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## ORIGINAL ARTICLE

INTERNATIONAL SOCIAL WELFARE

# Generosity of old-age pensions for the self-employed—A typology of European welfare states

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## **Abstract**

Research on pension generosity has so far used employees in standard employment as the reference point, ignoring nonstandard forms of employment such as the self-employed. Moreover, as one of the major concepts of welfare state analysis, generosity has not been considered in research on the old-age security of the self-employed. Hence, there is a 'missing link' between the two strands in the literature. This paper aims to close this research gap by analysing the differences between 12 European welfare states regarding the generosity of old-age pensions for the self-employed. Based on the degree of strictness of access and benefit level, a typology is developed that results in four types of generosity: high generosity, low generosity, basic security and selective generosity.

## KEYWORDS

generosity, measurement, old-age pensions, self-employment, typological analysis

## INTRODUCTION

In the recent past, the social protection of the selfemployed and other forms of nonstandard employment has been on the agenda of the European Union (EU) and several European countries. There has been not only a council recommendation regarding access to social protection for workers and the self-employed that aims at improving the social security coverage of nonstandard workers and self-employed persons (European Commission, 2023b), but also Belgium and the UK have improved pension regulations for the self-employed. In Belgium, minimum pension regulations between the selfemployed and employees were harmonised in 2016

**Abbreviations:** AT, Austria; BE, Belgium; DE, Germany; DK, Denmark; ES, Spain; FI, Finland; FR, France; IT, Italy; PL, Poland; PT, Portugal; SE, Sweden; UK, United Kingdom.

(Peeters, 2016) and in the UK, the self-employed were incorporated into public old-age pensions in a more encompassing way through the introduction of the new state pension in 2016 (Codreanu et al., 2020). There is ample reason for these reforms and initiatives because recent statistics show that in the EU, the risk of poverty is, on average, more than twice as high for the self-employed compared to employees (Eurostat, 2022). Moreover, recent research has shown that in many European countries, formerly self-employed persons are at a higher risk of being poor in old age and this risk increases with the duration of self-employment in the working career (Höppner, 2023). It is likely that this issue will become even more problematic in the future since, despite the high degree of heterogeneity among the self-employed, the share of the so-called 'vulnerable' groups of the self-employed, including the solo-self-employed and self-employed persons with low incomes, is rising (Spasova et al., 2019).

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Against this background, there has been an increasing interest in the old-age security of the self-employed. As the discussion in the next section will show, research on old-age security of the self-employed deals mainly with welfare state outcomes with regard to poverty and it does not consider one of the major concepts of comparative welfare state analysis: generosity. Furthermore, existing research on welfare state generosity in general and old-age pension generosity in particular has focused on employees in standard employment and ignored the selfemployed. As a result, I argue that there is a 'missing link' between the literature on pension generosity and old-age security of the self-employed. This study aims to fill this research gap by answering the question of in how far the generosity of old-age pensions for the selfemployed differs between European welfare states. Therefore, I propose to analyse generosity by developing a typology. While generosity is usually measured either by social spending data or on a one-dimensional scale using replacement rates as a proxy for generosity or by developing indices, a typology offers a more complex perspective on the institutional regulations underlying generosity.

The paper is organised as follows: Section 2 discusses the state-of-the-art analysis of the generosity of old-age pensions and the research on old-age pensions for the self-employed. Section 3 describes the analytical approach of the paper, proposes a typology for the measurement of generosity of old-age pensions for the self-employed and presents the data and operationalisation of the analysis. Section 4 presents the findings of the proposed typology, and Section 5 discusses the findings and concludes the paper.

## STATE OF THE ART

One of the major approaches to analysing welfare states in general and pension systems in particular is to measure their generosity. The literature on welfare state and pension generosity has dealt intensively with the different approaches to measuring this concept, discussing two main ways to measure generosity: by using social spending data and institutional data. Analyses using governments' social spending data to investigate generosity have been criticised in the past since 'by scoring welfare states on spending, we assume that all spending counts equally' (Esping-Andersen, 1990, p. 19). Later studies provided more detailed analyses (e.g., Adema et al., 2011; Castles, 2008); however, these studies have still been criticised because the consistency and comparability of social spending data is often problematic (see De Deken & Kittel, 2007). The second main approach to

analysing generosity avoids these issues as it makes use of data on institutional regulations. This is the case for a large number of studies on welfare state generosity, including old-age pensions (Danforth & Stephens, 2013; Kuitto, 2018; Scruggs, 2007; Scruggs & Allan, 2006; Scruggs & Tafoya, 2022) and for studies that deal exclugenerosity sively with of old-age pensions (Ebbinghaus, 2021; Kuitto et al., 2021; Wolf et al., 2014). The starting point of these studies, which are theoretically and empirically closely linked to the analysis of social rights, is Marshall's (1950) prominent work on social citizenship. The advantage of using data on institutional regulations or, more precisely, social rights for the analysis of generosity is that they reflect welfare states' efforts to provide welfare from a citizen's perspective. In other words, using this approach allows us to show how much resources a citizen receives under which conditions. Despite the huge potential of this approach to provide a nuanced analysis for different groups of citizens, the generosity of welfare benefits is usually measured using a highly specific reference point: the average production worker (APW) that presents a distinct form of standard employment. The reason for measuring generosity based on the APW is certainly the availability of comparative data on social rights in the Comparative Welfare Entitlements Dataset (CWED) and the Social Policy Indicators (SPIN) database, which use APW as a reference point. Although the (male) worker in standard employment has been the focus of welfare state policies in the past (Pierson, 1998), today, it presents a rather narrow concept to assess welfare state or pension generosity in general. This is because the share of the workforce that is in standard employment, that is, in full-time employment with permanent working contracts, has been steadily declining (European Commission, 2020). Accordingly, Kvist et al. (2013, p. 322) criticised existing approaches to measure generosity and argued that 'the generosity of the social security system is not equal for every citizen but varies for different socio-economic groups in the different welfare regimes' (see also Danforth & Stephens, 2013).

Although welfare state research has traditionally focused on employees as the major subjects of welfare state politics (see above), there has been increasing interest in the situation of the self-employed and other forms of nonstandard employment in recent years. This increase in interest is due to the above-discussed changes in the composition of the self-employed and the increase in the 'vulnerability' of many self-employed when it comes to gaps in social security and the risk of poverty in old age. Against this background, it is unsurprising that much of the research on the old-age security of the self-employed examines the risk of self-employed and

formerly self-employed persons being poor in old age. One reason for these concerns is that in-work poverty is more common among the self-employed than among employees (Halleröd et al., 2015; Horemans & Marx, 2017), which leads to lower pension savings and entitlements for many self-employed persons in the future. As a result, some research has dealt with the ability and willingness to save for retirement (Fachinger & Frankus, 2017) and with attitudes and behaviour when it comes to saving for retirement (Conen et al., 2016; Crawford & Karjalainen, 2020; Salonen et al., 2020). The findings of such research have shown that the selfemployed are at risk of being poor in old age, which is especially true for more 'vulnerable' self-employed, such the solo-self-employed (Conen & Buschoff, 2019). Moreover, the literature on the income situation and the risk of poverty among formerly selfemployed persons who have already reached retirement age (Höppner, 2021, 2023; Pettinicchi & Börsch-Supan, 2019) has shown that even among today's retirees, the formerly self-employed show a higher risk of poverty and low income. Notably, however, from a countrycomparative perspective, 'the design of old-age security for the self-employed does not affect the risk of poverty in old age in a notable manner' (Höppner, 2023, p. 63).

In contrast to the literature on pension generosity, studies of pension adequacy, a related concept often used in the EU context, has dealt with the situation of the selfemployed and other forms of nonstandard employment (European Commission, 2018, 2023a). Although this research has provided important insights into the living conditions and the social situation of the (formerly) selfemployed in Europe, pension adequacy is conceptually distinct from pension generosity. This is because in the current publications on pension adequacy the concept is based on the indicators of poverty protection using the at-risk-of-poverty rate for persons above the age of 65, income maintenance in form of replacement rates, and pension duration by measuring the length of retirement (see European Commission, 2018, 2023a). Hence, pension adequacy makes use of several outcome-related indicators, which are affected by welfare regulations, but also, for example, by economic and labour market developments, and the household situation. By contrast, generosity, as it is used in this paper, refers to the institutional design of welfare regulations. Like research on pension adequacy, the above-mentioned research on poverty and the income situation of the (formerly) self-employed in old age has focused on the outcomes of welfare regulations and has failed to provide deeper insights into the institutional structure of old-age pensions of the selfemployed, that is, its institutional regulations. Besides single-country studies that have analysed the design of old-age pensions for the self-employed more in detail (e.g., Cantillon, 2004, for Belgium, and Fachinger & Frankus, 2015, for Germany), some works have provided an overview of social security and old-age pensions from a country-comparative perspective (Choi, 2009; Spasova et al., 2017, 2019; Spasova & Wilkens, 2018). Although these works have provided detailed insights into the design of old-age security for the self-employed from a comparative perspective, no study to date has analysed the generosity of old-age pension systems for the self-employed, either as a single-country study or from a country-comparative perspective.

In summary, an examination of the existing literature on old-age security for the self-employed has shown that it does not refer to generosity, although it presents a central concept of welfare state analysis. Considering that the literature on pension generosity has not included the self-employed in their analyses, there is a gap between the literature on pension generosity and the old-age security of the self-employed. This paper therefore aims at closing this research gap by asking in how far the generosity of old-age pensions for the self-employed differs between European welfare states.

## **METHODOLOGY**

## Analytical approach

To analyse this research question, it is important to first determine how generosity should be measured. One approach frequently used in the existing literature is to use the replacement rate of welfare benefits as a proxy for generosity (e.g. Ebbinghaus, 2021; Grech, 2015; Grünewald, 2021; Kuitto et al., 2021). Other authors have used more complex approaches, including the aspects of coverage, eligibility and replacement rates (Kuitto, 2018; Scruggs, 2007; Scruggs & Allan, 2006; Scruggs & Tafoya, 2022; Tepe & Vanhuysse, 2012). Although coverage, eligibility and replacement rates all present institutional characteristics of welfare benefits, several studies have operationalised these three aspects of generosity in parts by using outcome indicators such as pension takeup rates as a proxy for coverage (e.g., Scruggs, 2007). Differences between coverage and benefit take-up have recently been discussed in research on the relationship between coverage, eligibility and take-up rates (Nelson & Nieuwenhuis, 2021). In their nuanced analysis, Nelson and Nieuwenhuis (2021) differentiated between two forms of coverage: coverage as potential recipients (i.e., institutional coverage), and coverage as actual recipients. While the former presents an institutional indicator referring to social rights, the latter presents, in part, an

outcome-related indicator that is strongly linked to benefit take-up. Since this paper analyses old-age pension generosity of the self-employed from an institutional perspective, generosity is measured based on institutional coverage, eligibility and replacement rates (i.e., benefit levels).

Despite the differences in research regarding the components of generosity, it is usually measured on a onedimensional scale. This is obvious if generosity is operationalised using a single indicator, such as replacement rates, but a one-dimensional approach is also applied if coverage, eligibility and replacement rates are used as indicators for generosity, which also use these institutional characteristics to develop a formula for a generosity index (see e.g., Scruggs & Tafoya, 2022). Measuring generosity on a one-dimensional scale is useful since most research is interested in the degree of generosity. However, this onedimensional perspective on generosity is not appropriate to capture the complexity of social rights since established research analysing welfare states from a social rights perspective has indicated that the design of benefit levels (income-related or flat-rate) and access to welfare benefits (universal or selective) needs to be disentangled (Korpi & Palme, 1998). For a multidimensional analysis of generosity, I propose to develop a typology, a methodological tool that has been used in comparative research on pension systems earlier (Marcinkiewicz & Chybalski, 2019; Rhodes & Natali, 2003; Soede & Vrooman, 2008).

To develop a typology, it is first necessary to determine the relevant dimensions to capture generosity. Since generosity is about the two basic questions of who receives how much, I differentiate between the dimensions of strictness of access and the benefit level of oldage pensions for the self-employed. The dimension of strictness of access covers the two aspects of institutional coverage and eligibility, while the dimension of benefit level includes the replacement rates of old-age pensions for the self-employed. In line with several previous studies of welfare state research (e.g., Eggers et al., 2020; Frericks et al., 2021; Leitner, 2003), it is possible to create an 'attribute space' (Hempel & Oppenheim, 1936; Lazarsfeld, 1937) given the two dimensions that results in a table with four cells presenting four possible types of generosity (see Table 1). By assigning cases to the

TABLE 1 Typology of pension generosity.

		Strictness of acc	ess
		Low	High
Benefit level	High	High generosity	Selective generosity
	Low	Basic security	Low generosity

Source: Author's compilation.

different types in the analysis of this paper, the proposed typology serves a heuristic purpose, an approach well established in other typological works of welfare state research (see Frericks et al., 2021; Van Kersbergen, 2016).

Old-age pension systems for the self-employed that are characterised as showing high generosity combine a low degree in the strictness of access and a high benefit level. Pension systems with selective generosity also show a high benefit level, but are also characterised by a high degree in the strictness of access. This means that only a small number of self-employed persons will benefit from a high pension benefit level. By contrast, countries with a basic security of their old-age pensions for the self-employed combine a low strictness of access with a low benefit level, that is, many self-employed persons receive only a modest amount of pension benefits. Finally, countries with low generosity for their old-age pensions for the self-employed provide a high degree in the strictness of access and a modest benefit level.

## Data and operationalisation

The data for the proposed typology for old-age pensions of the self-employed are based on the pension maps of the Max Planck Institute for Social Law and Social Policy (Schneider et al., 2021) as the main data source. This data source provides detailed institutional data on several pension schemes, including pension schemes for the selfemployed in a variety of European and a few non-European countries. The data source is complemented by the MISSOC (Mutual Information System on Social Protection) database on the social security of the self-employed (MISSOC, 2023), the OECD report Pensions at a Glance 2021 (OECD, 2021), which is especially important for the data on the benefit level, the 2021 pension adequacy report Volume 2 of the European Commission (2021) and single-country studies. To compare the character of the generosity of old-age pensions for the self-employed of different European welfare states, 12 European countries were selected that belong to different welfare regimes (Esping-Andersen, 1990; Powell et al., 2020) and that have designed their old-age pension systems in different ways (Ebbinghaus, 2021): Denmark, Sweden, Finland, Poland, Germany, Austria, Belgium, France, Portugal, Italy, Spain and the UK. Since the paper analyses old-age pension generosity from an institutional perspective based on social rights, only mandatory public old-age pensions for the self-employed are studied in the 12 countries. The data for the analysis refer to 2020 as the most recent comparable data. Table A1 in the Appendix lists the single old-age pension schemes for the self-employed that are analysed herein.

Institutional coverage as one aspect of the dimension of strictness of access is operationalised as the legal obligation of the self-employed to old-age pensions. Eligibility as the second component of strictness of access is based on three sub-indicators: the minimum qualification period, the qualification period for a 'full' pension and the statutory retirement age. The latter is often not considered in the measurement of pension generosity. However, when analysing pension generosity from an institutional perspective, the statutory retirement age is relevant since a higher retirement age, that is, a later start of pension benefit payments, increases the strictness of pension benefit access.

These four indicators for the strictness of access were measured on a five-point scale ranging from 0 to 4. The higher the value on this scale, the higher the degree of strictness of access. Coverage is coded as 0 if all self-employed in a country are mandatorily covered by public or publicly regulated old-age pensions. The pension regulations are assigned a score of 1 if 80 to 99 per cent of the self-employed are covered by such old-age pensions, a score of 2 if 60 to 79 per cent are covered, a score of 3 if 40 to 59 per cent are covered and a score of 4 if 39 per cent of the self-employed or less are covered. The minimum qualification period as the first subindicator of eligibility is coded as 0 if there is no minimum qualification period for old-age pensions of the selfemployed, as 1 if the minimum qualification period is between 1 and 4 years, as 2 if the period is between 5 and 8 years, as 3 if it is between 9 and 12 years and as 4 if it is equal to or above 13 years. The second sub-indicator for eligibility, the qualification period for a 'full' pension, is coded as 0 if it is between 0 and 10 years, as 1 if the qualification period is between 11 and 20 years, as 2 if the period is between 21 and 30 years, as 3 if the period is between 31 and 40 years and as 4 if the period is 41 years or higher. The third and last sub-indicator of eligibility, the statutory retirement age, is coded as 0 if it is 60-61 years, as 1 if it is 62–63 years, as 2 if it is 64–65 years,

as 3 if it is 66–67 years, and as 4 if it is equal to 68 or higher. Table 2 provides an overview of the coding scheme for the four indicators of the strictness of access.

If there were different old-age pension schemes for the self-employed in one country with varying regulations of the sub-indicators for eligibility, I used the mean of the different regulations. For example, in the case of Germany, the Gesetzliche Rentenversicherung (GRV) and the pension insurance for farmers that were analysed differ in their minimum qualification period, which is 5 years for the GRV and 15 years for farmers. The mean is 10 years, which leads to a value of 3 for the minimum qualification period. Moreover, in Poland and Austria, the statutory retirement age differs between men (65 years) and women (60 years) in both countries. The mean value of 62.5 leads to a coding of 1 on this sub-indicator.

To generate an overall value for the strictness of access, the country-specific values for coverage and the three sub-indicators for eligibility are summarised on an additive scale. This additive scale ranges between 0 (0 points on all sub-indicators) and 16 (4 points on all sub-indicators).

The second dimension of the benefit level is operationalised using two indicators. These are the net pension replacement rates by earnings as a percentage of the average net wage before taxes and the theoretical relative pension of the self-employed as percentage of those of employees (see for both indicators OECD, 2021). Furthermore, it is assumed that the employment career of the self-employed person starts at age 22 in 2020, that this person shows a continuous employment career and that he/she retires at the statutory retirement age. Lastly, it is assumed that the self-employed person pays mandatory pension contributions (OECD, 2021, p. 164). The indicator for the net pension replacement rate is based on the same criteria, the only difference being that it refers to employees. This enables us to combine these two indicators to determine the benefit level of old-age pensions for

TABLE 2 Coding scheme for strictness of access.

	Coverage	Eligibility		
	Obligation of the self-employed to old-age pensions	Minimum qualification period	Qualification period for a 'full' pension	Statutory retirement age
0	100%	None	0–10 years	Age 60-61
1	80-99%	1–4 years	11–20 years	Age 62-63
2	60–79%	5–8 years	21-30 years	Age 64-65
3	40-59%	9–12 years	31–40 years	Age 66-67
4	≤39%	≥13 years	≥41 years	≥age 68

Source: Author's compilation.

the self-employed. What is problematic about these two indicators is that they are based on highly specific conditions and do not represent the large variety of employment careers of the self-employed. However, the two indicators were chosen because they present the best comparatively available data on the benefit level of oldage pension schemes for the self-employed and there is no single indicator on the pension replacement rates for the self-employed. To compute the benefit level of oldage pensions for the self-employed, the two indicators were multiplied since the theoretical relative pension of the self-employed compared to employees serves as a weight for the net pension replacement rate of employees. In Poland, the net pension replacement rate differs for men and women (see OECD, 2021, p. 145). Therefore, the mean of the replacement rates for men and women was used in the analysis.

## **FINDINGS**

This section presents the empirical findings for the proposed typology of old-age pensions for the self-employed in Europe. Table 3 summarises the findings for the first dimension of the typology, strictness of access.

## Strictness of access

## Coverage

As argued above, institutional coverage is measured based on the obligation of the self-employed to old-age pensions. Most of the countries in this analysis show the same characteristics on this indicator. Despite different pension schemes for employees and the self-employed in many countries and a high degree of institutional fragmentation, for example, in France (see Schneider et al., 2021), old-age pensions are mandatory for all selfemployed persons in Austria, Belgium, France, Poland, the UK, Denmark, Sweden, Finland, Italy, Spain and Portugal. These 11 countries thus show a value of 0 on this indicator. Only Germany is different because old-age pensions are mandatory only for specific groups of the self-employed, including self-employed midwives, teachers, craftsmen, marine pilots, artists, farmers and members of the free professions (Deutsche Rentenversicherung, 2023). There are no official statistics about the share of the self-employed with mandatory oldage pensions in Germany. Different data sources mention a varying share of the self-employed with mandatory oldage pensions ranging between 24% (Fachinger, 2016) and 30% (Deutscher Bundestag, 2016), which leads to a value of 4, according to the scoring.

# Eligibility

## Minimum qualification period

With regard to the first sub-indicator of eligibility, the minimum qualification period for old-age pensions, Belgium, France and Finland show a value of 0 since there is no such period in these countries. Denmark and Sweden (value of 1) have a minimum period of 3 years of residence between the ages of 15 (Denmark) or 16 (Sweden) and retirement age in their basic pension schemes. Germany, the UK and Italy (value of 3) have longer minimum qualification periods. In Germany, the respective period in the GRV is 5 years, and it is 15 years for self-employed farmers. To receive at least some amount of the new state pension, 10 insurance years are required in the UK. In Italy, most pension schemes for the self-employed show a minimum qualification period of 20 contribution years, but for the free professions, there is no such period. Finally, Austria, Poland, Spain and Portugal are characterised by the strictest regulations and are thus coded with a value of 4. In Austria, Spain and Portugal, the minimum qualification period is 15 years, with at least 7 years of employment in Austria, while 20 (women) or 25 insurance years (men) are required for becoming eligible for the minimum pension benefit in Poland.

#### Qualification period for a 'full' pension

The welfare regulations have no qualification periods for a 'full' pension in the following four countries: Germany, Poland, Italy and Portugal (Italy and Portugal only show such qualification periods in case of early retirement). Accordingly, these countries show a value of 0. By contrast, the UK, Finland, Denmark, Sweden, which all show basic pension schemes, and Spain have qualification periods resulting in a value of 3. The UK has implemented a qualification period of 35 contribution years into the new state pension. Thirty seven contribution years are necessary in Spain to receive a pension at the age of 65. In Denmark, Sweden and Finland, 40 years of residence are required to receive a full basic pension. Lastly, Austria, Belgium and France (value of 4) show the longest qualification period for a 'full' pension, with 43 years required to retire with a pension at the regular retirement age of 62 in France and 45 years in Austria and Belgium.

## Statutory retirement age

The third sub-indicator of eligibility, the statutory retirement age, also varies widely between the 12 countries. Two countries, Austria and Poland, have different retirement ages for men (65 years) and women (60 years). Like France, which has implemented a retirement age of 62, and Sweden, which has introduced a flexible

Strictness of access in the 12 countries. TABLE 3

Strictness of access	of access								
	Coverage	Eligibility							
	Obligation of the self- employed to old-age pensions	Minimum qualification period		Qualification period for a 'full' pension		Statutory retirement age		Strictness of eligibility	Strictness of access
Austria	Yes 0	15 years (including at least 7 years of employment)	4	45 years	4	65 (men) and 60 (women)	1	6	6
Belgium	Yes 0	None	0	45 years	4	65	7	9	9
Germany	No 4	GRV: 5 years; farmers: 15 years	3	None	0	29	3	9	10
France	Yes 0	None	0	43 years (born after 1972)	4	62	1	5	5
Poland	Yes 0	20 years for women and 25 years for men.	4	None	0	65 (men) and 60 (women)	1	۲,	ζ.
UK	Yes 0	10 qualifying years of NICs	33	35 years	n	99	33	6	6
Denmark	Yes 0	3 years of residence (between age 15 and retirement age)	1	40 years of residence (between age 15 and retirement age)	3	99	3	7	7
Sweden	Yes 0	Guaranteed pension: 3 years of residence (between age 16 and 65)	1	Guaranteed pension: 40 years of residence	8	Flexible from 62 on	1	ر.	ſΛ
Finland	Yes 0	None	0	National pension: 40 years	3	National pension: 65	2	5	5
Italy	Yes 0	20 years of contributions; Liberal professionals: no minimum period	8	None	0	29	8	9	9
Spain	Yes 0	15 years	4	37 contribution years	ю	65 (with 37 contribution years)	2	6	6
Portugal	Yes 0	15 years	4	None	0	66 and 5 months	8	7	7
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Abbreviation: GRV, gesetzliche Rentenversicherung. Source: Author's compilation.

retirement age starting from 62, these countries are assigned a score of 1. Belgium, Spain and Finland show a retirement age of 65 years, leading to a value of 2. Germany, the UK, Italy, Denmark and Portugal score a value of 3, with retirement ages of 66 (UK and Denmark), 66 years and 5 months (Portugal) and 67 (Germany and Italy).

## Benefit level

The benefit levels of old-age pensions for the selfemployed in the 12 countries being analysed vary greatly. Austria has the highest benefit level (96.69) due to the combination of a comparatively high net pension replacement rate of the average net wage (87.1) and the highest theoretical relative pensions of the self-employed as percentage of those of employees (111.1). Austria is the only country in the study that shows a higher theoretical relative pension for the self-employed compared to employees. Portugal shows the second highest overall benefit level of 80.75, with equal net pension replacement rates of the average net wage (90.3) and theoretical relative pensions of the self-employed (89.4), followed by Finland (63.18), France (62.84) and Italy (55.99) where the benefit level is above the average of 49.65. Countries with more modest benefit levels are Belgium (49.34), Sweden (43.61), Denmark (38.66) and Spain (34.45), while countries with the lowest benefit levels are the UK (25.65), Germany (24.64) and Poland (19.98). Although Poland provides a higher theoretical relative replacement rate for the self-employed compared to the UK and Germany (61.8 in Poland vs 46.6 in Germany and 44.1 in the UK), the net pension replacement rate of the average net wage is the lowest among the study countries (32.3) (Table 4).

# Overall generosity

Combining the findings for the two dimensions of oldage pension generosity for the self-employed shows to which types of old-age pension generosity the 12 countries belong. The first type of high generosity is characterised by a high benefit level and a low degree of strictness of access. Portugal, France, Finland and Italy can be assigned to this type. Belgium is a borderline case since the benefit level is only slightly below the average. As such, Belgium is classified as belonging to the basic security type, which contains a low benefit level and a low degree of the strictness of access, together with Sweden, Denmark and Poland. The third type is the type of low generosity, which shows a low benefit level and a high degree of strictness of access. Germany, Spain and the UK can be assigned to this type. Only Austria belongs to the type of selective generosity, which is characterised by a high benefit level and a high degree of strictness of access. Overall, a higher degree of strictness of access coincides with a lower benefit level, with Austria and Poland being outliers, indicating a negative relationship between the two dimensions (Figure 1).

TABLE 4 Benefit level of old-age pensions for the self-employed.

	Net pension replacement rates by earnings, per cent	Theoretical relative pension of the self-employed compared to employees, per cent	Overall benefit level, per cent
Austria	87.1	111.1	96.69
Belgium	61.9	79.7	49.34
Germany	52.9	46.6	24.64
France	74.4	84.4	62.84
Poland	32.3 <sup>a</sup>	61.8	19.98
UK	58.1	44.1	25.65
Denmark	84.0	46.0	38.66
Sweden	56.2	77.6	43.61
Finland	63.2	100.0	63.18
Italy	81.7	68.6	55.99
Spain	80.3	42.9	34.45
Portugal	90.3	89.4	80.75

<sup>a</sup>Mean of the net replacement rate for men (36.5) and women (28.2). Source: Author's compilation based on OECD (2021).

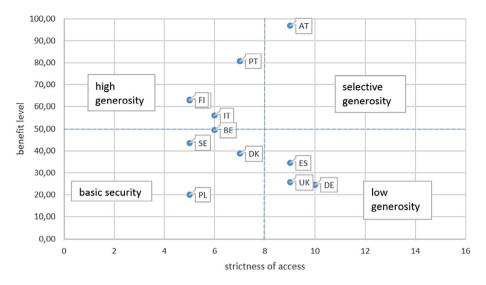


FIGURE 1 Overall generosity of old-age pensions for the self-employed. Source: Author's compilation.

## DISCUSSION AND CONCLUSION

Although standard employment has been declining in Europe in the last decades and nonstandard forms of employment, such as self-employment, have become increasingly important (European Commission, 2020), research on generosity as one of the major concepts for comparative welfare state analysis has still focused on standard employment. At the same time, despite the increasing research interest in old-age security of the selfemployed, the literature has dealt mainly with the outcomes of self-employment for old-age pension income and the risk of poverty and has not measured or compared old-age pension generosity for the self-employed. Consequently, there is a 'missing link' between the literature on generosity and old-age pension for the selfemployed. Hence, this paper examines in how far the generosity of old-age pensions for the self-employed differs between European welfare states.

While most research on the generosity of pensions has measured generosity on a one-dimensional scale, this paper presents an alternative approach, measuring the generosity of old-age pensions for the self-employed in the form of a two-dimensional typology. This approach allows for a more complex analysis of the institutional regulations underlying generosity. The empirical analysis has shown that country differences between countries such as Poland, which combines a rather low strictness of access and a low benefit level (type basic security), and the UK, Spain and Germany (type low generosity), which show a high strictness of access and a low benefit level, cannot be captured using a one-dimensional approach. The same is the case for differences between Finland or France (type high generosity) and Austria (type selective

generosity), as the former two countries are among the countries with the lowest degree in the strictness of access and Austria has the highest benefit level among the countries analysed. Therefore, the proposed typology for the generosity of old-age pensions for the self-employed not only provides new insights into the institutional design of old-age pension systems for the self-employed from a comparative perspective, but it also presents an alternative methodological approach to the analysis of pension generosity in general.

Despite the methodological differences in the measurement of generosity, it is worthwhile to compare the findings of this study on the generosity of old-age pensions for the self-employed with existing knowledge on the generosity of old-age pensions for employees. The existing literature shows that Germany, the UK and Poland are among the countries with the lowest generosity levels (Grech, 2015; Scruggs & Tafoya, 2022). This is in line with the findings of old-age pensions for the selfemployed in this study, although—as mentioned in the previous paragraph—analysing just the degree of generosity does not properly uncover the differences between countries' social rights. Sweden and Denmark are also characterised by a below-average generosity of old-age pensions for employees, while among the Nordic countries, Finland is more generous (Grech, 2015; Scruggs & Tafoya, 2022). According to Grech (2015) and Marcinkiewicz and Chybalski (2022), Austria shows the highest degree of generosity among the 12 countries analysed in this paper and Italy, Spain, Portugal and France display a rather high degree of old-age pension generosity for employees. Hence, the previous findings for old-age pension generosity for employees point to rather similar country differences to the findings of this study for the

self-employed. However, the former only indicates a higher or lower degree of generosity, leaving out qualitative differences in social rights in old-age pensions.

Cross-country differences in old-age pension generosity were often discussed in the context of the risk of poverty in old age. Findings for old-age pension generosity for employees show that in those countries with a lower degree of pension generosity, the risk of being poor in old age is higher (Ebbinghaus, 2021; Kuitto et al., 2021). This issue is of special relevance for many self-employed persons because an increasing number of the self-employed belong to the more 'vulnerable' groups on the labour market that are characterised by low income and precarious working conditions, which is the case, for example, for many solo-self-employed persons (Conen & Schulze Buschoff, 2019; Horemans & Marx, 2017). These selfemployed persons have a low capacity to save money privately for old age and rely more strongly than others on public old-age pensions. According to the abovementioned findings for the relationship between pension generosity and being at risk of poverty in old age, we can assume that especially in countries belonging to the basic security type and the low generosity type, the more 'vulnerable' groups of the self-employed are at a higher risk of relying on social assistance benefits and of being poor in old age. If governments—especially in the UK, Germany, Spain and Poland—aim at avoiding such reliance of social assistance, they would need not only to make access to old-age pensions less strict (in Germany, Spain and the UK), but also to increase benefit levels (in Poland, Germany and the UK). In Germany, including all self-employed persons into the GRV has been on the political agenda for years, however, there has been no reform so far (Mayerhofer, 2023). Such a reform would clearly increase the coverage of public old-age pensions for the self-employed.

Regarding the limitations of this study, one major difficulty in analysing old-age pension generosity for the self-employed is measuring the benefit level because it requires reliable and comparable country data. The best available sources for this are the data provided by the OECD on net pension replacement rates by earnings and the theoretical relative pension of the self-employed compared to employees (see above). Both measures refer to the average net income before taxes, which does not allow us to consider the great variations in the income situations of the self-employed. More complex measures would be helpful for future country-comparative analyses of old-age pensions for the self-employed. A second limitation of the study is that it does not include minimum income pension schemes, such as social assistance benefits for persons above pension age because the proposed typology does not analyse the risk of poverty of the selfemployed in old age, but rather the main old-age pension schemes for the self-employed. However, for more specific analyses of the risk of poverty among the self-employed in old age, a more specific investigation of minimum income pensions would be worthwhile. Finally, some of the analysed welfare states, especially Germany and France, show a highly fragmented old-age pension system for the self-employed. To capture the differences between these schemes in more detail, case study analyses of the generosity of old-age pension schemes for the self-employed in these countries could be conducted.

Finally, one lesson of this study for the future research on nonstandard employment is that datasets on social rights should go beyond their current focus on the APW. This would allow deeper country comparative analyses of the social protection of individuals in nonstandard forms of employment. Moreover, while this study has focused on pension generosity for the self-employed, it would be worthwhile to analyse other areas of social policy like generosity of family policy for persons in nonstandard employment or long-term care.

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## CONFLICT OF INTEREST STATEMENT

The author has no competing interests to declare that are relevant to the content of this study.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are all mentioned in the reference list and are publicly available.

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# APPENDIX A

 ${\bf TABLE~A1} \quad \text{Analysed pension schemes for the self-employed.}$ 

Country	Pension scheme
Austria	Pensionsversicherung nach dem Gewerblichen Sozialversicherungsgesetz/Freiberuflichen-Sozialversicherungsgesetz, Pensionsversicherung nach dem Bauern-Sozialversicherungsgesetz
Belgium	Zelfstandigenpensioen
Germany	Gesetzliche Rentenversicherung (GRV), landwirtschaftliche Alterssicherung
France	Régime général des salariés, Mutualité sociale agricole (MSA), Assurance vieillesse des professions libérales
Poland	Ubezpieczenie emerytalne, Ubezpieczenie społeczne rolników
UK	New State Pension
Denmark	Folkepension (basic pension)
Sweden	Allmän pension (including basic (guarantee) pension, income pension and premium pension)
Finland	Kansaneläke (national pension) Yrittäjän eläkelaki (YEL), Merimieseläkelaki (MEL), Maatalousyrittäjän eläkelaki (MYEL) (except for the retirement age, they all share the same qualifying conditions as in the scheme for private sector employees)
Italy	Gestione coltivatori diretti, coloni e mezzadri (CDCM), Gestione artigiani, Gestione commercianti, Gestione separata lavoratori parasubordinati (all with the same eligibility conditions like in the scheme for public sector employees Fondo pensioni lavoratori dipendenti, FPLD)—Regimi pensionistici 'privatizzati' dei liberi professionisti
Spain	Régimen Especial de Trabajadores Autónomos
Portugal	Regime geral da segurança social

Source: Author's compilation.