women	0.147	
Of which: Grade patterns	0.109	74%
Working patterns	0.035	24%
Non-basic pay patterns	0.004	2%
Coefficient effect (C)	-0.004	
Shift effect (U)	0.004	
Raw differential [R=(E+C+U)] - the raw gender pay gap	0.147	
Adjusted differential (C+U) - what is due to pay discrimination	0.000	
Endowments as % of Gender Pay Gap [E/R]	1.000	

Source: Revenue analysis.

¹² Given that an objective of this study is to separate out the impact of individual characteristics on the gender pay gap, it is important to be aware of an identification problem associated with the use of dummy variables in decompositions where the number of categorical dummies exceed one (Oaxaca and Ransom, 1999). Specifically, it is not possible to estimate the relative effects of any particular dummy variable, as the impacts will change depending on the reference category used. Variables affected by the identification problem are Grade and FTE. To overcome this problem, the approach of Yun (2005) is followed to estimate the decompositions imposing a normalising restriction on each set of dummy variables i.e. effects are expressed as deviation contrasts from the grand mean.

7 Gender Inequalities in Reaching Senior Grade Positions

This section examines how gender affects the likelihood of reaching the most senior grades in Revenue, defined as Assistant Principal Officer (AP) or higher. Currently, 9 per cent of Revenue staff are in senior grades. 12 per cent of all men are in senior grades while 7 per cent of all women are in senior grades.

The results from a statistical model are expressed as odds ratios: a value of 1 means that men have the same chance of occupying AP positions as women, values smaller than 1 mean that men are less likely to do so, and values greater than 1 indicate that men are more likely to do so.

In Table 16, Column 1 highlights that men are 1.8 times more likely than women to be in senior grades in Revenue, which is in keeping with the descriptive analysis in previous sections. However, other factors beyond gender will influence the odds ratio.

When age and human capital accumulation (proxied here by tenure) are added, the likelihood of a man being in a senior grade remains roughly 1.8 times that of a woman (Columns 2 and 3). Given the gender distribution of these factors is reasonably even in Revenue, this outcome is not surprising.

It is only when working patterns are accounted for that the odds ratio drops substantially from 1.8 to 1.5. This implies that when comparing men and women with the same working patterns, the same age and the same human capital, men's odds of having reached a senior grade are 50 per cent higher than that of women.

Some Divisions in Revenue are notable for their higher share of senior grades, which would be a factor favourably influencing the likelihood of attaining these grades.¹³ When this is added as a final explanatory variable in Column 6, the odds ratio narrows slightly to 1.4.

This model shows that gender differences in accessing senior positions persist when several key influences are held constant, in particular working patterns, which can to an extent be interpreted as reflecting caring duties of children and relatives.¹⁴ However, there are important factors which the data do not provide information on, such as breaks in employment or the likelihood of entering promotion competitions, which may also influence the gender differences in outcome.

¹³ The organisation-wide share of senior grades is 9 per cent. The Board, all RLS Divisions, High Wealth Individuals, Large Corporates and the Planning Divisions all have a share that is at least double this.

¹⁴ If senior grade is defined as PO grade or higher, the results remain broadly similar albeit slightly higher (1.5 instead of 1.4 in the final model in column 5).

Table 16: Probability of Being in Senior Grade in Revenue

	(1)	(2)	(3)	(4)	(5)
Male (dummy variable)	1.745*** (0.147)	1.805*** (0.153)	1.807*** (0.153)	1.496*** (0.130)	1.354*** (0.124)
Tenure (in years)		1.019*** (0.003)	1.028*** (0.005)	1.031*** (0.005)	1.033*** (0.006)
Age (in years)			0.985** (0.007)	0.987* (0.007)	0.993 (0.007)
Full Time Employee (dummy variable)				3.022*** (0.478)	3.106*** (0.507)
Senior Grade- Dominated Division (dummy variable)					8.459*** (0.843)
Constant	0.078*** (0.005)	0.050*** (0.005)	0.084*** (0.021)	0.029*** (0.009)	0.015*** (0.005)
Observations	6,944	6,944	6,944	6,944	6,944
Pseudo R-squared	0.0103	0.021	0.0221	0.0368	0.1344

Source: Revenue analysis.

Notes: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1; All coefficients in this logistic model are odds ratios. For example, the coefficient for Senior Grade-Dominated Division is read as follows: holding gender, tenure, age, and full-time status constant across employees, an employee in a Senior Grade-Dominated Division is 8.5 times more likely to reach a senior grade than an employee in another Division.

8 Comparison of Public Sector Gender Pay Gaps

Table 17 compares Revenue's gender pay gap to public sector pay gaps elsewhere. There are limited data available in terms of gender pay gaps for other tax authorities. However, most OECD countries have produced some data regarding their public sector overall. It is most appropriate to compare Revenue against countries who compile the data on an annual or monthly basis, as this allows for the inclusion of pay effects arising from different working patterns by gender. Countries who compile the data on an hourly basis net out the effect of gendered working patterns.

Table 17: Gender Pay Gaps in the Public Sector

Organisation/Country	Year	Pay Frequency	Gender Pay Gap (%)
Irish Public Sector			
Revenue Commissioners	2019	Annual	16
An Post	2019	Hourly	3.7
Central Bank of Ireland	2019	Annual	2.4
Foreign Tax Authorities			
New Zealand Inland Revenue	2019	Annual	18.4
UK HMRC	2019	Hourly	7.2
Foreign Public Sectors			
United States ¹	2015	Annual	21.0
Czech Republic	2018	Hourly	19.3
Finland*	2018	Hourly	18.2
Switzerland	2016	Monthly	16.7
Bulgaria	2018	Hourly	15.3
Slovakia	2018	Hourly	14.8
Lithuania	2018	Hourly	14.1
Hungary	2018	Hourly	14.1
Japan	2007	Annual	14.0
Latvia*	2018	Hourly	13.4
Portugal	2018	Hourly	13.3
Spain*	2018	Hourly	13.1
Germany*	2018	Hourly	12.8
Netherlands	2018	Hourly	12.2
Denmark	2018	Hourly	11.9
Slovenia	2018	Hourly	11.9
Estonia	2011	Monthly	10.2
Iceland	2018	Hourly	9.9
Sweden	2018	Hourly	9.4
Canada	2017	Hourly	8.8
Croatia	2018	Hourly	8.2
France ²	2012-2016	Hourly	8.1
Norway	2018	Hourly	8.0
Australia	2018	Annual	7.8
Italy	2012	Hourly	6.6
Poland	2018	Hourly	3.8
Romania	2018	Hourly	0.9
Belgium*	2018	Hourly	-0.3
Cyprus	2018	Hourly	-6.7

Source: Revenue analysis of published reports.

Notes: * Provisional data; ¹ Covers white collar federal employees; ² Refers to the unexplained pay gap rather than the raw pay gap.

9 Conclusion

Women make up the majority of those employed in Revenue but are underrepresented at most senior grades and overrepresented at junior grades. Women are five times more likely than men to work part-time. Tenure patterns (time in Revenue) and age are reasonably similar across both genders, but women are more likely to be at the top point of their pay scale than men for less senior grades, suggesting the presence of grade stagnation (women not applying for or obtaining promotion). Further to this, once working patterns (part-time status) and other explanatory factors are accounted for, men remain 1.4 times more likely than women to be in senior grades in Revenue.

These factors all contribute to a raw gender pay gap of 16 per cent: on average, a female employee earns an annual gross salary that is 84 per cent of their male equivalent. In all the most common Civil Service grades, salaries for women are lower than for men.

Drawing on Revenue's administrative data, this report documents the factors which result in differences in pay levels between men and women in Revenue. The analysis includes a statistical model that decomposes the gender pay gap into its constituent parts.

Gender imbalance in grades is the leading cause. This accounts for approximately three-quarters of the gap, while one quarter is due to different working patterns for men and women. A negligible amount is due to patterns of non-basic pay.

The statistical model designed to account for these various contributory factors results in a gender pay gap of zero. In other words, there is no unidentified explanation, such as wage discrimination, for the existence of Revenue's gender pay gap.

The Gender Pay Gap Information Bill, when enacted, will require particular employers to publish information in relation to the remuneration of their employees by reference to gender. It is the hope that the production of reports of this kind across different employers in Ireland will lead to greater transparency within the workforce and help to identify and overcome the factors that contribute towards the gender pay gap.

10 References

- Albrecht, J.W., Edin, P-A., Sundström, M., & Vroman, S. B. (1999). Career interruptions and subsequent earnings: A reexamination using Swedish data. *Journal of Human Resources*, 34(2), 294-311.
- Barón, J. D. & Cobb - Clark, D. A. (2009). Occupational segregation and the gender wage gap in private- and public-Sector employment: A distributional analysis. *Economic Record*, 86(273), 227-246. <https://doi.org/10.1111/j.1475-4932.2009.00600>.
- Beblo, M., Bender, S., & Wolf, E. (2009). Establishment-level wage effects of entering motherhood. *Oxford Economic Journal*, 61(1), i11-i34. [https://doi.org/ doi:10.1093/oep/gpn040](https://doi.org/doi:10.1093/oep/gpn040).
- Becker, G. & Tomes, N. (1985) Human capital and the rise and fall of families. Department of Economics Research Paper 8505, University of Western Ohio.
- Bellante, D. & Link, A. N. (1981). Are public sector workers more risk averse than private sector workers? *Industrial and Labor Relations Review*, 34(3), 408-412.
- Blinder, A. S. (1973). Wage discrimination: Reduced form and structural estimates. *The Journal of Human Resources*, 8(4), 436-455. <https://doi.org/10.2307/144855>.
- Castagnetti, C. & Giorgetti, M. L. (2019). Understanding the gender wage-gap differential between the public and private sectors in Italy: A quantile approach. *Economic Modelling*, 78, 240-261. <https://doi.org/10.1016/j.econmod.2018.09.025>.
- Christofides, L. N., Polycarpou, A. & Vrachimis, K. (2013). Gender wage gaps, 'sticky floors' and 'glass ceilings' in Europe. *Labour Economics*, 21, 86-102. <https://doi.org/10.1016/j.labeco.2013.01.003>.
- Eurostat. (2020, February). Gender pay gap statistics. Retrieved from: <https://ec.europa.eu/eurostat/statistics-explained/pdfscache/6776.pdf> [Accessed 3 July 2020].
- Gregory R. G. & Borland, J. (1999). Recent developments in public sector labor markets. *Handbook of Labor Economics*, in: Ashenfelter, O. & Card, D. (ed.), 3C. 3573-3630. [https://doi.org/10.1016/S1573-4463\(99\)30044-4](https://doi.org/10.1016/S1573-4463(99)30044-4).
- Humphreys, P.C., Drew, E. & Murphy, C. (1999). Gender imbalance in Irish civil service grades at Higher Executive Officer level (HEO) and above. Dublin: Institute of Public Administration.

McIntyre, A., Bowden, T., Fearn, J., Porter, K., Upton, K., & Woodward, J. (2018) Are we there yet? Progress of the Australian Public Service Gender Equality Strategy. Retrieved from: https://www.apsc.gov.au/sites/default/files/are_we_there_yet.pdf.

Russell, H., Smyth, E., McCoy, S., Grotti, R., Watson, D., & Kenny O. (2017). A study of gender in senior civil service positions in Ireland [Research series number 66]. Dublin: Economic and Social Research Institute.

Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International Economic Review*, 14(3), 693-709. <https://doi.org/10.2307/2525981>.

Oaxaca, R. L. & Ransom, M. R. (1999). Identification in detailed wage compositions. *The Review of Economics and Statistics*, 81(1), 154-157. <https://doi.org/10.1162/003465399767923908>.

Tandrayen-Ragoobur, V. & Pydayya, R. (2015). Glass ceiling and glass floors: hurdles for Mauritian working women. *Equality, Diversity and Inclusion: An International Journal*, 34(5), 452-466. <https://doi.org/10.1108/EDI-08-2014-0064>.

Vignes, A. & Yeung, T. U. (2019). Gender pay gap in French Public Administration: An application of a novel three-step approach of Blinder-Oaxaca decomposition with fixed effect model. Université Paris-Dauphine Research Paper No. 3337866. <http://dx.doi.org/10.2139/ssrn.3337866>

Wahlberg, R. (2010) The gender wage gap across the wage distribution in the private and public sectors in Sweden. *Applied Economic Letters*, 17(15) 1465-1468. <https://doi.org/10.1080/13504850903035915>

Weeden, K. A. (2005). Is there a flexiglass ceiling? Flexible work arrangements and wages in the United States. *Social Science Research*, 34(2), 454-482. <https://doi.org/10.1016/j.ssresearch.2004.04.006>.

Yun, M. (2005). A simple solution to the identification problem in detailed wage decompositions. *Economic Inquiry*, 43(4), 766-772. <https://doi.org/10.1093/ei/cbi053>.

The authors are members of the Irish Government Economic & Evaluation Service ("IGEES"). Any opinions expressed in this paper are the views of the authors and do not necessarily reflect the views of IGEES.