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Tackling Occupational Segregation. Lessons from the Scottish Modern Apprenticeship Programme

Jim Campbell & Iona Brown¹

Gender based occupational gender segregation remains an enduring challenge everywhere and is a key contributor to the gender pay gap. The Scottish government has for a number of years been committed to tackling occupational segregation (Scottish Government, 2019). One of the ways in which they have attempted to alleviate horizontal segregation is through the Modern Apprenticeship (MA) programme (Skills Development Scotland, 2015). MAs are a publicly funded training programme in Scotland which gives individuals the opportunity to combine employment and training by following an industry designed framework. It was introduced in 1994 to address a perceived lack of intermediate skills in the labour market and is aimed primarily at 16-19 year olds, although it has been available to all ages since 2002. The MA programme is 'modern' in the sense that it has extended the concept of apprenticeship training into sectors of the economy not traditionally associated with 'on-the-job' training, such as retail, hospitality and childcare. Successful completion of the MA results in the award of an accredited work based qualification, most often a Scottish Vocational Qualification (SVQ) at the respective level.

Previous research has demonstrated that occupational segregation is a characteristic of the MA and reflected similar trends in the wider Scottish labour market (Campbell et al., 2011; Thomson, 2016). So for example boys tended to go into apprenticeships in construction and engineering (the traditional apprenticeships) whilst girls gravitated towards care and hairdressing and other service sector occupations. Consequently, a disproportionate share of public spending on MAs went to men because they tended to be concentrated in apprenticeships which had significantly longer training compared to the apprenticeship programmes where women dominated (Campbell & Gillespie,

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2017). The Scottish government has attempted to tackle occupational segregation through the Modern Apprenticeship Equalities Action Plan published in December 2015 (Skills Development Scotland, 2015). This set a target for Skills Development Scotland, the body responsible for administering MAs, to reduce to 60% the percentage of MA frameworks where the gender balance is 75:25 or worse by 2021 from its level in 2014/15 of 72% (Scottish Government, 2015, p.39).

This chapter will assess the extent to which that target has been met and discuss the implications for occupational segregation in the wider labour market. However, we will begin by looking at occupational segregation and why it is a problem and how the Scottish government intends to tackle it.

Occupational Segregation

Women across the world continue to face a variety of obstacles within the labour market due to their gender. Indeed, as Gulay Günlük-Sensen pointed out:

“Gender inequality prevails in the labor market of all countries, regardless of their level of development”. (Günlük-Sensen & Özar, 2001, p.248)

Gender based occupational segregation is arguably one of the most pervasive and enduring forms of gender inequality found within modern labour markets (Anker, 1997; Burchell et al., 2014). Men and women tend to be concentrated into certain occupations and industries based on their gender and gender stereotypes regarding what jobs they can do (Blau et al., 2013; Thomson, 2016; Thomson et al., 2005). For example, women being more suited for caring roles and professions, whilst men are viewed as more suited for areas like construction or engineering. Occupational segregation is problematic for women and the wider economy. It has a negative impact on women’s lives, restricting their income, economic and educational opportunities and their routes to progression within their occupation (Dolado et al., 2003; Thomson et al., 2005). It also one of the main factors behind the persistence of the gender pay gap (Thomson, 2016). Occupational segregation can constrict participation and productivity, uphold and reinforce skills gaps and shortages and restricts the flexibility of the labour market (Anker et al., 2003; Close the Gap, 2013).

Gender based occupational segregation can be horizontal or vertical. Horizontal occupational segregation refers to women and men being concentrated into certain occupations and sectors (Mavrikiou & Angelovska, 2020), for example, women being over-represented within caring, administrative, cleaning and catering roles (Close the Gap, 2013). It has been argued that horizontal segregation occurs as a result of stereotyped assumptions about the capabilities and preferences held by men and women, which leads to women being clustered into what is viewed as inherently 'female' occupations (Thomson, 2016). Typically, the occupations dominated by women are characterised by low-pay and low-status, and are viewed as being low-skilled, which in turn contributes to the gender pay gap (Anker, 1998; Couppié et al., 2014; Close the Gap, 2013; Murphy & Oesch, 2015; Thomson, 2016).

Vertical segregation occurs because women tend to be concentrated at the lower-end of workplace hierarchies, whilst men dominate senior managerial positions (Anderson et al., 2019; Burchell et al., 2014). This is sometimes referred to as the 'glass ceiling'. Anker et al (2003) note that vertical segregation often results in women receiving lower pay, fewer opportunities for advancement and poorer working conditions.

Occupational segregation is problematic for its impact on gender equality and on the wider labour market. One of the most commonly cited problems stemming from occupational segregation is the contribution it makes to the gender pay gap (Anker, 1997, 1998; Close the Gap, 2013; Cotter et al., 1997; Hegewisch & Hartmann, 2014; Hegewisch et al., 2010; Thomson, 2016; Thomson et al., 2005). As noted, female-dominated occupations are characterised by being low-paid compared to male dominated ones (including those with the same skill levels), and women tend to be concentrated at the lower end of organisational hierarchies, which results in them earning less than men do (England et al., 2007; Folbre et al., 2023; Murphy & Oesch, 2015). The gender pay gap is problematic as it harms women's financial autonomy, their current and future earnings (in terms of their pension), it places women at higher risk of becoming or remaining impoverished, as they have less income and access to resources (see Anker, 1998).

Moreover, it has been suggested that the 'crowding' of women into a narrow number of occupations lowers the value of female labour, and thus female wages (Bergmann,

1974; Cotter et al., 1997). This further contributes to the gender pay gap, whilst also contributing to the undervaluation of what is typically considered 'women's' work (Grimshaw & Rubery, 2007). As women carry out the majority of unpaid work in the home, such as cooking, cleaning and care, and are often concentrated into paid work with similar activities, their skills are viewed as being inherently natural and female and thus are not valued (Burchell et al., 2014; Grimshaw & Rubery, 2007; Leuze & Strauß, 2016; Mavrikiou & Angelovska, 2020). Since wage setting is impacted by social values, this undervaluation leads to roles dominated by women receiving lower pay (Brynin, 2017). Viewing these occupations as inherently female also perpetuates gender stereotypes and assumptions about women and their role in society, which further reinforces gender inequality (Anker, 1998).

Furthermore, occupational segregation also limits career, training and education opportunities for women, which in turn, restricts their labour market and lifelong learning opportunities and earning potential (Anker et al., 2003). As a consequence, this then reinforces the low-pay found within female-dominated industries, as they are not viewed as having sufficient human capital to justify higher pay.

At the macroeconomic level, occupational segregation has a negative impact on the economy by causing labour market rigidities and inflexibilities (Anker, 1998; Close the Gap, 2013). Restricting or excluding a majority of workers from occupations along gender lines represents a waste of human resources, restricts the talent pool, increases labour market inefficiencies, affects an economy's ability to adjust to change (Anker, 1997, 1998), and contributes to skill shortages within economies. All these factors then have a negative impact on productivity and the competitiveness of an economy. This is why tackling occupational segregation is a key feature of the Scottish Governments inclusive growth strategy.

Inclusive Growth and Occupational Segregation

The Scottish Government adopted inclusive growth in 2015 as part of their broader economic strategy published that year (Scottish Government, 2015). It was included as one of the 'four I's' of the strategy, sitting alongside internationalisation, investment

and innovation to support the mutually supportive goals of increasing competitiveness and tackling inequalities.

As an overarching economic strategy, inclusive growth is most often understood as ensuring as much of a population can contribute to and benefit from economic growth (Ramos et al., 2013). As such, the vast majority of attempts to operationalise inclusive growth (including the Scottish Government's) emphasise the paid labour market as the key mechanism for achieving inclusive growth (Thomson, 2020). In order to deliver inclusive growth, the structural, cultural and institutional barriers to labour market participation need to be removed. In particular, obstacles resulting from gender, race or socioeconomic circumstances. Greater investments in education and training, including vocational training programmes, are also a common feature.

Scotland's approach to inclusive growth has a focus on ensuring equality of opportunity within the paid labour market through actions aligned with promoting fair work (increasing wages, enhancing productive employment) and removing '*long-standing barriers*' for labour market participation, so everyone has '*the opportunity to fulfil their potential*' (Scottish Government, 2015, p.9). Unlike other conceptualisations of inclusive growth, the Scottish Government make explicit reference to gender equality within their strategy, stating:

"maximising economic opportunities for women to participate fully in the economy, and recognising the wider social role they provide, is key to improving economic performance and tackling inequality" (ibid, p.64).

Within the economic strategy, the Government recognise that addressing gender imbalances in MAs is key to maximising women's economic opportunities and to address the employment issues they face, particularly in relation to occupational segregation. MAs in Scotland offer participants – particularly young people – an important route into the labour force by providing the opportunity to combine employment and formal training in a specific industry or sector. By providing a structured pathway into the labour market, MAs can create more opportunities for economic participation for a wider group of people. Of particular importance is addressing the pervasive gender imbalances on MAs to support inclusive growth. There is a significant amount of research over a number of years which has highlighted

how MAs not only mirror, but actively reinforce, patterns of gendered occupational segregation found in Scotland's labour market (Campbell et al., 2005, 2009, 2013; Sosenko & Netto, 2013; Thomson, 2016; Thomson et al., 2005). Taking action to challenge the occupational segregation found within MAs may then have a positive impact for women in the wider labour market, in terms of better pay, more job opportunities, and routes for promotion that may not have been accessible to them previously. Again, this would contribute to supporting the creation of inclusive growth.

Furthermore, as a semi-autonomous country within the United Kingdom, the powers held by the Scottish Government are restricted by the devolution settlement. As such, the government do not have full economic powers pertaining to the labour market, but they do have full powers in relation to education and training, including MAs (Torrance, 2019). Considering the role of MAs as a programme for supporting wider participation in the labour market, they offer the Scottish Government a way to address barriers and issues surrounding women's labour market participation. Thus, by tackling gender imbalances within the MA programme, the Scottish Government can make some progress in challenging wider gender based occupational segregation in employment and the wider labour market (Campbell et al., 2011).

It is clear that MAs are of vital importance to the Scottish Government's inclusive growth strategy in several ways, including by creating opportunities for greater labour market participation generally and by challenging disadvantages associated with occupational segregation. The next section will explore in more detail how successful the Scottish government has been in tackling occupational segregation in MAs.

MAs in Scotland

MAs are a publicly funded training programme in Scotland which gives individuals the opportunity to combine employment and training by following an industry designed framework. It was introduced in 1994 to address a perceived lack of intermediate skills in the labour market and is aimed primarily at 16-19 year olds, although it has been available to all ages since 2002 however the training funding provided for adult MAs i.e. those aged 20 and above is less than the amount provided for 16-19 year old MAs. The MA programme is 'modern' in the sense that it has extended the concept of

apprenticeship training into sectors of the economy not traditionally associated with 'on-the-job' training, such as retail, hospitality and childcare. There are over 100 types of MAs available, covering a range of industries including chemicals and biotechnology, construction, creative and cultural skills, engineering and energy, financial services, food and drink, health and social care, hospitality and tourism, transport and logistics, and sport.

MAs can be found in the public and private sector, but the training element is funded directly by the Scottish Government and administered by Skills Development Scotland (SDS). Successful completion of the MA results in the award of an accredited work based qualification, most often a Scottish Vocational Qualification (SVQ), the vast majority of MAs are either Level 6 & 7 which is the equivalent of Levels 4 and 5 of the European Qualifications Framework. All MAs have employed status meaning that, if not in employment already, potential candidates must find a suitable vacancy with an apprenticeship attached. Skills Development Scotland offers an online service which helps to bring together employers offering apprenticeships with people looking for apprenticeships. Education and training are devolved matters and a range of agencies are involved in the design and delivery of MAs in Scotland. However, the Scottish Government and SDS have ultimate responsibility for the operation and public funding of MAs. SDS was formed in 2008 as a non-departmental public body bringing together careers, skills, training and funding services with a budget of £224m in 2022/23. Their main objective is to contribute to Scotland's sustainable economic growth by supporting people and businesses to develop and apply their skills (Skills Development Scotland, 2022a, p.13)

Overall participation in the MA programme can be measured in three different ways.

- New starts, the number entering the programme for the first time.
- The total number in training at a particular point in time.
- The number completing training.

Historically, there has always been a higher participation in MAs by men compared with women. However, there has been a significant improvement in recent years in the number of women entering into MAs. For example, in 2008, 2,862 women started an

MA, representing 27% of the total new starts in that year, but by 2022 the number had increased to 9,812 accounting for 39% of new starts (Skills Development Scotland, 2023). Whilst this increase in woman’s participation in MAs is indicative of progress, a simple headcount of the number of women and men who enter the programme gives an incomplete picture. You also need to take into account the gender split in terms of the number in training and in 2022 11,416 women were in training on an MA programme however that only represented 29% of the total in training (Skills Development Scotland, 2023).

In 2015 the Scottish government set SDS a target to tackle gender based occupational segregation in Modern Apprenticeships. The target was to reduce to 60% the percentage of Modern Apprentices frameworks where the gender balance for new starts is 75:25 or worse by 2021 from its level in 2014/15 of 72% (Scottish Government, 2015, p.39). Given the entrenched nature of occupational segregation, this can be viewed as an ambitious target and, if achieved, would go some way to tackling gender based occupational segregation. In its Equality Action Plan published in 2015, SDS outlined a series of measures which they believed would help them to achieve the objective of significantly reducing gender segregation in the MA programme (Skills Development Scotland, 2015). The measures included: early intervention in schools to challenge gender stereotypes; work with the Construction Industry Training Board (CiTB) to encourage more women into the construction industry and greater support for young people entering apprenticeships where their sex is in the minority. However, despite their best efforts progress towards the target has been extremely limited as Table 1 indicates.

Table 1: % of MA Frameworks where gender balance is 75:25 or worse. (Target 60% by 2021).

2014/15	72%
2015/16	74%
2016/17	70%
2017/18	72%
2018/19	72%
2019/20	68%

2020/21	70%
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(Skills Development Scotland, 2021a, p.20)

Even if we ignore the outcome in 2020/21 given the impact of the economic lockdown due to the coronavirus pandemic, progress towards meeting the target has been painfully slow a 4% drop in the % of MA frameworks where gender balance is 75:25 or worse in the 6 years between 2014/15 and 2019/20. In part this can be explained by a lack of progress in some of the biggest apprenticeship frameworks where gender based segregation appears to be more entrenched.

Table 2: Number of starts (% Female)

Framework	2014/15	2021/22
Automotive	2.5%	4.9%
Construction	2.1%	2.7%
Engineering & Energy Related	4.3%	6.9%
Hairdressing	93.2%	95.0%
Childcare	97.4%	92.8%
Transport & Logistics	5.9%	6.7%

(Skills Development Scotland, 2023)

Table 2 contains the six most gender segregated frameworks. In 2014/15 these six frameworks between them accounted for 48% of all starts and in 2021/22 they accounted for 42% of all starts (Skills Development Scotland, 2023). As Table 2 indicates progress towards the targets set by the Scottish government to tackle occupational segregation has been rather slow. Engineering and Automotive frameworks have made the most progress however both were still in excess of 90% males in 2021/22. In the two frameworks which have traditionally been dominated by females, hairdressing and childcare, hairdressing has become even more female dominated whilst there has been some, albeit a minimal increase in the number of males embarking on a childcare MA.

The continued prevalence of occupational segregation in some of the biggest frameworks has implications for gender disparities on public spending. In general, the male dominated frameworks tend to last longer than the female dominated ones, for example automotive, construction and engineering apprenticeships last for four years whilst the female dominated apprenticeships in childcare, health and hairdressing can be completed in one to two years. In addition, the level of public funding per apprentice for training in the male dominated frameworks tends to be higher compared to the female dominated apprenticeships. For example, in 2022/23 the funding rates for 16-19 year olds for Automotive and Construction was £8 700 per apprentice and £10 200 for an engineering apprenticeship. In contrast funding for 16-19 years old in childcare was £5 500 per apprentice, for hairdressing £4 200 and just £2 700 for health care. (Skills Development Scotland, 2022b, pp1-3)

Of the females in training in 2022 nearly two-thirds (63%) were over 19 which means they attract a lower level of funding, in contrast 55% of males in training in 2022 were aged between 16-19 years of age so are therefore entitled to the higher level of funding. In hairdressing and childcare apprentices over the age of 20 only attract funding of £2 700, in health care it is £1 450. Only 21% of 16-19 year olds in training in 2022 were female, in contrast 36% of those over 20 were female.

As mentioned earlier there is a discrepancy between the number of females starts and the numbers in training. So, even though nearly 40% of new starts in 2022 were female they only represented 29% of those in training in that year (Skills Development Scotland, 2023). This gap can be explained by two factors: firstly, disparities in the length of apprenticeship training can vary between one and four years; secondly, the types of apprenticeships which women tend to undertake are, on the whole, of a shorter duration than those undertaken by men.

Table 3 Number in training % Female

Framework	2014/15	2021/22
Automotive	1.5%	3.6%
Construction	1.4%	2.3%

Engineering & Energy Related	2.8%	5.8%
Hairdressing	93.2%	96.0%
Childcare	97.4%	93.0%
Transport & Logistics	6.0%	6.1%

(Skills Development Scotland, 2023)

Table 3 outlines the gender changes in the numbers in training between 2014/15 and 2021/22 and it follows a similar pattern to the trends identified in Table 2 except that the level of dominance by one gender is more entrenched compared to the number of new starts.

In the largest frameworks, there is still a significant level of occupational segregation with women concentrated in childcare, hairdressing and health & social care. These three frameworks accounted for 42% of all women in training in 2013 and 49% in 2022. In contrast, the construction, engineering and automotive frameworks accounted for 41% of all men in training in 2013 and 51% in 2022 (Campbell & Gillespie, 2017 p424; Skills Development Scotland, 2023). Women are concentrated in apprenticeships with lower qualification levels and shorter training that generally attract less funding.

In terms of successfully completing apprenticeship training the female and male achievements were identical in 2021/22 with 72% of all leavers successfully completing, slightly lower than the 74% both females and males achieved in 2014/15 (Skills Development Scotland, 2023). According to SDS 92% of MAs stay in work once they are qualified (Skills Development Scotland, 2023). The overall median earning for MAs five years after they complete is £21,000 per annum, however for females it is £16,000 – £9,800 less than males, who earned on average £25,800. MAs in the male dominated Engineering and Energy occupational grouping had the highest earnings, £34,600 on average (Scottish Government, 2022a, p.9).

Whilst the Scottish government is committed to tackling gender based occupational segregation progress has been very slow. SDS has been successful in recent years in meeting some of the targets set by the Scottish Government, for example increasing

the number of young people entering apprenticeship training and who successfully complete that training. However, they have had less success at addressing the gender imbalance which exists in many frameworks. Indeed, despite a commitment by both SDS and the Scottish government to tackle gender based occupational segregation, the operation of the MA, particularly in terms of spending, continues to favour young men and disadvantage women.

Given the many and varied causes of occupational segregation (Das & Kotikula, 2019; Borrowman & Klasen, 2020), our research leads us to suggest that a National Strategy to address occupational gender segregation is required. A National Strategy that includes planned and co-ordinated action by stakeholders in the education sector, as well as relevant policy actors and public and private sector employers would ensure that the issue is recognised as the responsibility of all involved. In addition, financial incentives for employers to take on atypical apprenticeships might be necessary in the short run to challenge entrenched gender stereotyping. The setting of targets along with a more gender neutral promotion of MAs does not seem to have made any significant inroads into the extent of occupational segregation. Indeed, it is noticeable that SDS has dropped the targets and its current gender equality target is to ensure “Women and girls can access and sustain learning and careers which reflect their skills and interests, enabled by the adoption of gender-sensitive approaches from employers and key influencers.” (Skills Development Scotland, 2021b, p.38)

Conclusion

It is evident that occupational segregation continues to be a pervasive problem within the Scottish labour market and the MA Programme. Although more women are now entering the MA programme, they continue to be segregated in ‘non-traditional’ apprenticeships characterised by a shorter training period and subsequently less investment, compared to their male counterparts. This results in inequalities in the post-apprenticeship earnings of apprentices, with women often earning significantly less once they have completed their apprenticeship. This reinforces the gender pay gap within the wider labour market and helps sustain wider gender inequalities.

Whilst the use of targets helped to highlight the extent of occupational segregation in the MA programme its impact in terms of reducing it has been extremely limited.

Although women made up half of the workforce in Scotland in 2021 47.9% of them worked in either public administration, education or health and social care with only 20% of men employed in these sectors. Women accounted for 15.9% of those employed in construction but 76.3% of the health and social care workforce (Scottish Government, 2022b, p.28). This is perhaps not surprising given that occupational segregation itself is the result of embedded societal and cultural bias resulting in gender stereotyping which in turn has an impact on the decisions that young men and women make about subject and career choice. However, whilst the MA programme by itself will not solve the problem of occupational segregation it does present as a starting point to challenge some of those societal and cultural bias. The use of targets has not really worked so, as mentioned earlier, it may be time to offer financial incentives to encourage more men into the female dominated apprenticeships and vice versa.

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