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Administrative Sciences

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Suggested Citation: Loftus, Laura; Madden, Niall; Scott, P. Anne; Cooke, Aoife; McNicholas, Nicola (2023) : The Gender Pay Gap and Irish higher education: University of Galway, a case study, Administrative Sciences, ISSN 2076-3387, MDPI, Basel, Vol. 13, Iss. 11, pp. 1-16, <https://doi.org/10.3390/admsci13110239>

This Version is available at:

<https://hdl.handle.net/10419/320805>

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Article

The Gender Pay Gap and Irish Higher Education: University of Galway, a Case Study

Laura Loftus ^{1,*} , Niall Madden ² , P. Anne Scott ¹ , Aoife Cooke ¹ and Nicola McNicholas ³

¹ Office of the Vice-President for Equality and Diversity, University of Galway, H91 TK33 Galway, Ireland; anne.scott@universityofgalway.ie (P.A.S.); aoife.cooke@universityofgalway.ie (A.C.)

² School of Mathematics Statistics & Applied Mathematics, University of Galway, H91 TK33 Galway, Ireland; niall.madden@universityofgalway.ie

³ Accounts, University of Galway, H91 TK33 Galway, Ireland; nicola.mcnicholas@universityofgalway.ie

* Correspondence: lloftus@universityofgalway.ie

Abstract: This article presents the first comprehensive, multi-year study of the Gender Pay Gap (GPG) for a single higher education institution in Ireland. University of Galway has reported on its GPG annually since 2018. It identifies the key findings of these reports, focusing particularly on the 2022 report, while also highlighting trends and learnings from other years' data. Staff cohorts are disaggregated, and details on the mean and median GPG are provided for each. The major contributors to the GPG at University of Galway are identified. These contributors also apply to the Irish Higher Education system more broadly. This study reveals that the mean GPG at University of Galway is driven by academic grades and the median GPG is driven by Professional Managerial and Support Service Staff grades, and that long-term sustained interventions will be required to narrow the gender pay gap at University of Galway.

Keywords: gender pay gap; higher education institutions; gender equality; case study; Irish education



Citation: Loftus, Laura, Niall Madden, P. Anne Scott, Aoife Cooke, and Nicola McNicholas. 2023. The Gender Pay Gap and Irish Higher Education: University of Galway, a Case Study. *Administrative Sciences* 13: 239. <https://doi.org/10.3390/admsci13110239>

Received: 25 September 2023

Revised: 27 October 2023

Accepted: 27 October 2023

Published: 7 November 2023



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1. Introduction

The goal of this article is to present, for the first time, data, analysis and reflection on the Gender Pay Gap (GPG) at an Irish higher education institute, specifically University of Galway (formerly NUI Galway). Four central research questions underpin this work: (1) What can be inferred from raw data of different measures of GPG? (e.g., Mean V Median; comparison of percentiles). (2) What are the main drivers of the GPG at this institution? (3) What is the impact on the GPG of certain groups? (such as highly paid medical staff). (4) Have the interventions put in place to reduce the GPG at University of Galway had an impact? As of 2022, all comparable organizations in Ireland are obliged to compile and publish reports on their GPG. This has been conducted routinely since 2018 at University of Galway. Thus, the authors can draw on a unique data set, which provides insights into the drivers of the GPG in Irish academic institutions, and the challenges involved in reducing it. This article identifies the key findings of the most recent report, from 2022, and pinpoints the major drivers of the GPG at University of Galway, which apply to the Irish Higher Education system more broadly. The measures that have been put in place at the University over the last number of years to promote gender equality are reported, and some of the trends in the annual reports are investigated to determine the effect these actions have had on the institution's GPG.

This study reveals that the mean GPG at University of Galway is driven by academic grades and the median GPG is driven by Professional, Managerial and Support Service (PMSS) staff grades (as the Administrative and Technical staff categories will be referred to in this paper).¹ Our examination of GPG data confirms that radically different distributions of salaries of men and women, and the proportionate underrepresentation of women in senior academic and management positions, are some of the main contributors to the

GPG at the University. Deeper analyses also indicate that the gender imbalance in certain highly paid joint appointments, which are academic/medical consultant posts, contribute significantly to the GPG in a quantifiable way. Furthermore, it is shown that the gender imbalance in the PMSS category has a notable impact on certain measures of the GPG.

The gender pay gap in Higher Education Institutions, and in broader contexts, has been explored extensively internationally for several decades. Relatively little attention has been given to the gender pay gap in Irish Higher Education, however. Just one study focusing specifically on the GPG in Ireland has been published since Ruane and Dobson's (1990) "Academic salary differentials: some evidence from an Irish Survey". Galligan et al.'s (2020) "Gender pay gap reporting: Lessons from Queen's University, Belfast and Trinity College, Dublin" provides some useful comparisons between the major drivers of the GPG of two Universities on the island of Ireland, one under Irish legislation, Trinity College Dublin (ROI), and one under UK legislation, Queens University (NI). Studies investigating gender equality in HE in the Irish context have predominantly interrogated broader gender concerns (O'Connor and Irvine 2020). Other focuses of investigations include the historically patriarchal nature of the structure and culture of Irish HE institutions (O'Connor 2020), and organizational resistance to gender equality in Higher Education (Hodgins et al. 2022). Multiple evaluations of the effectiveness of Athena Swan in reducing gender inequalities in Irish HEIs have also been presented (O'Mullane 2021, 2023; Drew 2022; O'Connor and Irvine 2020).

Major contributors to the GPG identified in the literature that go some way in explaining trends in University of Galway's pay gap analysis include:

- vertical segregation whereby women are underrepresented in the senior levels of authority and are frequently overrepresented in lower-paid jobs and sectors (Eurostat 2018; Zeng 2011). Fain (2011) reports that it takes organizations longer to change gender composition at management level than it does at lower levels, and Bain and Cummings (2000) conclude that there are significant gender differences in opportunity for promotion into full professorship in academia in particular.
- The glass ceiling phenomenon where deeply embedded, unseen, barriers preclude women and minorities from upward mobility within an organization (Blau and Kahn 2017). A number of studies (mostly conducted in the private sector) also confirm the presence of a glass ceiling, where women face invisible barriers that prevent them from accessing promotion to management positions (Bishu and Alkadry 2017; Bjerk 2008; Cook and Glass 2014; Gorman and Kmec 2009). An important aspect of this trend is that it manifests at the higher levels of organizational hierarchies, it intensifies over the course of an individual's career and cannot be explained by factors related to lack of job competency skills (Cotter et al. 2001). Zeng (2011) specifically identifies that in addition to preventing women and minorities from acquiring equal employment opportunities, this phenomenon also establishes inequalities in job-related outcomes such as income and occupational status.
- The sticky floors phenomenon explains the systematic ways in which women and minorities are denied opportunities to progress from the lower level of their organizations. This trend highlights the significant pay gap that exists between each tier of the wage distribution and the resulting concentration of women and minorities in lower levels of organizations (Xiu and Gunderson 2014; Fang and Sakellariou 2011). Arulampalam et al. (2007) and Xiu and Gunderson (2014) highlight how the concentration of women in lower-paying jobs results in depressed wages for women. The barriers to accessing management positions mean lower economic returns for women, hence widening the pay gap between men and women.

In relation to University of Galway, the impact of vertical segregation and the glass ceiling phenomenon are reflected in the academic and PMSS staff categories with an underrepresentation of female staff at higher grades and an overrepresentation of women in lower grades. The sticky floor phenomenon is visible in the PMSS category, in particular,

as will be discussed later in the paper. Studies have also identified less directly observable, but nonetheless significant, contributors to the GPG, including:

- The effect of work hours, unpaid work and family responsibilities. According to Eurostat (2018), only 8% of men in the EU work in part-time roles, whereas almost a third of women across the EU (31%) do so. Studies indicate that women are oftentimes punished for this time away from work with women suffering a part-time ‘pay penalty’ (Blau and Kahn 2017; Light and Ureta 1995). A study carried out by the UK Office of National Statistics in 2018 indicates that the median hourly pay is higher for both men and women if they work full-time compared with part-time workers, but that men are proportionally more likely to work full-time than women. The report reveals that at younger ages (16 to 21) men’s jobs are split almost equally between full-time (51.2%) and part-time (49.8%) but, between the ages of 30 to 39 (91.3%) and 40 to 49 (91.3%) more than 90% of men’s jobs are full-time. Women, however, are less likely to work full-time, with only 61.1% and 57.6% of women’s jobs being full-time for ages 30 to 39 and 40 to 49 respectively (Evans 2018).
- Blau and Kahn’s (2017) study similarly observes that women, due to family responsibilities, generally lead shorter and more discontinuous work lives which in turn affects not only the rate at which they progress in their careers but can also reduce the amount of development opportunities and training they participate in, which can have a more long-term impact. As stated by Blau and Kahn “smaller human-capital investments and reduced labor-market experience will lower their relative earnings” in the long term, a theory that merits exploration in future papers.
- The ‘motherhood penalty’, is a term that describes the phenomenon whereby working mothers are, often unconsciously, considered less competent because they may not have the same capacity to work as a man, or non-mother while having to take care of their children. As a result, these women can, in certain circumstances, earn less than men and non-mothers and/or their career progression can be negatively affected (Eden 2017; Correll et al. 2007).

Though initial analysis indicates that dynamics such as the “glass ceiling” and “sticky floor” do play a role in University of Galway’s GPG, this article is primarily a case study, though it does provide the necessary basis for a theoretical study quantifying the prevalence of the above phenomena and modeling the impact of potential interventions.

University of Galway was the first Irish Higher Education Institution (HEI) to commission independent analyses of its GPG on a systematic and annual basis. It is leading the way in the examination of the GPG in an Irish HEI and will provide a framework by which the GPG at other Irish HEIs can be examined. It is anticipated that this study will be of significant interest considering Ireland’s introduction of regulations in 2022 requiring organizations with more than 250 employees to report on their GPG, the reasons behind any differentiations, and measures that will be introduced to reduce these differentiations.² University of Galway is currently leading a sectoral project with funding from the Higher Education Authority (HEA) via the Gender Equality Enhancement Fund to undertake an analysis of some of the recent key findings in relation to the GPG in Irish higher education institutions drawing on the 2022 data in phase 1 of the project.

The GPG in Higher Education and elsewhere has been studied extensively internationally (Blau and Kahn 2017; Bichsel and McChesney 2017; Brower and James 2020). This paper will add to these discussions by focusing on the Irish HE context, using University of Galway as a case study. There has also been a growing interest in the GPG at European level in recent years. The President of the European Commission, Ursula von der Leyen, put closing the gender pay gap on the EU’s agenda, and committed to new measures, including binding pay transparency procedures, within the first 100 days of her mandate in a bid to tackle the EU’s 15% gender pay gap (Peter-Hansen and Rafaela 2022). In addition, the European Commission developed an Action Plan (2017–2019) which prioritized eight areas for action to address the underlying causes of the gender pay gap. These efforts were largely unsuccessful, however, with the GPG only decreasing by 0.3 percentage points between

2017 and 2018 for the EU-28 (European Commission 2020).³ The EU has been promoting a voluntary approach to pay transparency since 2014 and introduced new binding measures for member states in March 2021.⁴ Thus, uncovering where University of Galway, and Irish HE more broadly, sits is in line with the EU approach, and the lack of critical engagement in this area in terms of Irish HE is pertinent at this time.

This paper begins by providing a detailed view of the 2022 GPG report (based on the snapshot date of 30 June of that year). This is followed by an analysis of the major trends in relation to the GPG at University of Galway since 2018, including what has been learned and how this has impacted the data gathered. The final section focuses on the measures that University of Galway has introduced to reduce the GPG over the past number of years and what the University's next steps will be.

2. University of Galway

University of Galway was founded in 1845 as Queen's College Galway. Its name was changed to the National University of Ireland, Galway in 1997, and then University of Galway in September 2022. As of June 2022, the University had 19,845 students enrolled across 69 undergraduate and 357 postgraduate program pathways across 20 schools. Schools are organized into four Colleges: the College of Arts, Social Sciences, and Celtic Studies; the College of Business, Public Policy and Law; the College of Science and Engineering, and the College of Medicine, Nursing & Health Sciences.

In June 2022, the University employed 2503 staff: 925 academics (37%), 638 researchers (25.5%) and 940 Professional, Managerial and Support Service staff (37.5%)—see Table 1. Since gender balance and pay rates can vary greatly for these groups, the GPG within these three cohorts will be discussed separately.

Table 1. Employee Numbers, by contract type, June 2022.

Staff Category	Contract Type	Indefinite		Permanent		Temporary		Total
		Female	Male	Female	Male	Female	Male	
Academic	Full Time	56	21	314	372	93	59	925
		14	13	284	339	19	25	694
	Part Time	42	18	30	33	74	34	231
PMSS	Full Time	7	8	475	211	180	59	940
		6	6	357	200	139	55	763
	Part Time	1	2	118	11	41	4	177
Research	Full Time	17	29			312	280	638
		8	28			262	260	558
	Part Time	9	1			50	50	80
Total		80	68	789	583	585	398	2502

University of Galway's academic career structure includes Lecturer Below the Bar (LBB), Lecturer Above the Bar (LAB), Senior Lecturer (SL), Personal Professor (PP)⁵ and Established Professor (EP). Staff in these grades account for nearly 75% of all academic staff in the university. Their hourly pay is shown in Table 2.

Table 2. Hourly pay rates for primary academic grades (June 2022).

Grade	LBB	LAB	SL	PP	EP
First Point of the Scale (Post 1995)	€21.45	€32.74	€34.84	€70.20	€60.03
Last Point of the Scale (Post 1995)	€30.00	€42.59	€49.37		€75.78
Number of Points on Scale	11	5	8	1	6

Staff at the LBB may apply for non-competitive progression to LAB following 12 months of service. Prior to 2020, promotion to SL was competitive, and calls for promotion to SL were irregular. A new criterion-referenced academic promotion scheme with bi-annual calls was introduced in December 2019. Limited opportunities in the previous promotion scheme led to issues that are still impacting the GPG at University of Galway, as will be discussed later.

There are three Research Staff grades: Research Assistant (RA), Research Fellow (RF) and Senior Research Fellow (SRF). Progression from RF to SRF is possible where an individual researcher meets certain criteria. The number of researchers who progress is low; however, as contracts tend to be two years or less and are associated with research funding. The SRF category makes up approximately 25% of the overall research staff population (2020).

At University of Galway, all other staff—mainly those in administrative and technical roles—are classified as Professional Managerial and Support Service (PMSS) Staff. There have been no promotion rounds for PMSS Staff since 2008 due to a government embargo imposed on the sector. The only route for promotion has been via competitive internal vacancies up to Administrative Officer (grade 6) and external competition for grades above.

3. Materials and Methods

There are two main measures of the GPG: the mean GPG and the median GPG. The former is defined as the difference between the mean hourly wage of men and women across a workforce, expressed as a percentage of the mean hourly pay for men; the latter is defined analogously but is based on median hourly wages. A positive pay gap means that, on the whole, men are paid more than women. The GPG captures the extent to which men and women are equally represented across different pay grades in an organization; it should not be confused with the concept of pay parity (“equal pay for equal work”)—which is enshrined in Irish equality legislation (Employment Equality Acts 1998–2015)⁶.

Both the mean and median GPGs are intrinsically significant and relate to different phenomena. The mean GPG is based on the (standard arithmetic) average salary of all employees. Thus, it is of particular interest to an organisation’s management because it summarises salary differences for the entire cohort and its calculation includes every individual member of staff. As such, it is sensitive to any outliers. This means that in an organization with a large mean GPG, typically, most highly paid staff are men, while women are overrepresented among the lower paid.

The median salary is that of the typical member of staff. That is, if all staff in a cohort are listed by their earnings, from lowest to highest, the median pay for that cohort is that of the person in the middle of the list. The median salary is not influenced by outliers and tends to be the data point of most interest to an organization’s employees. Together, both metrics are required to obtain a comprehensive summary of an organization’s employment and pay practices, and to understand the major drivers of pay differentials.

Since 2018, University of Galway has engaged external consultants to compile a report on the GPG at the institution; KPMG in 2018, and, since 2019, PwC. This was motivated both by the experience those companies had in GPG analyses in other sectors in Ireland and the UK, and the wish to engender trust in the University of Galway community.⁷ Given the staff profile, University of Galway’s senior leadership team was concerned with the potential for significant GPG issues, particularly among academic staff. For example, at that time, only 16% of female academic staff held senior posts, compared to 42% of male academic staff. Consequently, the University committed to auditing the GPG annually so that the results could be reported to its community and Governing Authority and included in its Equality Diversity and Inclusion (EDI) annual report.

31st March annually was chosen as the snapshot date for the GPG analyses for 2018, 2019, 2020 and 2021. In 2022, this was moved to 30th June, in line with other higher education institutions under the auspices of the Irish University Association (IUA). Results were prepared for the institution as a whole, as well as for the Academic, PMSS and

Research Staff cohorts. All staff on University of Galway's payroll (excluding casual staff)⁸ were included in the reports. KMPG and PwC prepared their calculations based on the following categories and contracted hours:

- Academic: 37 h for part-time teaching assistants (PTTA) and 40 h for all others (staff in this group do not have a specific number of contracted hours, so a notional working week of 40 h was used to calculate hourly pay rates)
- PMSS: 39 h for technicians, and 36 for all others
- Research: 39 h

Pay elements included basic pay, and related duties payments, allowances (Head of School Allowance, Mobility Allowance, Pay Allowance), (non-pensionable) piecework (corrections, etc).⁹ Excluded pay elements comprised pay in lieu of holidays, occasional work, academic/miscellaneous, and pay arrears. The University does not pay bonuses or benefits in kind to staff, so these were not included in the payroll data. All calculations are based on the contracted hourly pay rate of each individual, regardless of whether they were full-time or part-time.

University of Galway's GPG in June 2022 is summarised in Table 3. As shown, the mean GPG on that date was 18.6%, significantly higher than Ireland's national mean GPG of 12.6% (PWC 2023), which is roughly in line with the overall EU Gender Pay Gap of 12.7% (Eurostat 2021). It is notable that University of Galway has a higher mean GPG than the UK third-level sector average, which is 15.5%; however, it is closer to the values recorded for universities of similar size, history and mission, and which include a medical school, such as Newcastle University (18.1%) and Imperial College London (17.2%) (CIPD Ireland 2021).

Table 3. The Gender Pay Gap at University of Galway (June 2022).

	Mean GPG	Median GPG	Headcount
University of Galway (Formerly NUI Galway)	18.6%	15.5%	2502
Academic	21.3%	5.0%	925
PMSS	14.2%	15.2%	940
Research	6.0%	8.1%	638

The median GPG at University of Galway was 15.5%; this is significantly lower than the mean and is worthy of deeper discussion. Gaining insight requires a more detailed examination of the drivers of these gaps by considering, separately, the academic, research and PMSS cohorts. For example, the mean GPG for academic staff is over 30% larger than for PMSS, whereas the median is less than one-third. Consequently, the drivers of the pay gap are likely to be very different for these two groups, as are the steps needed to address it.

4. Discussion

4.1. The GPG for Academic Staff

It is well understood that academic staff pay is a significant driver of the GPG in Higher Education. This contention was supported by a sector-level analysis conducted by UCEA (Universities and Colleges Employers Association) and five HE trade unions in the UK (EIS, GMB, UCU, UNISON and Unite)¹⁰ which found that GPGs within grades were in most cases zero when dealing with administrative and professional service staff, researchers and lecturers, with the GPG instead appearing at the higher levels and the professorial grades in particular, based on median basic salary for all staff (full-time and part-time) (HESA 2016–2017). Blau and Kahn's (2017) analysis of wages in academia similarly indicates that the largest pay gaps exist at the higher end of the wage distribution and that these gaps have declined much more slowly.

The mean GPG for academic staff at University of Galway (2022) stands at 21.3%, while the median is 5.0%. The value for the mean is quite startling. It is driven by two factors: the majority of the highest-paid staff (i.e., the professoriate and joint academic/consultant

posts) are men, and the majority of the lowest-paid are women (i.e., hourly contract staff, PTTA, LBB, LAB, etc.), with the median academic man and woman being in the LAB grade. In detail, men account for 72.3% of the upper quartile of earners, but only 39.6% of the lowest quartile. The radically different distributions of salaries of men and women are further highlighted by the differences between the mean and median for the two groups. The mean hourly pay rate for women is €39.91, which is very close to the median of €40.19. For men, the mean hourly pay of €50.72, is significantly above the median of €42.30, showing that their salaries are heavily skewed towards higher pay rates.

The pay distribution for academic staff, by quartile, is shown in Figure 1. It reveals pay disparity at both extremes: academic women account for 60.4% of the staff in the lowest paid quartile, but just 27.7% in the upper quartile. Since there are 925 academic staff in total, there are (approximately) 231 in each quartile. Of those in the Lower Quartile, 60.4% are women: a total of 140 individuals. There are 463 women in academic posts, so 30.2% of all academic women are in the Lower Quartile (if there was no disparity, one would of course expect 25% of women to be in each quartile). A similar calculation shows that just 13% of academic women (i.e., 64 individuals, which is 27.7% of 231) earn enough to be in the Upper Quartile.

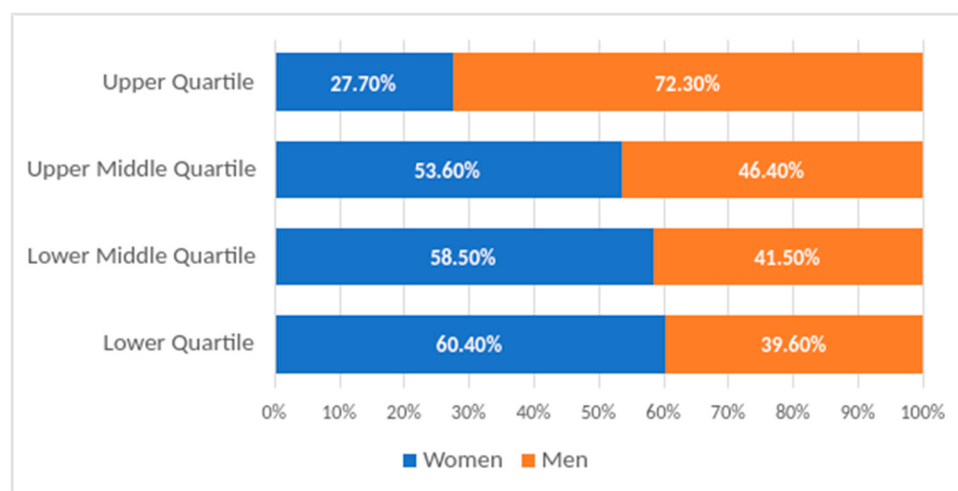


Figure 1. Proportion of women and men in each pay quartile for academic staff.

These numbers reflect the climate in HE on both a national and international level where, historically, women have been under-represented in senior academic positions, particularly in the professoriate. According to the Irish Higher Education Authority in 2019, women constituted 42% of associate professors and 25% of full professors at university level (HEA 2020). This is in line with observations that, across the EU, women make up 24% of those at full professorial level (European Commission 2020). University of Galway shows similar trends. The University has two professorial categories Personal Professor (PP) and Established Professor (EP). The PP grade is a restricted version of the full Professor grade in other institutions and is appointed on a single salary point at the midpoint of the Established Professor salary scale (see Table 2). It is not comparable with Associate Professor grades in other Irish HEIs. Women currently represent 29% of the Professoriate—combined PP and EP grades—at University of Galway. The underrepresentation of women in the highest grades for academic staff resembles the well-known ‘glass ceiling’ phenomenon, which is used to describe the presence of invisible barriers which impede women’s and minorities’ upward mobility in organizations (Cotter et al. 2001).

Over the past decade, the percentage of women holding professoriate posts has increased globally. At University of Galway, the proportion of women in the Professoriate (PP and EP) has increased from 14% in 2017 to 23% in 2020 (University of Galway 2021). This compares to the average in Irish universities where the proportion of women as full professors increased from 19% in 2013 to 27% in 2020 (HEA 2021). This is an increase

of roughly one percentage per year, which, as O'Connor and Irvine note, indicates slow progress (O'Connor and Irvine 2020). The rate of progress at University of Galway was actually much higher (on average, 3% per year from 2017 to 2020) albeit from a lower base but from 2020 to 2022 reduced to roughly 1% per year.

Drawing on a unique data set, Brower and James (2020) found that in New Zealand, “a man’s odds of being ranked professor or associate professor were [are] more than double a woman’s [odds] with a similar recent research score, age, field and university”. The fact that the likelihood that women will be able to access professorship levels in Irish universities still remains much lower than men has also been highlighted by O'Connor and Irvine (2020). They calculate that the odds of becoming a professor for women are 1:13 on average, as compared to 1:5 for men. In the Irish HE System there are mainly two routes into senior academic posts: (i) direct recruitment to the Associate Professor or Full Professor grades and (ii) internal promotion processes. Both require applications and have varying success rates. Focusing on both of these processes, O'Connor and Irvine posit that assumptions that the aforementioned lower rate of women entering into the professoriate simply reflects women’s maternity leave, caring activities, lack of ambition, and so on, are difficult to support considering the variation in women’s average “chances” of accessing a professorship among Irish universities; these range from 1:9 to 1:27 for women (O'Connor and Irvine 2020, p. 11). Men’s average “chances” of a professorship at 1:5, on the other hand, show little variation (1:4 to 1:7). O'Connor and Irvine note that though increases in the number of professorships have facilitated slight improvements in women’s chances, men’s chances have remained the same (O'Connor and Irvine 2020, p. 11). O'Connor and Irvine also highlight that although the percentage of female applicants for professorships rose from 26% to 32% between 2007 and 2017, the percentage who were promoted rose only marginally from 27% to 29%. The success rate for women being promoted to professor level also actually declined from 50% in 2007–2012 to 45% in 2013–2017 (O'Connor and Irvine 2020, p. 11; Gender Equality Task Force 2018, p. 75). At the associate professor level, on the other hand, the increase in the percentage applying was mirrored by an increase in the percentage promoted: increasing from 29% to 35% in applications and 27% to 35% in those promoted (O'Connor and Irvine 2020, p. 11; Gender Equality Task Force 2018, p. 74). These examples clearly indicate that there is a particular issue in generating change at the professorial level in the Irish HE system (O'Connor and Irvine 2020, p. 11). This slow pace of change is similarly reflected in University of Galway’s professorial grades (PP and EP) where, as has already been mentioned, the number of women increased by just 9% between 2017 and 2020, despite the fact that several targeted interventions were introduced for this specific cohort of staff, as will be discussed later.

4.2. GPG for Professional, Managerial and Support (PMSS) Staff

University of Galway GPG reports treat staff in professional, administrative and technical posts as a single cohort, denoted PMSS.¹¹ For this group, the mean GPG is 14.2%, which is lower than the GPG for academic staff, and much closer to the national average of 12.6% (PWC 2023). Women outnumber men in all pay quartiles and account for 71% of staff in the upper-middle pay quartile and 56% of those in the upper quartile. However, since 70% of all members of PMSS are women, this cohort is significantly under-represented in the upper quartile and over-represented in the lower-middle quartile (see Figure 2).

There are 940 PMSS Staff in total, and 235 in each quartile. Of those in the Upper Quartile, 55.9% are women: a total of 131 individuals or 19.9% of all PMSS women. A similar calculation shows that there are 37.3% of PMSS men are in the Upper Quartile. If there was no disparity, 25% of women and men would be in each quartile. This state of affairs is a symptom of the so-called ‘sticky floor’ phenomenon which describes the systematic ways in which women and minorities are denied opportunities to advance from the lower echelons of their organizations (Cotter et al. 2001). The most senior PMSS posts, i.e., those with a salary entry point of €103,266 or higher (thus all falling in the upper quartile) are advertised externally in the first instance and draw from a potentially wider

pool of external applicants. It is compounded by the fact that, since 2008, there have been no promotion rounds for PMSS Staff other than the opportunity to apply for advertised vacancies, due to a sectorally imposed embargo. The prolonged lack of career development support for PMSS Staff is likely to further limit career progression prospects for women in lower grades when competing for advertised vacancies as compared with external applicants. The trends described reflect the concept of vertical segregation whereby women are automatically excluded from opportunities for growth when they are systematically concentrated in lower-echelon positions, or when they are denied promotion opportunities that lead to management positions (Xiu and Gunderson 2014, Blau and Kahn 2017; Bishu and Alkadry 2017; Cotter et al. 2001; Zeng 2011).

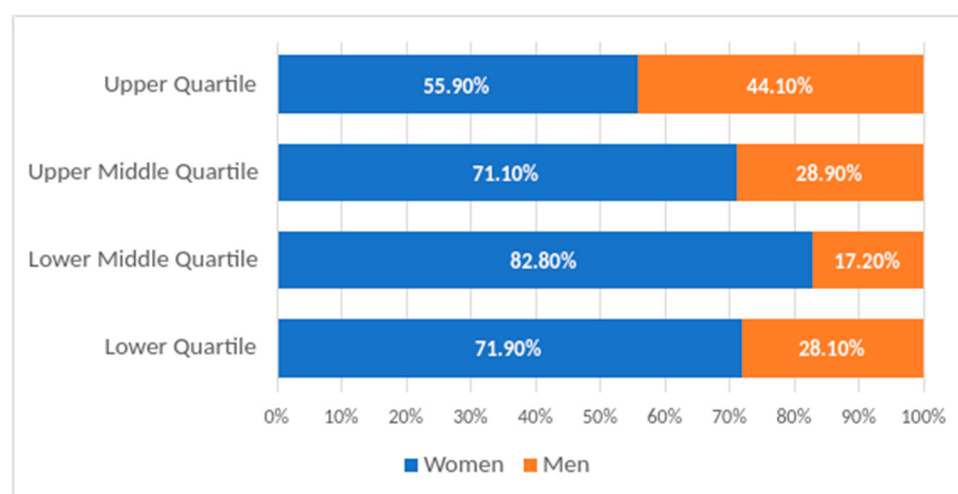


Figure 2. Proportion of women and men in each pay quartile for PMSS Staff.

The median hourly rates for women and men (in the professional support and technical staff category) are, respectively, €27.15 and €32.01, with a median GPG of 15.2%. The median pay rates are, approximately, 30% lower than the corresponding values for academic staff, viz €40.19 for women and €42.30 for men. Since women outnumber men by more than 2-to-1 in PMSS grades, these values contribute significantly to the institutional median GPG. More precisely, the overall institutional median hourly pay rates for women are exactly the same as that for the PMSS cohort, whereas it is slightly higher for men. However, the distributions of salaries of men and women are quite similar (the mean exceeding the median by a small percentage).

All of this points to the main issue being the lack of upward progression for PMSS Staff of the lower middle quartile. Another compounding factor is the number of points in PMSS grades. For example, 60% of all PMSS Staff are in one of Grade 2, 3, 4, and 5 posts: these have a combined 37 points on the applicable salary scales. In contrast, the three Lecturer grades (LBB, LAB, and SL) which include 64% of all academic staff, have a total of 23 points on their salary scales. Furthermore, University of Galway is currently phasing out the LBB Academic grade, so soon the Lecturer grades will have only a total of 13 points on their salary scales. Thus, the fact that it takes so long for a member of PMSS staff to reach the highest paying point in their grade adversely affects the University's median GPG. Since there are far more women than men in this cohort, collectively the impact is greater on women. This is a point highlighted by O'Connor and Irvine (2020), who note that the gender profile of senior management in Irish HEIs indicates that a systematic issue exists (both in Ireland and globally) whereby the senior management of HEIs tend to be dominated by men and/or do not reflect the gender make up of staff in lower quartiles. The situation at University of Galway is somewhat different or, at least, less clear: just over 70% of PMSS Staff are women, and women outnumber men in all pay quartiles. For example, 56% of PMSS Staff in the highest pay quartile are women, so the most obvious explanation of the observed mean pay gap of 14.2% is due to women outnumbering men by

a ratio of nearly 5 to 1 in the lower middle quartile. Nonetheless, it is plausible that women are proportionately underrepresented in the very highest grades, and that for such a large and diverse cohort, data for each quartile is not sufficiently granular to explain the overall observations. Therefore, one of our findings is that future reports should include the gender composition of the highest and lowest deciles. Gender differences in workplace authority in HE are particularly significant when one considers women's limited access to legitimate workplace autonomy over an organization's operation and personnel functions. [Huffman and Cohen \(2004\)](#) argue: 'Authority is a highly valued attribute of jobs because it is status conferring and shapes how financial rewards are allocated to workers' ([Bishu and Alkadry 2017](#), p. 72). Thus, when there is a lack of women in powerful senior positions, inequalities can continue even if changes are occurring at lower levels. [Fain \(2011\)](#) reports that it takes organizations longer to change gender composition at management level than it does at lower levels. The findings of these studies support the argument that there is a need for a flexible cascade model to guide both recruitment and promotion processes for academic and PMSS Staff as suggested (for academic staff) by the 2016 report on gender equality in Irish higher education and the follow-on Action Plan ([HEA 2016; Gender Equality Task Force 2018](#)).¹²

4.3. The GPG for Research Staff

We note that the GPG for the research staff cohort is much lower than the previous two groups examined: the mean pay gap is 7%, and the median is 2.2%. This comparatively low gap can be explained by noting that there is a gender balance within the group (50.6% female and 49.3% male). Furthermore, since few people remain in such posts for more than 2–3 years, a very limited number progress to Senior Research Fellow (SRF). Therefore, the majority are on the same pay scales. Consequently, this cohort is not a significant driver of the institution's GPG.

4.4. Impact of Certain Cohorts on the GPG

Careful analyses of the GPG data for University of Galway have revealed that certain cohorts may impact significantly on the organization, particularly where there is a gender imbalance within the cohort and salaries that differ significantly from the mean. In this study, two such groups are:

- the Part-Time Teaching Assistant (PTTA) staff: 60% are women, and the mean pay is 67% of the institutional mean;
- Medical consultants: 15% are women, and the mean pay is more than 3 times the institutional mean.

In the 2022 GPG study, it was found that omitting the PTTA staff from the calculation of the mean GPG for Academic Staff, reduced the mean GPG from 21.3% to 20.6%. However, counter-intuitively, excluding PTTA staff from the institutional data resulted in an increase of 0.4% to the mean GPG.

The impact of the academic/medical consultant cohort is even more dramatic. Removing them from the calculations reduced the mean GPG for Academics to 15.9% (a reduction of 5.4%) and the overall GPG to 14.6% (a reduction of 4%). This is in spite of the fact that this cohort accounts for little over 1% of the University's employees. These results suggest that targeted interventions may be needed to address these dynamics if the institution hopes to significantly reduce its GPG.

4.5. A Comparison of GPG Data from University of Galway, 2018–2020

There was a noticeable reduction of 2.1% in University of Galway's mean GPG between 2018 and 2019, but this progress has since stagnated. This trend of a GPG not reducing, and even increasing, despite an increase in the number of women in senior levels, as a result of interventions introduced, is not uncommon and was also referenced in [Galligan et al. \(2020\)](#) in relation to Queen's University, Belfast which saw similar pauses in progress. Slight fluctuations in the mean GPG are discernible between 2018 and 2022 due to various

contributing factors. Examining the 2020 data, changes were largely due to the net impact of employee movement. Resignation/retirements, recruitment and pay changes were found to be the key reasons for changes in the mean pay gap during this period with leavers adding 1.5% to the overall 18.7% mean GPG, joiners reducing the GPG by -1.9% , and pay changes reducing the GPG by -0.2% .

While it is clear from the data that it will take time to significantly reduce the gender pay gap, annual GPG analysis has enabled a deeper understanding of the underlying gender issues across recruitment, career progression, promotion, and leavers. The apparent jumps in the median GPG for academic staff observed in Table 4 are explained as follows. In 2020 (for example), the median pay for men is €41.53, which equates to the pay rate for the fifth (i.e., top) point of the LAB scale (see Table 2). That year, the median pay rate for women was €39.08, which corresponds with the fourth point. However, there are few women at that point (since progression between points is automatic). In 2018 and 2020, it happened that the median woman was on the third point. Since the difference in pay is the same between each successive point, this corresponds to a doubling of the median GPG.

Table 4. University of Galway GPG Data 2018–2022.

Year	Mean GPG: All Staff	Median GPG: All Staff	Mean GPG: Academic	Median GPG: Academic	Mean GPG: PMSS	Median GPG: PMSS	Mean GPG: Research	Median GPG: Research
2018	20%	18.4%	23.2%	11.8%	14.4%	16.8%	7.6%	0.0%
2019	17.9%	12.0%	21.3%	5.9%	12.8%	10.2%	6.7%	0.0%
2020	18.7%	12.0%	22.1%	5.9%	12.7%	10.2%	7.0%	2.2%
2021	18.0%	10.9%	22.6%	11.8%	13.2%	12.0%	4.6%	2.5%
2022	18.6%	15.5%	21.3%	5.0%	14.2%	15.2%	6.0%	8.1%

In line with University of Galway’s Strategy 2020–2025 and EDI Strategy 2020–2025, which commit to substantially reducing the GPG, concrete measures have been put in place to address the GPG. Increasing the proportion of women in senior academic grades was one of the University’s core objectives. University of Galway is guided by gender quotas based on the flexible cascade model for academic promotions. Application of quotas has not been required to date in the academic promotion process, but application, shortlisting and success rates are carefully monitored for gender representation with a minimum of 30% of men and women at the shortlist stage for all senior posts recruited.

In 2019 the University instigated a three-year ‘Promotions Project’, based on the University of Tromsø model (Rice 2011). The project aimed to support academic women who were imminently preparing to apply for promotion. Support included career development workshops and individualized CV analysis by a suitable senior academic. Protected time to write grants/papers, and travel for consultation were provided where required. A research grant of €3000 was also offered to female SLs to consolidate research development. 77 women participated in the Promotions Project, 15 at LBB, 52 at LAB and 10 at SL. Analysis of the career trajectory of these women reveals that:

- 11 of the 15 women at LBB have moved to higher grades. 10 progressed to LAB, and 1 has since been promoted to SL.
- 25 of the 52 women at LAB have since been promoted, 20 to SL, and 5 to Professor.
- 3 of the 10 women at SL have since been promoted to Professor.

A number of grants have also been established to support academic women returning from extended periods of caring (e.g., maternity/adoptive) leave. Research grants of €10,000 are available for women on their immediate return from leave in addition to grants of €5,000 for academic/research staff who had an extended period of unsupported leave connected with caring at any point during their academic career. In total, 102 grants were awarded between 2016/17 and 2021/22. The funds were used for the hiring of Research Assistants, teaching buy-out, the purchase of lab supplies, conference attendance and a

range of other activities depending on the disciplinary needs of awardees. An assessment of how women have fared since being awarded these grants indicates that:

- 29 of the 61 staff who were LAB when they received one of the grants have since been promoted: 25 to SL, 1 to Professor In, and 2 to Associate Professor¹³.
- 6 of the 7 staff at LBB were promoted: 5 to LAB, and 1 to SL.
- 3 of the 24 staff at SL were promoted: 1 to Professor In, and 2 to Associate Professor.

Whether these grants and the Promotions Project had a direct impact on these women's promotion success is not certain, but anecdotal evidence suggests that they did allow awardees some much-needed support.

The University also encouraged Schools to submit applications to the Senior Academic Leadership Initiative (SALI) for new and additional academic leadership posts (HEA 2019). The SALI is funded by the Higher Education Authority to help progress gender balance among academic staff at senior levels (three annual rounds to date). University of Galway was awarded funding and has recruited three new Professorship posts in the areas of Engineering, Older Adult Health, and Chemistry. A fourth new post has also been recommended for funding and is expected to be approved at a later stage when funding becomes available.

A new criterion-referenced academic promotions scheme was introduced in 2019, providing bi-annual opportunities to apply for promotions to senior academic grades. The scheme takes "time out" for caring purposes or non-academic circumstances into consideration in the assessment of applications, by applying a "discount" for outputs relative to opportunity (a practice in place since 2016/17). Additionally, a new Associate Professor grade has been introduced in 2022 to create more promotion opportunities for Professors and align grades with the rest of the Irish Higher Education Sector.

The University provides ongoing support for women from all staff categories who aspire to leadership roles in higher education via participation in the Aurora Women's Leadership Development Programme since 2015 and an Institutional Mentoring Scheme, launched in 2021.

A new Job Sizing/Evaluation Framework was rolled out in May 2022 to facilitate the career progression of PMSS Staff; this will be monitored for an anticipated reduction in the median GPG within a short timeframe.

The positive impact of these measures is evident in the increase in the proportion of women in senior academic grades, with the proportion of women in the Personal Professor grade increasing from 21% in 2018 to 28% in 2020, and the Senior Lecturer grade increasing from 42% to 47%. Although this has not yet led to a tangible reduction in the GPG, it is expected that this will have an impact alongside actions related to recruitment, retention, and career development in time. The effect of University of Galway's first four years of introducing initiatives to reduce the GPG indicates clearly that this is a long-term process, and that the pipeline overall must be strengthened before a reduction in the GPG will occur.

5. Conclusions

In this article, the importance of separately analyzing both mean and median GPG for a specific third-level educational institution has been clearly demonstrated. In the most comparable study, of the GPG at Trinity College Dublin, Galligan et al. (2020) reported only on the median "since high-earning outliers can distort mean figures". That study reports a median GPG of 5.9% for academic staff, based on a 2016 study. In the present study, a median GPG of 5% for academic staff at University of Galway in 2022 is presented, and a mean GPG of 21.3% for the same cohort, showing that both quantities need to be reported and analyzed. This is not to compare the reported GPGs in these institutions directly, since the years and, especially, the methodologies, are very different: it serves to highlight the lack of correlation between the mean and median GPG. The lack of correlation is further emphasized by the data in Table 4, which shows the median GPG for academic staff is halved from 2018 to 2019, before doubling from 2020 to 2021, while at the same time the mean GPG hardly changes. Although the changes in the median GPG are easily explained

(in some years, the difference between the median woman and man is a single point on a salary scale, and in others, it is two points), it emphasizes that one measure cannot be taken as a proxy for another.

A comparison of the Galligan et al. (2020) study and the present one also highlights the challenges involved in producing a sectoral analysis, since the methodologies, are so different. Nonetheless, it is important that such an effort be pursued, for example, to provide sufficient data to calculate the correlation (or lack of it) between different measures of the GPG.

Accepting that both the mean and median GPG need to be analyzed, this study demonstrates that, in the academic institution, the mean GPG is heavily influenced by the earnings of academic staff, while the median relates to the earnings of PMSS staff. This last point relates to actions needed to reduce the GPGs. Thus far the University has been focusing on the promotion process for academic staff; it now needs to turn its attention to the PMSS staff category. The gendered makeup of the highest PMSS earners will need to be examined in greater detail. Initial findings suggest that support for female staff in this cohort will likely be needed. The impact of key interventions to date has been slow, but a deeper analysis of major contributors followed by more tailored interventions will ensure sustained progress in reducing the GPG at University of Galway.

Finally, this study suggests that the calculation of an organization's GPG is not an exercise to be repeated each year without consideration, annually, as to the information that should be gathered. Specifically, each year of GPG analysis has taught University of Galway more about the major contributors to the gender pay gap. Every report improved the clarity of the issues as the University delved deeper and extracted key data. The impact on the GPG of the PTTA and academic/medical consultant cohorts, as discussed in Section 4.4, is an example of this. In future reports, providing data for the highest and lowest deciles will be another area that will be explored.

Since the goal is to reduce the GPG, it is essential to understand the potential impact, or lack of it, of any specific intervention. With this in mind, we plan to follow this study with a more technical paper which will model the expected change in the GPG based on current demographics and hiring/retirement trends and quantify the impact of proposed measures designed to reduce the GPG in a meaningful way over the next 5 to 10 years.

Author Contributions: Conceptualization, P.A.S. and A.C.; Methodology, L.L., P.A.S. and N.M. (Niall Madden); Validation, N.M. (Niall Madden); Formal analysis, L.L. and N.M. (Niall Madden); Investigation, L.L. and A.C.; Data curation, N.M. (Niall Madden) and N.M. (Nichola McNicholas); Writing—original draft, L.L. and N.M. (Niall Madden); Writing—review and editing, P.A.S., A.C. and N.M. (Nichola McNicholas); Supervision, P.A.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data supporting reported results can be found on the Office of the Vice President for Equality, Diversity and Inclusion website at: <https://www.universityofgalway.ie/genderequality/genderpaygap/> (accessed on 26 October 2023).

Conflicts of Interest: The authors declare no conflict of interest.

Notes

- ¹ See methodology section for more detail on mean and median and the category PMSS which a term commonly used in relation to Athena Swan.
- ² <https://www.gov.ie/en/publication/29606-what-is-the-gender-pay-gap-information-act-2021/#what-organisations-will-report-on> (accessed on 5 December 2021).
- ³ There are considerable differences between EU countries. The gender pay gap ranges from less than 5% in Luxembourg, Italy and Romania to more than 19% in Austria, Germany, Latvia and Estonia. In most countries, the GPG is decreasing, whereas it

is even growing in some. According to the latest EU report on the GPG- “The far largest part of the gender pay gap remains unexplained in the EU and cannot be linked to worker or workplace characteristics such as education, occupation, working time or economic activity the person works for.” See: https://ec.europa.eu/info/policies/justice-and-fundamental-rights/gender-equality/equal-pay/gender-pay-gap-situation-eu_en (accessed on 10 June 2020) and <https://www.eurofound.europa.eu/ga/topic/gender-equality> (accessed on 5 July 2020).

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0093> (accessed on 5 March 2021).

The Personal Professor (PP) grade in University of Galway is similar to a full Professor in other institutions, except the PP is appointed on a single salary point at the midpoint of the Established Professor salary scale. It is not comparable with Associate Professor grades in other Irish HEIs.

<https://www.ihrec.ie/guides-and-tools/human-rights-and-equality-for-employers/what-does-the-law-say/eea-summary/#:~:text=The%20Act%20outlaws%20discrimination%20on,of%20employment%2C%20training%20and%20promotion> (accessed on 2 November 2021).

Gender Pay Gap Regulations, otherwise known as the Equality Act 2010 (Gender Pay Gap Information) Regulations 2017 came into force in the UK in April 2017. (See <https://gapsquare.com/gender-pay-gap-regulations/#:~:text=The%20Gender%20Pay%20Gap%20Regulations%2C%20otherwise%20known%20as%20the%20Equality, on%20their%20gender%20pay%20gap> (accessed on 11 June 2020). KPMG was the first to advertise their work in this area in Ireland and were the only company with any published track record in the Irish context when NUI Galway started reporting in 2016.

The University engages individuals to assist in the delivery of its academic programmes or for other services, these are considered “casual” or “occasional” staff. These include: Teaching Support Staff (TSS) not pensionable; Exam Correctors (Non-Statutory Staff); Occasional work (listed on the payroll payment form); Guest Lecture; Subject Specialist; External Examiner; Quality Reviewer. These individuals work less than 150 h per annum.

These include: Correction of script correction of essays, correction of orals correction of practicals, essay correctors, undergrad Invigilator, lab demonstration, payments for major thesis, standard invigilator, teaching evening arts.

EIS (Educational Institute of Scotland), UNISON (University and College Union Union of Public Sector Employees).

The category Professional, Managerial and Support Staff (PMSS) is used as this is the term from the internationally recognised Athena Swan Charter and is commonly used in Ireland, the UK and elsewhere.

A flexible cascade model whereby the proportion of women and men to be promoted or recruited is based on the proportion of each gender at the grade immediately below.

Professor In and Associate Professor are two new grades introduced in University of Galway. Associate Professor alligns to the Senior Lecturer grade, whereas the Professor In grade sits between Associate Professor and Established Professor, which is the highest Professorial grade.

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