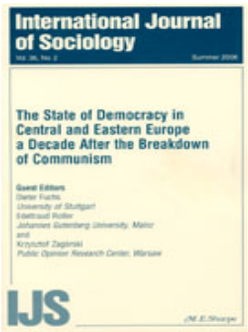

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Who Belongs to the Middle Income Class in Europe? The Role of Gender-Specific Occupational Characteristics in Multi-Level Analyses for 17 European Countries

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ABSTRACT

For many years scholars and politicians discuss the economic importance of the middle income class. Our article contributes to broaden the present state of research by not only examining the structure of the middle class whilst focusing on individual attributes, but by especially taking the role of gender-specific occupational characteristics and country-specific conditions into account. Based on the EU-SILC data 2020 for 17 countries, we analyze which factors affect the structure of the middle income class on the individual, on the occupational and country level. Our findings show that occupational attributes (e.g. part-time rate) prove to be highly relevant in this realm. Moreover, significant gender differences can be observed: women who work in an occupation which is mainly performed by women bear a higher risk of belonging to the lower income class as compared to men.

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Structure of the middle income class; gender-specific occupational characteristics; social stratification; European comparison; multi-level analysis

1. Introduction

The middle (income) class of European societies has featured prominently as a political topic and object of several studies in social sciences, including political science, sociology and economics (Groh-Samberg, Mau, and Schimank 2014; Bosch and Kalina 2015; Batini and Costa-Font 2019; Gornick and Jäntti 2013). Since the beginning of this debate, scholars have emphasized the importance of the middle class for economic growth, positive valuations of well-being and prospering consumption, as well as for political stability and the functioning of democracy (Birdsall, Graham, and Pettinato 2000; Barro 1999; Präg, Fritsch, and Richards 2022). However, when reviewing the literature, it becomes clear that scholars offer distinctly diverging thoughts over time on what constitutes and who belongs to the "backbone of both the market economy and democracy" (Birdsall, Graham, and Pettinato 2000: 1). For instance, Bourdieu (1984; Bourdieu and Passeron 1990) describes the middle class with respect to certain

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occupational groups (such as merchants or shopkeepers), while also highlighting the great relevance of cultural practices and educational achievements as indispensable characteristics. Whereas Schelsky's (1960) critically discussed thesis of the "levelled middle class society" even stresses that modern societies will overcome the tension between lower, middle, and upper classes, followed by a standardization of all social, economic, and cultural forms of behavior.

This ambiguity is also reflected in the constantly growing body of empirical studies. Some studies engage with European or international trends in incomes and living standards for the middle class over the past years (Ozturk 2016; Eurofound 2017; Pressman 2007); others are concerned with enhancing existing approaches and concepts (Lopez-Calva and Ortiz-Juarez 2014) or concentrate on special groups who face higher/lower risks of (not) being part of the middle class (e.g. Riederer, Seewann, and Verwiebe 2018). However, in this debate, one aspect has thus far been given scant attention, an aspect which we put center-stage in our paper. It is not yet clear how gender-specific occupational characteristics—as *contextual variables*—determine (not) being part of the middle income class above and beyond individual and country-related attributes. This is even more surprising, since labor market and gender research persistently emphasize the power of occupations in structuring income distributions, highlighting the inherent relevance of gender inequalities in this realm (Fritsch 2018; Aulenbacher 2010; England, Hermsen, and Cotter 2000; Bol and Weeden 2015; Mader and Aruqaj 2021). It is well documented that occupations predominantly performed by women are typically paid less (Blackburn and Jarman 2006; England, Allison, and Wu 2007) and that part-time jobs and temporary work—also often performed by women—offer less favorable employment conditions (Giesecke 2009; Warren and Lyonette 2018). Taking these aspects into account, we pose the following research question: *What influence do gender-specific occupational characteristics—next to individual and country-specific attributes—have on belonging to the middle income class in Europe?* We ought to study this research question by comparing 17 European countries, since the economic system is a product of the modern welfare state (Crouch 1993; Esping-Andersen 1990; Batini and Costa-Font 2019; Vaughan-Whitehead 2016; Fritsch and Verwiebe 2018).

2. Definitions and conceptual framework

2.1. How to define and measure the middle (income) class

Reviewing the existing literature we find various approaches to define the middle class and as Pressman (2007: 182) notes "any definition we choose is going to be arbitrary." Nonetheless, based on scientific studies, we can distill some well-established and commonly used concepts, each comprising specific pros and cons. To begin with, the literature offers multi-dimensional approaches which usually combine behaviors and achievements (Grabka et al. 2016; Verwiebe and Wiesböck 2021). According to this view, individuals of the middle class achieve a certain educational level, perform occupations or jobs with a certain level of status, and earn a particular amount of money (Pressman 2007). Typically, a combination of education, income, and occupation is used to define who is (not) part of the middle class (Bigot et al. 2012). Although these factors are unquestionably important components for defining the middle class, some authors argue

that additional aspects—such as professional experience, employment security, or on-the-job-learned skills and promotion opportunities, but also leisure activities, wealth, social networks or health-related behavior—gain relevance in the age of globalized modern societies (Autor 2014; Power et al. 2003). Therefore, one may increasingly face the challenge of including the "right and balanced number" of dimensions.

Not challenged to find the methodologically balanced number of dimensions to define the middle class is one-dimensional concepts. A single-indicator approach may focus on for example, occupational groups, but more usually on income categorisations, which are widely used in the field of socio-economics (Atkinson and Brandolini 2013; Derndorfer and Kranzinger 2021; Bosch and Kalina 2015). Here, the middle class shares an income level that is somewhere in the center of the income distribution, either based on household or individual incomes (Albertini, Ballarino, and De Luca 2020; Derndorfer and Kranzinger 2021; Gornick and Jäntti 2013; Pressman 2007). In line with this, Vaughan-Whitehead, Vazquez-Alvarez, and Maite (2016: 5) even emphasize that "(t)he most common way of defining the middle class is to use income classes and thresholds to identify the 'middle' in the income scale," since class positions are to the most essential extent deriving from economic life (Eurofound 2017; Eisenhauer 2008: 104). Furthermore, Ozturk (2016) recommends that, since there does not exist a unique established concept of the middle class, definitions should be strongly related to the central goal of the research question. Our specific research interest concerns the unequal position of women and men in the labor market and how gender-specific occupational characteristics influence the income class position above and beyond individual and country-related factors. In line with that, we base our definition of the middle income class on individual hourly incomes for the following reasons: (1) By using individuals' work-related income, we clearly prioritize the individuals' concrete position in the labor market; thus the structure of power relations which are embedded in the organization of the labor market. (2) We want to specifically emphasize the economic situation of women within the social class structure. In line with this, we follow feminist perspectives which criticize the use of the household perspective, because they are seen as a "black box," where individual decision making relationships, preferences and utility functions of all household members converge and patriarchal power structures mask the significance of female social class indicators (Mader and Aruqaj 2021; Pirklbauer 2017). Empirical research in this field shows that applying the assumption of equal distribution mechanisms between women and men within the household leads either to an underestimation of female economic risks, or reinforces a bias of the female contribution to the overall economic performance of the household (Malghan and Swaminathan 2020); (3) We use hourly wages rather than monthly incomes, because monthly incomes would strongly depend on the total amount of hours worked, and therefore be biased by the share of part-time employment, which is prevalent especially within the female workforce–and especially in countries such as Austria or Germany (Fernandez-Kranz and Rodriguez-Planas 2021).[1]

With respect to income related concepts of the middle class, again, several measurement approaches can be differentiated: either referring to income thresholds in absolute terms (e.g. middle class denotes people living on between $2 and $10 a day in developing countries) (Banerjee and Duflo 2008); focusing on fixed middle income groups (e.g.

60 percent of the income distribution) (Atkinson and Brandolini 2013); or using flexible middle income groups referring to relative income thresholds (Derndorfer and Kranzinger 2021). For instance, Bigot et al. (2012) and Grabka and Frick (2008) define the middle class by relating to households with an equivalised income between 70% and 150% of the national median income. Bosch and Kalina (2015) use a threshold of 60% and 200%, Grabka et al. (2016) use a threshold of 67% and 200%, whereas Pressman (2007, 2010) chooses reference points from 75% to 125%. Against this background, we define the middle class through a one-dimensional approach, using the individual income (based on hourly wages) as central indicator, favoring three categorical income groups–lower income class, middle income class, and higher income class. Thereby, in the present paper, we decided to follow Verwiebe and Wiesböck (2021) who use middle income thresholds between 80% and 140%.[2]

2.2. The structure of the middle income class

2.2.1. Individual level

To begin with, belonging to the middle income class is determined by individual characteristics. Important factors are gender, age cohorts, educational level, citizenship status, and the family structure. As previous research has shown, gender-specific differences occur in highly specified niches of the labor market, as well as more generally in terms of remuneration and employment behavior, often to the detriment of female employees (Blau and Kahn 2017; Goldscheider, Bernhardt, and Lappegård 2015; Fritsch, Verwiebe, and Liedl 2019; England, Hermsen, and Cotter 2000; Wetterer 2002; Aulenbacher 2010). One possible explanation for gender inequalities in the labor market is offered by Goldin (2014: 1094), who highlights the role of workforce interruptions and availabilities lowering women's wages in the context of temporal flexibility. Goldin relates the female income penalty to differences across occupations, which value long and flexible hours (e.g. being "on call," providing "face time," working extra-long hours, being around for clients and group meetings); thus compensating high levels of temporal availability with higher wages. Gender inequalities emerge because women and men (are required to) place different values on temporal flexibility and choose occupations, firms or sectors which offer different costs or compensations to providing it (Fritsch 2014). Others argue for signaling or screening effects in this regard, where longer hours and workforce continuity may signal greater willingness to work hard, as well as greater motivation and commitment; thus resulting in higher wages (e.g. Gicheva 2013). Therefore, we assume that women rather than men have to face income detriments which also transfer into higher risks of belonging to the lower income class.

Income differences due to age cohorts are plausible as well. Here one can argue that changing economic opportunities (e.g. high levels of employment in standard employment relationships in the 1970–1980s vs. contract work after the Great Recession 2007/08) have had a profound impact on some age cohorts but less on others (Fritsch and Verwiebe 2018). In this respect, cohorts that entered the labor force in a period of striving economic expansion will benefit from that context over their entire life span, while the cohorts that experience strict austerity measures when they were young adults will suffer in the long run from this adverse context of socialization (Chauvel 2013: 116).

Authors even thematise some sort of scarring effect that characterizes the long-term negative consequences of transitional problems when entering the labor market and make reference to "lost generations" or "unlucky cohorts" (Oreopoulos, Wachter von, and Heisz 2012: 2). Against the backdrop of post-recession labor market liberalization in Europe, one should bear in mind that young generations are especially facing problems finding first-time employment, work in "lousy jobs" with little or no career prospects, or have to accept unpaid internships (Chung, Bekker, and Houwing 2012). It follows then, that young age cohorts—just leaving school to enter the labor force—share weaker positions in wage negotiations, are often poorly paid, and are thus more likely to belong to lower income classes.

Moreover, educational attainment is another major factor affecting inequalities in income distributions (Gregorio and Lee 2002), where it plays a decisive part for the individual positioning on the income scale (Barone and Werfhorst van de 2011; Autor 2014). Research has shown that a higher level of education generally goes hand in hand with higher salaries in more prestigious jobs, a lower risk of poorly paid temporary employment, and a lower risk of unemployment and poverty (Abrassart 2013). Explanations for this relation are manifold. For example, it is argued that education is used as a legitimized means for social closure or exclusion; uniting some highly paid groups, their credentials, skills and charismatic qualities in order to separate them from poorly paid others (Collins 1979; Tholen 2017). Others describe education as factor which significantly reduces training costs for employers, since education might not always generate ready-to-use skills, but at least makes individuals more easily trainable at the work place, hence translated into higher remuneration (Thurow 1975; Acemoglu and Autor 2011). Against this background, we expect that individuals with a high level of education have a higher chance of belonging to the upper income class.

Citizenship status[3] is another decisive factor determining the position in the labor market and especially on the income scale (De Trinidad Young et al. 2018; Jasso 2011; Verwiebe, Fritsch, and Liedl 2019). In general, individuals with a foreign citizenship status bear a number of risks of being positioned at lower income classes as compared to the native population. Plausible causes are both nonrecognized professional qualifications or language barriers (Chiswick 1991), which often push non EU-citizens to work in in poorly paid jobs in the service sectors (e.g. in gastronomy) (Granato and Kalter 2001). Another commonly discussed explanation for the lower positioning is discrimination (Kahanec and Zaiceva 2009). Here, discrimination means that employees are theoretically equally productive, but are treated unequally due to ascriptive characteristics (e.g. color of the skin), which result in negative labor market opportunities. This unequal treatment stems from prejudices, which are defined as the wish of employers to distance themselves from certain groups of people (Becker 1971). Thus, these preferences translate into lower wages for non EU-citizens and into higher risks of being part of the lower income class.

Finally, on the individual level the family structure matters; especially when concentrating on gender-specific differences and the position of men and women in the labor market. Research constantly shows that female labor market behavior drastically changes after the birth of the first child (Budig and England 2001; Glauber 2018), as a result of the career interruptions caused by parental leave. Likewise, greater continuing

childrearing responsibilities have an impact not only at the top of female careers but also across the whole earnings distribution (Angelov, Johansson, and Lindahl 2016). In line with this, scholars refer to the child earnings penalty, where they compare the relative impact of children over mothers' and fathers' careers and show that the child income penalty is large for women (motherhood penalty) and almost non-existent for men (fatherhood wage premium) (Budig and England 2001; Lundborg, Plug, and Rasmussen 2017; Bear and Glick 2017; Glauber 2018; Mari 2019). The large earnings penalty for women is mainly driven by a reduction in hours worked, and to a lesser extent, by women quitting paid work, but either way strongly related to prevailing traditional gender norms, where child-care is mainly a female responsibility (Rabaté and Rellstan 2021; Fernandez 2007).[4] Therefore, we assume that mothers rather than fathers have to face income detriments thus share higher risks of belonging to lower income classes.

2.2.2. Occupational level

Next to individual characteristics, the concrete integration into the labor market through one's occupation is highly relevant for determining the income class, because the occupational affiliation is central to the structure of inequality (Weber 1978; Blackburn and Jarman 2006; Bol and Weeden 2015). In contemporary societies, inequality stems from three distinct processes: positions in the division of labor are differentiated from each other; rewards of greater or lesser value are attached to these positions and people are allocated to these differentially rewarded positions (Weeden 2002: 55). Here scholars argue, that occupations assemble social groups around these positions and create social and legal barriers that restrict "access to resources and opportunities to a limited circle of eligibles" (Parkin 1971: 3). Against this background, we want to highlight the role of occupational characteristics as relevant structuring element in Western economies and especially with respect to analyses of income classes. Moreover, they provide a substantial contribution to explain how gender-specific inequalities are allocated and how male and female work is rewarded (Christofides, Polycarpou, and Vrachimis 2013; Blackburn and Jarman 2006; England, Hermsen, and Cotter 2000).

While most female-typed occupations are found in the personal service sector, health care or social sector, male occupations are often located in more technical fields (Fritsch, Liedl, and Paulinger 2022; 2018). Sociological approaches assume that occupational gender segregation is a result of a long-standing socialization process, whereby gender-specific dispositions, beliefs and motivations are considered to be relatively stable, thus also influence the choice of occupation (Reskin and Bielby 2005). Moreover, occupational gender segregation is related to restrictions of occupational groups which are established in order to secure access to social privileges, because not only do men and women tend to choose different occupations, they also tend to be employed at different levels of the occupational hierarchy. Here literature highlights the importance of "homo-social reproduction," which describes a phenomenon consisting of the (unconscious) tendency to support those who are similar to oneself (men supporting and promoting men) (Holgersson 2013). Consequently, these collectively pursued strategies of closure also generate gender-based exclusions, which serve the purpose of constructing

and constantly (re)affirming the difference and hierarchical relationship between women and men where work predominantly performed by women is devalued (Wetterer 2002: 273; England, Hermsen, and Cotter 2000; Cohen and Huffman 2003).

However, studies also show that the lower pay in female-typed occupations affects men and women differently; some claiming that women (just like men) are disproportionally disadvantaged when they are tokens, others arguing that men are generally advantaged regardless of the actual gender composition (Kanter 1977; Acker 1990; Budig 2002; Williams 1992). In line with this, tokenism indicates that with increasing concentrations of women, gender inequalities will decrease, because men's perception of women is conditional on an occupation's gender composition (Kanter 1977). Thus, when women's representation increases, they face less performance pressure, have more power than women in male-dominated work settings, and therefore suffer less discriminatory treatment (Cohen and Huffman 2003: 445). In contrast, Acker (1990: 143) implies that "men in women-dominated workplaces are likely to be positively evaluated and to be rapidly promoted to positions of greater authority-"–irrespective of their numeric distribution in the occupational group which is linked to hegemonic masculinity (Connell and Messerschmidt 2005). Therefore, we (1) integrate the proportion of women in the respective occupational group as contextual variable in order to assess whether working in female-typed jobs is related to higher risks not belonging to the middle income class. (2) We investigate whether working in a female-typed occupation is related to unequal consequences for male or female employees.

Another important contextual characteristic on the occupational level affecting the affiliation with a certain income class is discussed with respect to flexibilisation (Fritsch and Verwiebe 2018; Teitzer, Fritsch, and Verwiebe 2014). Here, changing economic conditions (e.g. rising unemployment rates) and increased competition in the globalized economic areas lead to ever louder calls for deregulation (Verwiebe et al. 2013). These developments have massively restructured employment relationships with atypical employment contracts becoming increasingly relevant. In particular by resorting to fixed-term and part-time work, companies can adapt their personnel to volatile economic conditions as well as to falling or rising product demands (Giesecke 2009; Verwiebe and Fritsch 2011). This reduction in employment security, however, significantly changes the structural relationship between employers and employees. It results in poorer employment opportunities for people on part-time or fixed-term contracts and thus increases the risk of being part of lower income classes. Here, segmentation theory provides an explanation for the weaker position of atypical workers. It is assumed that job security varies systematically between various labor market segments and that these differences cause long-term inequalities with respect to employment conditions due to the limited mobility between those segments (Doeringer and Piore 1985; Fritsch and Verwiebe 2018). Hence, it can be argued that individuals in atypical jobs are increasingly found in poorly paid, unstable segments, since this specific workforce can be flexibly deployed, redeployed, or dismissed, at low cost. Therefore, we include the average proportion of employees in fixed-term and part-time jobs—again as contextual variables—to evaluate the risks of being part of lower income classes.

2.2.3. Country level

Finally, the concrete income class position is influenced by the welfare state regimes of Western and Eastern European counties. According to their respective scope of action and their path dependency, countries react differently to new challenges (Esping-Andersen 1990). Literature on welfare states reveals that labor market regulation measures, tax payments and social transfer policies, although developed quite differently in Western and Eastern European countries after the fall of the iron curtain, still maintain a strong influence, and affect dynamics within income class distributions (Crouch 1993; Dallinger 2011; Palme 2006). In this discourse, scholars ask to what extent taxes and transfers change the market position of the middle income class and highlight the increasing relevance of dismantling traditional employment relations, which may alter the design of the social systems and the negotiation processes between social partners (Gallie 2007; Immerfall and Therborn 2010). A common way of describing the negotiation process between various social actors is the collective bargaining agreement, which largely determines wage developments and is concluded between trade unions or employee associations and employers' associations (Katz 1993). Here, pronounced differences can be found in Europe: While in Germany the weak wage development is mainly the result of declining collective bargaining coverage, greater decentralization with opening clauses in collective agreements and the rise in performance-related pay (Bispinck 2007), the level of collective bargaining coverage is still close to 100 per cent in Austria. In line with this, high collective bargaining coverage can be seen as a means of ensuring minimum standards for income conditions, thereby offering protection against poverty and low incomes.

Further, the structure of the middle income class also has to be addressed against the backdrop of social redistribution (Garfinkel et al. 2005; Dallinger 2013). Here, Western and Eastern welfare states face different stratifying effects. They first modify the distribution of primary incomes on labor and capital markets according to political and social objectives (beyond the market) and thereby also curb or further intensify inequalities of the secondary income structure (Esping-Andersen 1999; Dallinger 2011). Additionally, it has to be taken into account that the welfare state not only has a direct influence on incomes of employed individuals, families or pensioners, but also an indirect one. It controls the level of the reservation wage, affects minimum wages or the composition of the household income and also expresses itself through free or subsidized access to social services (Dallinger 2011; Esping-Andersen 1990). Overall, direct and indirect welfare state interventions provide larger income volumes for the lower income classes and lower income volumes for the upper income classes. "The redistribution effects of net social welfare transfers have the same pro-poor-pattern in all nations, differing only by degree, not direction." (Garfinkel et al. 2005: 15). Therefore, we examine the redistribution effect of social welfare transfers on the lower, middle and upper income classes (Dallinger 2011).

In addition, the tax burden of a state has a distributive effect. For example, a high or progressive income tax rate is characterized by a rising average tax burden, which means, the tax burden increases with rising incomes and thus positively contributes to general welfare (Stiglitz 2012; Krammer 2013). In contrast, with a low or regressive tax rate, the share of taxes on income decreases with rising wages. This results in lower

contributions to general welfare and negative effects on the stability and efficiency of the political and economic system (Stiglitz 2012). Therefore, we assume that a higher tax rate counteracts expanding zones of precarity.

3. Data and methods

As empirical basis we use the harmonized micro-level cross-sectional EU-SILC data set from 2020, including the following 17 European countries: Austria (AT), Belgium (BE), Bulgaria (BG), the Czech Republic (CZ), Estonia (EE), Greece (EL), Spain (ES), France (FR), Croatia (HR), Ireland (IE), Lithuania (LT), Luxembourg (LU), Latvia (LV), Poland (PL), Portugal (PT), Romania (RO), and Sweden (SE). We limit our data set to salaried individuals who were employed for at least one hour in the reference week. The adjusted data set contains information on 101,873 respondents (51,143 men and 50,730 women). Our results are presented in a two-step procedure: First, we present descriptive findings on the income classes. This is followed by detailed multinomial multi-level analyses on income class status.

3.1. Analytical strategy

For our statistical analysis, we present Average Marginal Effects (AMEs) of multinomial logistic multi-level models (Hox, Moerbeek, and Schoot van de 2017; Langer 2008), as it allows us to account for the hierarchically structured data and to simultaneously account for explanatory factors at different levels (see Figure 1). AMEs allow us to compare effects across different models and reflects the average effect of a variable on the probability of belonging to a certain income class (Best and Wolf 2012). The underlying data structure of this paper is divided into three levels: the individual level, the occupational level and the country level (Bell, Ferron, and Kromrey 2008; Scherbaum and Ferreter 2009). The income class affiliation of people at the individual level is explained, for example, by their age cohort and educational background. At the second level, individuals are embedded in occupational contexts by assigning respondents to occupational categories and assessing their characteristic features; for instance, the average percentage of women in the respective occupation. At the third level, these occupational contexts are shaped by country-specific institutional features. More specifically, we calculated a hierarchical multinomial logistic multi-level model with shared random effects. The specification in the model assumes that the variance in stratification at the occupational and national levels is not estimated separately for each category of the dependent variable. In addition, we expect that while there are differences in stratification between level 2 and level 3, the effects of the independent variables (i.e. intensity and direction) do not differ between units at higher levels (i.e. between occupations and countries) (Pope 2014; Stata 2013; Rabe-Hesketh and Skrondal 2008).

The random effects at the level of occupations and countries are designed to consider a possible variation at the general level of the income class (random intercept). In other words, although the probability of belonging to the middle income class varies between occupations and countries, the effect of the variables in the model—for example, the gender effect on income class—is the same across all occupations and countries (fixed

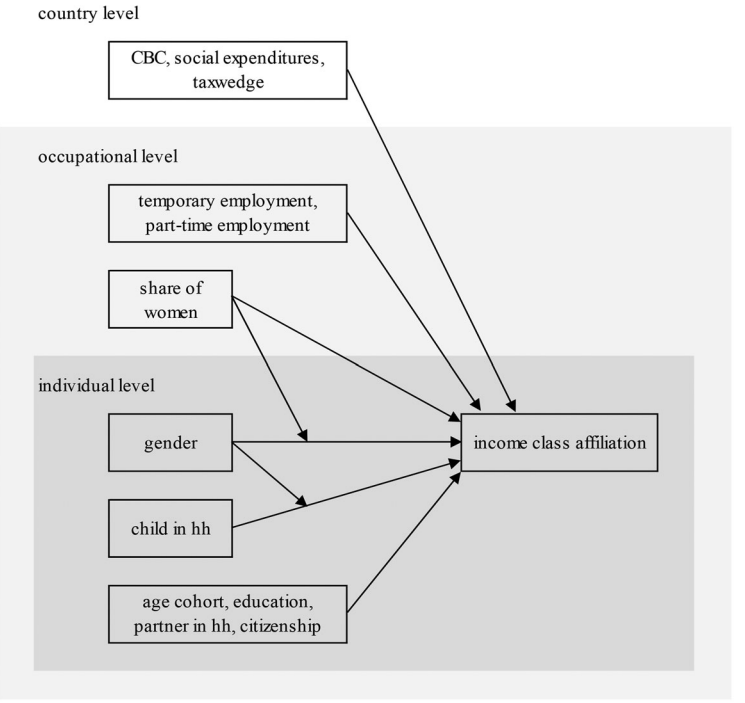

Figure 1. Structure of the multinomial logistic multi-level model. Source: Own illustration.

slope). We further estimate an interaction effect between the variables of gender and the share of female employees in the respective occupational groups. This allows us to assess whether the proportion of women in the occupation has different effects on class affiliation for women and men.

3.2. Dependent variable

Based on the individual annual net income of the active labor force in 2019, our variable for income class affiliation contains three categories: (1) Individuals who can be classified as upper income class earn more than 140% of the national median hourly wage. (2) Individuals belonging to the middle income class earn 80–140% of the median hourly wage. (3) The third group includes individuals whose income is less than 80% of the median hourly wage. This group is defined as the lower income class.

3.3. Explanatory variables—individual level (level 1)

At the individual level, we add the following explanatory variables: gender, age cohorts, education, citizenship, number of children in the household (<age of 18) and whether individuals do/not have a partner. Gender is operationalized as a dummy variable (0 = women; 1 = men). We integrate age cohorts (<30; 30–39; 40–49 and 50–64 years) into the model. For the education variable, we differentiate between levels of education using the ISCED classification (ISCED 2011). Based on the eight ISCED levels, three main educational categories are formed. The first category includes people with basic

skills at the lower secondary level (ISCED 0–2); the second includes people with intermediate education, for example those with an apprenticeship or upper secondary school qualification (ISCED 3 and 4); and the third category includes people with tertiary education level (ISCED 5 and above). Finally, we include citizenship and distinguish between natives, EU-citizens and individuals with a foreign citizenship. Concerning the family variables we include the number of children (<age 18) living in the household and a dummy variable of partnership status (0 = no partner/partner is not living in the household; 1= partner is living in the household).

3.4. Occupational level (level 2)

At the second level, we examine characteristics of the occupations of the respondents. These features are first determined on the basis of the ISCO-08 2-digit classification (International Labour Office 2012) and then assigned as contextual variables to all respondents in the respective occupational group. This way, the average proportion of women in the respective occupational groups and—as variables indicating the degree of flexibility in an occupation—the proportion of employees in fixed-term and part-time jobs are assigned. The indicators of each country are calculated separately. Not all employees in an occupation are assigned the same occupational characteristics across all countries, but only for employees within a country.

3.5. Country level (level 3)

On the third level, three country-specific macro variables are integrated into the model.[5]Here, the amount of collective bargaining coverage of a country is determined by the International Labor Organization database (ILO 2019) and added to the existing EU-SILC data set. The amount of collective bargaining coverage is the proportion of employees covered by a collective agreement. This rate of collective bargaining coverage in the countries studied ranges from 7% in Lithuania to 98% in France and Austria. In addition, social expenditures according to Eurostat are included in our models as a percentage of GDP. Social expenditure includes all cash and non-cash benefits for health care, pensions, unemployment, families, housing and social exclusion and ranges from 13% of GDP in Ireland to 31% of GDP in France. The tax wedge[6] was integrated into the model as the third indicator variable; it measures the share of wage tax in employers' labor costs. The values for the countries in the model range from 33% in Ireland to 52% in Belgium.

4. Empirical findings: a European comparison

4.1. Descriptive results

Against the backdrop of our conceptual and methodological discussions, the income classes in 17 European countries will be described below (see Figure 2). We observe that middle income classes differ greatly in size throughout Europe. Whereas in Bulgaria the middle income class comprises only 34% of the working population, in Belgium it accounts for almost two thirds. Moreover, we notice on the left side of

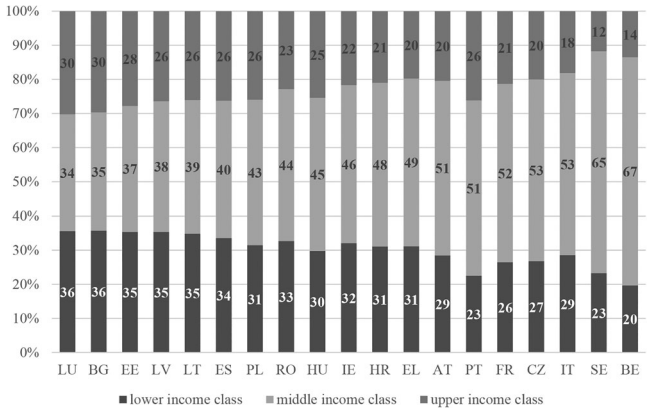

Figure 2. Income groups in Europe (expressed as percentages). Source: EU-SILC 2020, own calculations; weighted analyses; note: the lower income class includes people whose personal income is less than 80% of the median hourly wage, the middle income class includes people who earn between 80–140% of the median hourly wage and people who earn more than 140% of the national median hourly wage are part of the upper income class.

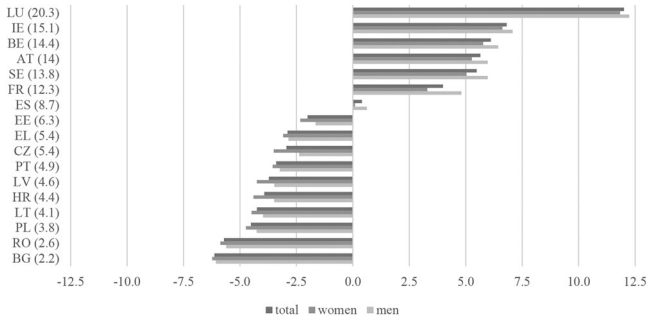

Figure 3. Median hourly wages in Europe (expressed as centered values). Source: EU-SILC 2020, own calculations; weighted analyses.

Figure 2 that in the Baltic States and in Luxembourg the middle income class is relatively weak, accounting for less than 40% of the working population. In the group of these countries we also find more people in the lower income class (around 35%) than in the upper income class (around 30%). In contrast, on the right side of Figure 2 we observe that in these countries the middle income class is strong, while at the same time the margins are sparsely populated. The upper and lower income classes amount to only about 15–25% each. This group of countries includes Belgium, Sweden, Italy, the Czech Republic, France, and Austria. However, in these countries again more people can be classified as belonging to the lower rather than to the upper income class.

Figure 3 presents the median hourly wages for men and women in all countries under study (expressed as centered values). On the right side, we observe median hourly wages above the European average of 8.3 Euro, including countries such as Luxembourg (20.3 Euro), Ireland (15.1 Euro), Belgium (14.4 Euro), Austria (14.0 Euro), Sweden (13.8 Euro), France (12.3 Euro), and Spain (8.7 Euro). On the left side, we present countries below the European average, including Estonia (6.3 Euro), Greece (5.4), Czech

Republic (5.4 Euro), Portugal (4.9 Euro), Latvia (4.6), Croatia (4.4), Lithuania (4.1), Poland (3.8 Euro), Romania (2.6 Euro), and Bulgaria (2.2 Euro). With respect to gender differences, we notice that women earn less compared to men in all countries. However, gender differences are most pronounced in Croatia (women: 3.9 Euro vs. men: 4.8 Euro), Sweden (women: 13.4 Euro vs. men: 14.3 Euro), Latvia (women: 4.1 Euro vs. men: 4.8 Euro), Austria (women: 13.6 Euro vs. men 14.3 Euro), Belgium (women: 14.1 Euro vs. 14.8 Euro), and Estonia (women: 6.0 Euro vs. men: 6.7 Euro).

4.2. Multinominal logistic multi-level models (average marginal effects)

In our multinomial logistic multi-level analyses, we use the affiliation to the middle income class as the base category for the models. Thus, Tables 1 and 2 shows the average marginal effects of being in the upper and lower income class compared to the average marginal effects of being part of the middle income class. Positive values indicate that it is more likely to belong to the respective category than to the base category, negative values mean that it is less likely. In the intercept-only model, the constants and the variance at the occupational and country level are shown without explanatory variables. The constant indicates that across all respondents, the probability of belonging to the lower or upper income class is lower in relation to being part of the middle income class. The constant varies at both levels in the model; that is, the ratio of basic probabilities without explanatory variables differs between occupations and between the 17 countries. The intercept-only model has a variance of 0.246 at the level of occupations and 0.109 at the level of countries. The calculation of the intra-class correlation coefficient (ICC) shows that around 7% of the variation in individual income class affiliation is due to the occupational level and around 3% to the country level (Snijders and Bosker 2011; Dey and Raheem 2016). This indicates that important explanatory factors are on all three levels: the country level, occupational level as well as the individual level.

We start with the explanatory variables at the individual level (gender, age cohort, education, citizenship status, number of children, and partner in the household).[7] First, our analyses show that, even if other characteristics are controlled in the model, it is less likely for male employees to be part of the lower income class and, at the same time, more likely to belong to the upper income class. This finding coincides with our theoretical arguments and numerous other studies that address the gender-specific labor market positions and confirm the generally weaker position of women in terms of remuneration (Christofides, Polycarpou, and Vrachimis 2013; Aulenbacher 2010; Goldscheider, Bernhardt, and Lappegård 2015; Blau and Kahn 2017). Age cohorts are considered significant factors as well. The probability of belonging to the upper income class is higher for older age cohorts (positive sign) and at the same time the probability decreases for them to be part of the lower income class (negative sign). Thus, younger ("unlucky") age cohorts are more likely to belong to the lower income class (Oreopoulos, Wachter von, and Heisz 2012). Being part of specific income classes is furthermore determined by the individual level of education. Individuals with a high level of education (e.g. university or technical college degree) have a higher chance of belonging to the upper income class than to the middle income class (Barone and Werfhorst van de 2011; Autor 2014; Acemoglu and Autor 2011). In contrast, the chance of

Table 1. Multinomial logistic multi-level regression.

		Intercept-only model				Overall model			
		Lower income class		Upper income class		Lower income class		Upper income class	
	Base category of the dep.var.: middle income class	Coef.		Coef.		Coef.		Coef.	
Individual level									
	Men (ref. women)					−0.136	*	0.032	
	Age (ref. < 30)								
	•30–39					−0.549	***	0.402	***
	•40–49					−0.804	***	0.748	***
	•50–64					−0.790	***	1.019	***
	Education (ref. max. compulsory school)								
	•Intermediate education					−0.369	***	0.398	***
	•Higher education (Uni, technical college)					−1.252	***	1.671	***
	Child in household					0.086	***	0.160	***
	Partner in household					−0.151	***	0.056	*
	Foreign citizenship (ref. country of inquiry)								
	•EU					0.628	***	−0.236	***
	•Others					0.620	***	−0.526	***
Occupational level									
	Share of women					0.002	*	−0.005	***
	Temporary employment rate					2.353	***	−2.092	***
	Part-time employment rate					2.591	***	−0.371	
Interaction									
	Men × female proportion					−0.004	***	0.006	***
	Men × child in household					−0.230	***	0.228	***
Country level									
	Collective bargaining coverage					−0.010	**	0.000	
	Spending for social welfare					−0.038		0.010	
	Tax wedge					0.024		−0.057	**
Constant		−0.454	***	0.690	***	0.628		−0.173	
Variance of the constant on occupational level		0.246				0.174			
Variance of the constant on national level		0.109				0.055			
N	Individuals	101,873				101,873			
	Occupations	658				658			
	Countries	17				17			

Source: EU-SILC 2020; own calculations, unweighted analyses for salaried employees.
$^{\dagger}p < 0.1$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$.

Table 2. Average marginal effects of multinomial logistic multi-level regression.

	Overall model—AMEs					
	Lower income class		Middle income class		Upper income class	
Base category of the dep.var.: middle income class	AME		AME		AME	
Individual level						
Men (ref. women)	−0.093	***	0.002		0.090	***
Age (ref. < 30)						
• 30–39	−0.122	***	0.057	***	0.065	***
• 40–49	−0.181	***	0.057	***	0.123	***
• 50–64	−0.190	***	0.025	***	0.166	***
Education (ref. max. compulsory school)						
•Intermediate education	−0.093	***	0.043	***	0.050	***
•Higher education (Uni, technical college)	−0.300	***	−0.002		0.302	***
Child in household	−0.016	***	−0.027	***	0.043	***
Partner in household	−0.028	***	0.014	***	0.015	***
Foreign citizenship (ref. country of inquiry)						
•EU	0.126	***	−0.067	***	−0.060	***
•Others	0.138	***	−0.049	***	−0.092	***
Occupational level						
Share of women	0.0002		0.0001		−0.0003	**
Temporary employment rate	0.0049	***	−0.0009	+	−0.0040	***
Part-time employment rate	0.0046	***	−0.0029	**	−0.0017	***
Interaction						
Men × female proportion			see Figure 4			
Men × child in household			see Figure 4			
Country level						
Collective Bargaining Coverage	−0.002	**	0.001		0.000	
Spending for social welfare	−0.007	*	0.004		0.003	
Tax wedge	0.006	*	0.003		−0.009	***

Source: EU-SILC 2020; own calculations, unweighted analyses for salaried employees.
$^{\dagger}p < 0.1$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$.

receiving a low income and thus being part of the lower income class decreases with higher education. Thus, educational achievement is a decisive factor preventing individuals from slipping into zones of precarity. Citizenship status matters as well (De Trinidad Young et al. 2018): Here our models show that people with a non-EU citizenship generally carry higher risks of belonging to the lower income class—even after controlling for other individual characteristics. We find the relationship of non-natives overrepresented in lower income classes in other studies as well (Verwiebe 2014). Riederer, Seewann, and Verwiebe (2018), for instance, have documented that the Viennese middle class has declined dramatically in the last two decades, especially among the non-native population. Finally, we include variables concerning the family structure. In line with other studies in this field, we observe a child earnings penalty for women. When we concentrate on the interaction of gender and children in the household (see Figure 4), we notice, that it is less likely for males (compared to females) to be part of the lower income classes and more likely to be in the upper income classes. This effect is even stronger for fathers compared to mothers than for childless men compared to childless women.

Furthermore, we observe a number of interesting findings with respect to occupational attributes. In general, our analyses emphasize that the contextual characteristics of different occupations can explain a considerable amount of class affiliation, since occupational groups serve as decisive element to assess the structure of inequality (Weber 1978; Bol and Weeden 2015). In our models, the occupation level has a higher explanatory power

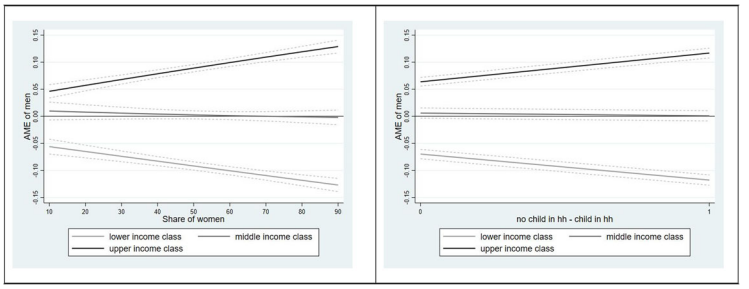

Figure 4. Average marginal effects of interaction terms (men × female proportion; men × child in the household). Source: EU-SILC 2020, own calculations; weighted analyses

than the country level. The relevance of occupational contextual characteristics is also highlighted by researchers in other areas, e.g. when focusing on occupational transitions (Damelang, Schulz, and Vicari 2015; Fritsch, Liedl, and Paulinger 2022) or when looking at wage inequalities in female-typed and male-typed occupations (Blackburn and Jarman 2006; England, Allison, and Wu 2007; Fritsch 2018). Specifically, we integrate the share of women in the respective occupational groups as an indicator of occupational gender segregation in the labor market. Additionally, we calculate an interaction between the individual gender of the respondent and the share of women in the occupational group in order to examine whether female/male tokens are confronted with (dis-)advantages in female and male-typed occupations (Kanter 1977; Acker 1990; Budig 2002; Williams 1992). At this point, our results show that the share of women in the profession has a significant influence on the income class (Aulenbacher 2010). In general, the risk of being part of the lower income class increases with the increasing proportion of women in the profession. Conversely, the probability of earning a higher income and thus of being part of the upper income class decreases with an increasing share of women in the occupation. This finding supports the argument of privileges of male-typed occupations and their tendency to consolidate power in hegemonic masculinity work environment structures (Connell and Messerschmidt 2005). However, the interaction term (see Figure 4) shows, that the effect of the proportion of women in the occupations affects men and women differently, and thus fits with existing research findings in this realm (Budig 2002): Female employees who work in an occupation which is mainly performed by women bear—compared to token men who work in female-typed occupations—higher risks of belonging to the lower income class or have lower chances of being part of the upper income class. For male employees, exactly the opposite can be observed: with an increasing share of women in the occupation, token men have better chances of being part of the upper income class and, at the same time, the risk of slipping into the lower income class is reduced. In our view, this is a highly relevant finding, and once again supports the argument that men compared to women are uniformly advantaged in a hegemonic masculine labor market (Connell and Messerschmidt 2005; Aulenbacher 2010; Fritsch 2018). Further, we include the share of employees with fixed-term contracts as well as the share of employees in part-time jobs in relation to all employees in an occupation. The results are in line with our theoretical expectations outlined above: higher shares of fixed-term contracts or part-time jobs in an occupation correlate with increased risks of being part of the lower income class. At the same time, we see a negative effect of fixed-term

contracts and part-time work at the occupational level on the membership of the upper income class.

In a final step, we integrate the national coverage of wages set by collective bargaining agreements, the amount of social expenditures and country-specific tax rates. Here, our analyses show that the chances of belonging to the lower income class decrease with increasing CBC. In this context, we assume that collective wage negotiations reduce the chances of dispersion for individual incomes, which means that nationwide collective bargaining will benefit having a broad middle income class. Conversely—as our models show—a reduction in nationwide collective bargaining coverage would promote further social polarization and encourage growth, especially at the lower margins of society. The effect on the amount of social expenditure and the tax wedge also indicate that these are instruments which can counteract an unequal income structure. Increased spending on social benefits reduces the risk of belonging to the lower income class (compared to the middle income class). Furthermore, the relative probability of being in a higher income class decreases with an increasing tax wedge. Overall, the results of the three variables at the country level suggest that a strong welfare state—characterized by higher collective bargaining coverage, higher social expenditures and higher payroll taxes—counteracts an unequal income distribution.

5. Limitations

Our findings are limited by the choice of an income-based definition of the middle class in several ways, although income per se is argued to be an essential starting point to capture the structure of the strata across Europe (Derndorfer and Kranzinger 2021). Nevertheless, based on our single-indicator definition of the middle class (1) we are not able to assess developments with respect to other important indicators such as educational achievements for example. (2) Since we use hourly wages based on individual incomes, we are not able to assess whether or not additional household members compensate earning deficits (thus individuals would be part of a higher income class based on the household-level) or even cause falling beneath the middle income threshold due to unemployment or low-wage jobs of an additional household member. (3) We cannot include self-employed workers, since we do not have all necessary information to create hourly wages for this special group in the labor market.

6. Conclusion

In recent years, numerous studies have been published discussing who does (not) belong to the middle (income) class (Bosch and Kalina 2015; Groh-Samberg, Mau, and Schimank 2014; Albertini, Ballarino, and De Luca 2020; Derndorfer and Kranzinger 2021). However, scant attention was given to gender-specific occupational characteristics—as contextual variables—and how they determine the structure of the middle income class above and beyond individual and country-related attributes. This forms the starting point of the present paper. Based on the European EU-SILC data 2020, and using multinomial logistic multi-level regressions for 17 countries, we analyze which factors affect the structure of the European income strata.

Our key findings can be summarized as follows: (1) Our descriptive findings demonstrate that the size of the middle income class varies considerably between the European countries under study. While in Luxembourg the middle income class comprises only 34 percent of the working population, in Belgium it accounts for almost two thirds. (2) Our findings reveal that individual education level and citizenship status are essential factors in preventing belonging to the lower income class. Especially regarding the latter, we observe that the non-native population generally has a higher chance of being part of the lower income class. (3) Our analyses highlight the relevance of occupational contexts as important and independent explanatory factors for income class affiliation. Here, the indicator measuring occupational gender segregation is particularly interesting: while the risk of being part of the lower income class generally increases with a growing proportion of women in an occupation, this effect is not the same for female and male employees. Token men who work in an occupation that is mainly performed by women have—compared to women who work in these professions—lower risks of belonging to the lower income class or have higher chances of being part of the upper income class. In our opinion, this is a highly relevant finding, which once again points to the unequal distribution of power between women and men on the labor market in a hegemonic masculine environment (Connell and Messerschmidt 2005). Even if women and men work in similar jobs, it is mainly female employees who are confronted with disadvantages of their professional environment. (4) Finally, our models underline that different instruments of the welfare state and labor market regulation measures can counteract elevated risks of being part of lower income groups.

Bearing our results in mind, which especially point toward the importance of gender-specific occupational characteristics, some further thoughts are to be mentioned: Which political implications need to be introduced to effectively combat the unequal power relations between male and female employees? Our findings clearly indicate that it is simply not enough to bring more women in male-dominated jobs. Rather it seems necessary to induce a profound reorganization of European labor markets. And lastly we should ask which other contextual occupational characteristics affect being part of the middle income class? This is particularly important in the light of the ongoing COVID-19-induced digitalization (e.g. increase in home-based telework), and a stronger effect for women since they are largely responsible for unpaid care work.

Notes

1. Since we decided use hourly wages, we are not able to include self-employed workers, because our data does not offer all necessary information.
2. However, additional sensitivity analyses were calculated where we changed the thresholds for the middle income class to 75% and 200% and to 60% and 200%. These analyses reveal that our main effects supporting our central arguments remain constant (see table A1 and table A2 in the online supplementary material).
3. Instead of citizenship status, we calculated further sensitivity analyses including place of birth instead. Again, the main effects supporting our central argument have not changed (see table A3 in the supplemental online material).
4. It has been shown that in countries where the prevailing norm is that both parents are responsible for child care, the child penalty is likely to be lower than in countries where it is customary that child care is exclusively a women's task (Rabaté and Rellstan 2021; Fernandez 2007).

5. In general it is recommended to have a sample size of 30 groups on the country level. However, we are especially interested in the fixed effects on the country level and not calculating correlations across levels with the country level. Thus, sample sizes much less than 30 groups are sufficient, especially when sample sizes within the groups are high (Scherbaum and Ferreter 2009; Bell, Ferron, and Kromrey 2008).
6. We use the tax wedge for a single person household with an average annual income.
7. On the individual level, significant effects are to be interpreted with caution due to the large number of cases.

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