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article

## Precariousness among solo self-employed workers: a German–Dutch comparison

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In this article we compare solo self-employment in Germany and the Netherlands. We identify parallels and differences in the structure of solo self-employment and examine to what extent self-employment is related to a precarious situation in terms of earnings and social security. The results show that solo self-employed workers are relatively vulnerable in terms of income and disability insurance in both countries. As compared to the Netherlands, German solo self-employed workers seem to have a higher risk of precariousness, particularly in terms of income and poverty in old age. The article concludes with recommendations for action that follow from the findings.

**Key words** self-employment • atypical and precarious employment • social security • income • social security systems • social policy

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### Introduction

In many European countries self-employed labour has increased significantly over the last few decades. The ‘new’ self-employed often do not fit the profile of the ‘traditional’ self-employed (such as shopkeepers, farmers and middle-class businesses); self-employment increasingly includes a rather heterogeneous category, covering a broad bandwidth of branches and fields. The ‘new’ self-employed work as IT-experts, business consultants and click workers, but also as masons, carpenters, truck drivers or in domestic care. Their business activities are often based on their own human capital and tend to pose relatively small requirements to economical and personal resources at start-up. Microenterprises as well as small and solo companies can therefore be founded without any or only small financial assets. In the EU, more than two-thirds of all self-employed workers are solo self-employed. People are described as solo self-employed if they work in their own business or professional practice for the purpose

of earning a profit, and do not employ other people (Eurostat, 2003; Conen et al, 2016; Eurofound, 2017a).

Causes for the growing proportion of microenterprises in various countries include the growing importance of new business models and changes in the organisation of work, organisational decentralisation with increasing outsourcing activities by companies, and governmental employment policies including specific start-up funding to get out of unemployment as well as (other) institutional revisions and deregulations. Moreover, the sectoral change and especially the growing importance of the service sector seems to have played a role. Finally, individuals make transitions into self-employment under influence of the economic climate, that is, accompanied by absent or unsatisfactory chances for dependent employment (Torrini, 2005; OECD, 2013; De Graaf-Zijl et al, 2015; Brenke and Beznoska, 2016; Conen et al, 2016; De Beer, 2018).

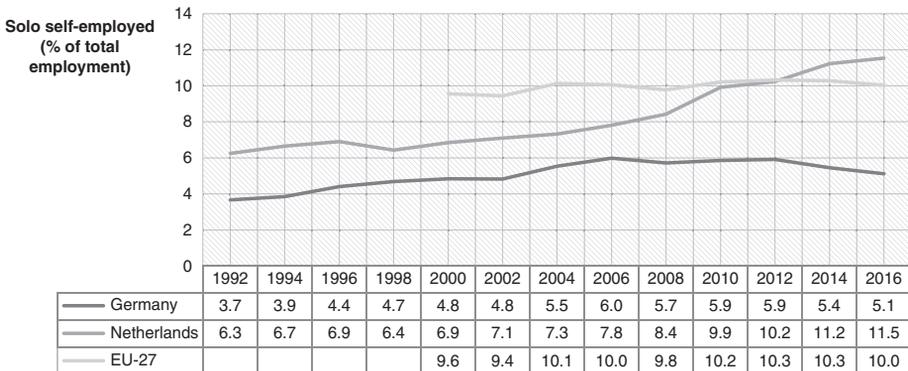
Compared to other European countries, the Netherlands constitutes an interesting case when it comes to developments in solo self-employment; in almost no other European country the proportion of solo self-employed individuals in total employment has increased so strongly since the 1990s (from 6.3 per cent in 1992 to 11.5 per cent in 2016). Germany on the other hand has witnessed a much more moderate growth (Eurostat, 2017). This raises the question of whether and how the structure and development of solo self-employment differs between Germany and the Netherlands, and how this relates to developments at the EU level.

An underlying concern with various nonstandard work arrangements are claims that these jobs are relatively 'bad' for workers, but whether the growth of solo self-employment is indeed problematic largely depends on the quality of these jobs (Kalleberg et al, 2000). Traditionally, self-employed workers have been treated as 'insiders' on the labour market, fitting the category of independent entrepreneurs who voluntarily seek to gain higher utility from income, autonomy, flexibility and other working conditions attributed to a job in self-employment. However, the group of solo self-employed is also increasingly associated with involuntary and precarious forms of self-employment (Kautonen et al, 2010; Schulze Buschoff and Schmidt, 2009; Stone, 2006; Westerveld, 2012). We therefore will direct the question away from the prevalence of solo self-employment and towards the link between solo self-employment and dimensions of precariousness.

Precariousness has been defined, conceptualised and examined in several ways, addressing various potential dimensions of precariousness. While some concepts and typologies mainly encompass economic rewards such as earnings and fringe benefits, others also include aspects like autonomy and control over the labour process, degree of work uncertainty and employability factors (Stone, 2006; Vosko, 2006; Kalleberg, 2011; OECD, 2014; Eurofound, 2015; Broughton et al, 2016). In this article, employment is considered precarious when accompanied by increased existential insecurity; underlying criteria are a relatively low income and a lack of social security against risks such as poverty in old age, sickness, disability or unemployment (Conen and Schippers, 2019). We focus on such basic and fundamental dimensions of precariousness and the differences therein between German and Dutch solo self-employed. In other words: the main research question focuses on whether German and Dutch solo self-employed people differ in terms of two fundamental dimensions of precariousness: income and social security.

Overall, this study aims to shed more light on what country-specific or transnational factors play a role in developments in solo self-employment and examine factors that seem conducive to precarious forms of self-employment in both countries. Based on

**Figure 1: Solo self-employment as a share of all employees in EU-27, Germany and the Netherlands (age 15–64 years), 1992–2016**



Source: Eurostat/Labour Force Survey, 2017.

the findings, the conclusion gives recommendations for action, especially with regard to the debate on social security.

### Structure and development of solo self-employment: an international comparison

In the past few decades, the long-term historical decline in self-employment as a proportion of total employment has slowed in various western economies and in some countries even reversed, although the occurrence, magnitude and timing of this ‘renaissance’ of self-employment differs largely between countries. This transition can also be observed in Germany and the Netherlands (OECD, 2000; Conen et al, 2016), but the increase in solo self-employment has been more moderate in Germany. Figure 1 shows that in the Netherlands, the proportion of total employment was 6.3 per cent in 1992 and rose to 11.5 per cent in 2016; in Germany the share of total employment was 3.7 per cent in 1992 and 5.1 per cent in 2016. Since 2012, the number of self-employed workers has even declined slightly in Germany (Brenke 2015, 790). In both countries, for a substantial share of workers solo self-employment functions as an ‘additional’ income or side job, that is, their main income comes, for instance, from a job in wage employment or pensions (Statistics Netherlands, 2016; Conen et al, 2016; Kremer et al, 2017; Schulze Buschoff, 2018).

Particularly with respect to the qualification of solo self-employed workers, there are several parallels between Germany and the Netherlands that differ from the EU-27 development in general. In both countries the proportion of highly educated solo self-employed people is among the highest in Europe (43 per cent in Germany and 42 per cent in the Netherlands (ISCED level 5–6) compared to 32 per cent in the EU average in the year 2015) (Conen et al, 2016, 31). Especially in Germany, a significantly higher proportion of self-employed people is highly qualified in comparison to the total number of employees (43 per cent of the solo self-employed compared to 29 per cent of the total workforce; in the Netherlands 42 per cent of solo self-employed workers are highly qualified compared to 36 per cent in the total workforce). Only a very small and far below-average part of the solo self-employed in Germany has no vocational training (Brenke, 2013, 6).

There are also parallels between the Netherlands and Germany with respect to the share of women being solo self-employed; 39 per cent and 40 per cent of the solo self-employed are women, whereas the EU-27 average is 34 per cent (compared to 47 per cent of the total workforce in Germany and the Netherlands, and 46 per cent in the EU-27 as a whole) (Conen et al, 2016, 31). In both countries, the age distribution of the solo self-employed is similar to the EU-27-wide distribution: younger age groups (15–24 and 25–49 years old) are more rarely and older age groups (50–64 and 65–74 years old) more significantly represented in solo self-employment as compared to the total workforce (Conen et al, 2016, 31).

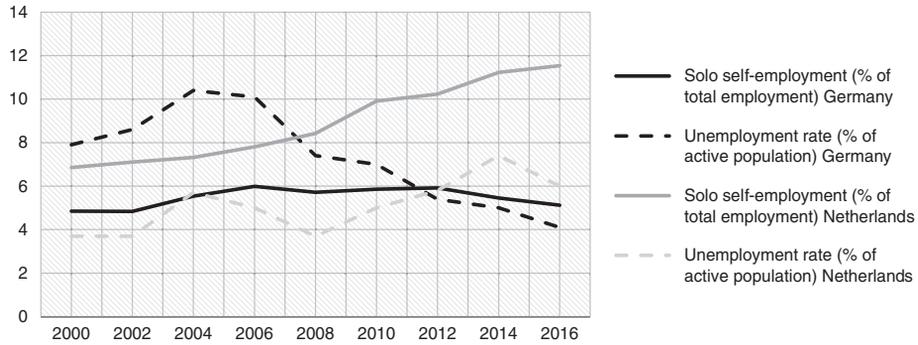
### *Sectors and occupations*

Germany and the Netherlands differ considerably in their industry mix: in the Netherlands the service sector and agricultural sector are relatively large, whereas Germany has a larger industry sector. With regard to the structure within the group of solo self-employed, there are transnational parallels. In Germany the areas of ‘freelance, scientific and technical activities’ (15 per cent), ‘construction industry’ (11 per cent) and ‘wholesale and retail’ (10 per cent) formed the most important fields of activity for solo self-employed in 2015; in the Netherlands these were ‘freelance, scientific and technical activities’ (18 per cent) and ‘construction industry’ (11 per cent), as well as ‘health care, nursing and social services’ (11 per cent). In comparison, the largest share of solo self-employed across the EU-27 was in ‘agriculture, forestry and fisheries’ (19 per cent). Proportionally in the EU-27, however, the dominating sectors in Germany and the Netherlands were ‘wholesale and retail’ (14 per cent), ‘construction industry’ (13 per cent) and ‘freelance, scientific and technical activities’ (13 per cent), which were also important as fields of activity for solo self-employed. The growth in solo self-employment in both countries mainly seem to be attributable to a growth in ‘construction’ and different kinds of ‘services’ in both the public and the private sector. In terms of occupations, in both Germany and the Netherlands an increase in ‘professionals’ and ‘technicians and associate professionals’ largely contributed to the growth, and, especially in the Netherlands, occupations in the area of ‘craft and related trades’ also increased considerably (Conen et al, 2016; Scheer et al, 2016). Sectoral distribution and areas of growth within the group of solo self-employed are in general fairly comparable between the two countries.

### *Motives: push or pull?*

From the literature we know that individuals are attracted to self-employment because of independence, more autonomy and because of higher expected earnings relative to employment (for example, Taylor, 1996; Parker, 2004; SER, 2010). However, individuals may also be ‘pushed’ into self-employment. As Kautonen et al (2010) point out: “‘Involuntariness’ as a motive for self-employment implies that an individual becomes self-employed even if they prefer paid employment, while at the same time they perceive the benefit from the self-employment to exceed the opportunity cost of the next best alternative in the labour market (or unemployment)’ (p 114). The recession–push hypothesis refers to the idea that in times of contraction, individuals may more often become self-employed, because jobs in paid employment are scarce and individuals ‘resort’ to self-employment.

**Figure 2: Solo self-employment and unemployment rate, Germany and the Netherlands, 2000–16**



Source: Eurostat/ Labour Force Survey, 2017.

Figure 2 shows that in Germany the unemployment rate as a share of the active population was relatively high (and increasing) as compared to the Netherlands in the early 2000s, but gradually decreased since 2006. In the Netherlands, the economic crisis starting in 2008 seems to have had a much larger impact. Since 2012, the unemployment rate in the Netherlands is higher than in Germany. As an answer to the question about what motives there were to becoming solo self-employed, the large majority of respondents in both Germany and the Netherlands mention ‘pull’ factors to make this transition. Nevertheless, ‘involuntary’, ‘necessity-based’ or ‘push’ factors also play a role. Respondents in Germany relatively often mention a ‘push’ into solo self-employment, although the share of involuntary self-employed workers seems to have been increasing in the Netherlands in more recent years (Brenke, 2013; Singer et al, 2015; Conen et al, 2016; Van der Zeijden et al, 2016), which may be related to the economic climate.

## Data and methodology

### Data

To study precariousness among solo self-employed people in terms of income adequacy and social protection, both primary survey data and secondary data were analysed.

Earnings and income adequacy were analysed using secondary data sources. For the analyses of earnings we used panel data from the German Socio-Economic Panel (GSOEP) and the Dutch Labour Supply Panel (DLSP), covering the period 2000 to 2010. The two surveys contain detailed information at the individual level on work-related aspects, socio-economic and socio-demographic variables in Germany and the Netherlands. The variables on labour market status and income are of a similar nature in the two surveys. Measurements on in-work poverty and material deprivation among self-employed workers were taken from Horemans and Marx (2017), who base their findings on EU-SILC data 2014. Finally, self-assessed evaluations of the financial situation of the household were based on the European Working Conditions Survey 2015.

For the analyses regarding social protection, data were used from the Survey Solo Self-Employment [SSE]. This survey contains data on behaviour and attitudes towards

work and social security among solo self-employed workers in Germany and the Netherlands in 2014. The total number of completed questionnaires was  $n = 757$  in Germany and  $n = 793$  in the Netherlands; a total of  $n = 1550$ . The data collection was carried out by TNS Nipo and the method used was computer-assisted web interviewing (CAWI). The questionnaires used in both countries were identical and a double translation procedure was followed. At the start of the questionnaire, screening questions were posed to check whether respondents were (still) solo self-employed. For the analyses in this article we restricted the sample to solo self-employed people between 18 and 65 years of age, resulting in a total sample of  $n = 1,389$ . More details about SSE in terms of methods and data quality are described elsewhere (Conen et al, 2016).

## *Analyses*

Multivariate logistic regression analyses and ordered logistic regression analyses were used to estimate the impact of financial means, behavioural aspects and various control variables on the probability for solo self-employed workers to have disability insurance and perceived future retirement income adequacy. The dependent variable on disability insurance was operationalised by asking whether self-employed people have disability insurance for their work as a solo self-employed worker ('1' yes, '0' no). The dependent variable on perceived future retirement income adequacy was operationalised by asking whether self-employed pension savings and other sources of income are sufficient to live comfortably after retirement ('1' completely disagree to '5' completely agree). In the estimated models we included predictor variables on financial means, behavioural aspects and background variables to control for work-related and socio-demographic differences. Both the financial background and impact of behavioural aspects are assumed to stimulate or hamper social protection measures. In terms of logic, that is, assessing the impact of both financial and behavioural aspects as well as background variables, these analyses build on earlier works from the authors, such as for instance in Conen et al (2016) and Hershey et al (2017). The analyses in this study differ in terms of their focus on precariousness along the dimensions of income and social security and as a consequence also in terms of both dependent and/or independent variables.

A variable on household gross income was used to capture the effect of financial background. As explained in Hershey et al (2017), household gross income was measured in seven income bands from low (<€12.5K/year) to high (>€78.5K/year). Because item non-response for this household income variable was 13.3 per cent, missing values for income were set to the mean of the distribution and a dummy indicator was created for use in the regression models to reflect 'income is missing' (0 = valid response; 1 = missing).

Self-assessed financial knowledge was assessed from a three-item scale taken from earlier research (for example, Jacobs-Lawson and Hershey, 2005; Hershey et al, 2007), employing a 5-point Likert-type response format ('1' strongly disagree to '5' strongly agree). This construct includes items such as 'I know a lot about financial planning' ('1' strongly disagree to '5' strongly agree) (German  $\alpha = 0.74$ ; Dutch  $\alpha = 0.71$ ). One's orientation to time was operationalised by the respondent's answer to the statement 'I pretty much live on a day-to-day basis' ('1' strongly disagree to '5' strongly agree). Risk tolerance was assessed using a single-item

indicator that involved a response to the following statement: ‘How do you see yourself: Are you generally willing to take risks (risk-prone), or do you try to avoid risks (risk-averse)?’ Answers were recorded using a 10-point response scale (1 = risk-averse; 10 = risk-prone).

We also controlled for a number of characteristics of the solo self-employed in the analysis. Our list of controls includes gender (‘0’ female, ‘1’ male), the worker’s age, educational attainment level (translated into the International Standard Classification of Education (ISCED)), (in)voluntary self-employment, number of hours worked per week in the self-employment job and having a partner with a paid job. Finally, a dichotomously coded indicator was used to classify the country of origin of individuals (0 = Germany; 1 = the Netherlands).

## Precariousness among solo self-employed

The main research question focuses on whether German and Dutch solo self-employed workers differ in terms of two fundamental dimensions of precariousness: income and social security.

### *Income*

Broad consensus exists that income is a fundamental dimension of precariousness. Over time, a large literature has emerged on various concepts (including earnings, in-work poverty, low-income households, material deprivation), covering different units of analysis (job, individual, household). Unfortunately, self-employed people are left out of empirical analyses in a large majority of studies in this area (for example, Parker, 2004; Cretzaz, 2013). One of the main reasons probably is that particular problems arise with *income from self-employed*, which is notoriously hard to measure and compare.<sup>1</sup> Nevertheless, some methods have been used to compare payoff from self-employment.<sup>2</sup>

First, at the job level, earlier research finds that solo self-employed workers tend to have lower median earnings than employees with the same observed characteristics, but their earnings are also more polarised (for example, Hamilton, 2000; Brenke, 2013; Åstebro and Chen, 2014; Conen et al, 2016; Sorgner et al, 2017). This polarisation of income among solo self-employed workers (compared to employees) applies to both Germany and the Netherlands (see Table 1). Comparing median and mean hourly wages between solo self-employed workers shows, in general, lower values for Germany. However, since this difference can also be attributed to a different price structure or purchasing power, the comparison with the average hourly wages of dependently employed people may be more revealing. This shows that the median hourly wages of the solo self-employed in Germany and the Netherlands are both below those of the dependently employed; the difference is larger in Germany than in the Netherlands.

Calculations by Brenke (2015) on the basis of the German micro-census corroborate results of polarisation. In Germany, the proportion of people with low incomes among the solo self-employed is higher than among the dependently employed (Brenke, 2015, 795) and the proportion of solo self-employed people earning incomes of €25 per hour or more, has increased.

However, ‘because more and more individuals hold multiple jobs, and because people reproduce themselves in households, a focus on a main job does not capture

**Table 1: Earnings and income adequacy among solo self-employed and employees**

	Germany		The Netherlands	
	Solo self-employed	Employees	Solo self-employed	Employees
Net hourly income, median <sup>1</sup>	€ 7.69	€ 8.73	€ 10.30	€ 10.72
Net hourly income, mean <sup>1</sup>	€ 10.36	€ 10.00	€ 21.11	€ 12.32
	<i>Percentage</i>			
In-work poverty <sup>a,2</sup>	23.7	8.6	11.1	4.3
Material deprivation <sup>b,2</sup>	7.4	7.4	4.7	5.7
Financial household situation <sup>c,3</sup>	8.8	4.1	5.2	3.1

Notes: <sup>a</sup> annual equivalised household disposable income below 60 per cent of national median, individuals are 'in-work' when employed for more than half the income reference period of one year; <sup>b</sup> living in a household that lacks 3 out of 9 items: (1) afford one week annual holiday away from home; (2) face unexpected expenses; (3) avoid arrears (mortgage or rent, utility bills or hire purchase instalments); (4) afford a meal with meat, chicken, fish or vegetarian equivalent every second day; (5) afford to keep their home adequately warm; (6) afford to have a car/van for private use (if wanted); (7) afford to have a washing machine (if wanted); (8) afford to have telephone (if wanted); (9) afford to have a television (if wanted); <sup>c</sup> A household may have different sources of income and more than one household member may contribute to it. Thinking of your household's total monthly income, is your household able to make ends meet...?

Sources: <sup>1</sup> SOEP, 2007 and DLSP, 2016 [period 2000 to 2010; own calculations]; <sup>2</sup> Horemans and Marx, 2017 [reported year 2014]; <sup>3</sup> European Working Conditions Survey [2015, own calculations]

fully the ways in which people piece together a living' (Vosko, 2006). Indeed, a substantial share of individuals who have a job in self-employment are – probably more often than is the case with wage and salary workers in low income jobs – not or not completely dependent on this income. For instance because they have a working spouse, a second job or other sources of income such as a pension (Delmar et al, 2008; Conen et al, 2016). The implication is that although earnings at the job level may provide information about economic independence or the quality of jobs, it does not capture whether one's job in self-employment is related to an overall precarious or rather self-sufficient individual or household situation.

In that light, the concept of in-work poverty has evolved rapidly and various approaches have been introduced.<sup>3</sup> Horemans and Marx (2017, 16) find that solo self-employed people in Europe, including in Germany and the Netherlands, generally face significantly higher in-work poverty risks than employees (Table 1). Compared to Germany, the in-work poverty rate among Dutch solo self-employed workers seems rather 'modest'.

Given, however, that self-employment includes the opportunity of success as well as the risk of misfortune with one's business and the potential large variation in income flows between years, the question arises of whether it is not only natural to see more polarised *annual* earnings and *annual* in-work poverty rates among these entrepreneurs. To take such considerations into account, as well as the particular difficulties that arise from analysing *income* data for self-employed people, other complementary indicators of poverty may be relevant (Parker, 2004; Nolan and Whelan, 2010; Crettaz, 2013; Horemans and Marx, 2017).

For that matter, material deprivation refers to the inability of individuals or households to afford those consumption goods and activities that are typical in a society at a given point in time.<sup>4</sup> The picture on poverty among self-employed

people changes when this concept is taken as a starting point; in various countries (including the Netherlands and Germany) those who are solo self-employed and those who are employees do not significantly seem to differ in their level of material deprivation.

Yet another way of addressing income adequacy and poverty among self-employed workers is to ask for self-assessed evaluations of the financial situation of the household. Table 1 shows results from the European Working Conditions Survey, indicating that 5 per cent of Dutch and 9 per cent of German solo self-employed workers report facing 'difficulty' or 'great difficulty' in making ends meet with the household's total monthly income. In both countries this share is higher than among employees.

The overall picture that emerges from the literature and Table 1 is that solo self-employed workers seem to be more vulnerable to income inadequacy than employees, and on all indicators the risk of low pay or poverty seems larger among German than among Dutch solo self-employed workers.

### *Social protection*

Besides different income conditions, precariousness can also arise from lacking social security. In the following we reflect upon the fundamentally different conditions between the social security systems of the two countries.

Table 2 provides some insight into differences and similarities in the social security framework between solo self-employed people in Germany and the Netherlands, categorised by type of social risks. Self-employed people are traditionally seen as workers embodying an individualised type of risk management and autonomous actors in their decision on whether or not to engage in social insurance (Dekker, 2010; SER, 2010; Vonk and Jansen, 2017).

Germany has a mixed system of national insurance schemes with varying levels of coverage for different target groups (for example, health, sickness and disability, and risk of poverty in old age) and employee insurance schemes providing income maintenance for wage earners (for example, unemployment, pregnancy and childbirth). Since 2009, the insurance obligation in the health insurance system exists for the entire population and thus also for the self-employed (Schulze Buschoff, 2016a). Germany has some special features with respect to social protection for self-employed workers as compared to other European countries, as some compulsory insurance (for example, disability and poverty in old age) is limited to a few special groups of self-employed people according to the tradition of Bismarck's social insurance.<sup>5</sup> Behind this is the idea that *in principle* self-employed workers can provide for themselves and do not need the collective protection of the insured person's solidarity. However, for specific groups of self-employed workers, it was assumed that the assumption of a lack of protection was not justified and they were gradually integrated into the state insurance system. Today, about a quarter of the self-employed are in compulsory special schemes, with the conditions differing widely depending on the profession. These special schemes, as well as the statutory pension insurance as a whole, are strongly oriented to the equivalence principle. Gaps in the occupational biography and low incomes are reflected in pensions. Accordingly, age poverty is to be feared not only in the case of uninsured solo self-employed worker, but also among those who are integrated into the state pension system but are among the low paid. Besides these exceptional groups of solo self-employed workers for specific insurances, the self-employed are

**Table 2: Social security for solo self-employed in Germany and the Netherlands**

	Germany	Netherlands
Unemployment	<ul style="list-style-type: none"> <li>Since 2006, self-employed who used to be employees have the option to <i>remain</i> in the unemployment insurance system on a voluntary basis (SGB III)</li> </ul>	<ul style="list-style-type: none"> <li>No access to Unemployment Insurance Act (WW)</li> <li>(WW-rights can be 'revived' if self-employed stop within certain time frame)</li> </ul>
Health	<ul style="list-style-type: none"> <li>Compulsory health insurance applies to all residents, including all groups of self-employed (SGB V)</li> </ul>	<ul style="list-style-type: none"> <li>Included in healthcare Insurance Act (ZVW)</li> <li><i>Compulsory social insurance based on residency, contribution based</i></li> </ul>
Sickness and Disability/ Invalidity	<ul style="list-style-type: none"> <li>Access to reduced capacity insurance and right to pensions in case of reduction in earning capacity (SGB VI, VII, IX) only for a few groups of self-employed persons.</li> </ul>	<ul style="list-style-type: none"> <li>No access to Sickness Benefits Act (ZW) or Work and Income according to Labour Capacity Act (WIA)</li> </ul>
	<ul style="list-style-type: none"> <li>Insurance via private market (sickness and disability)</li> </ul>	<ul style="list-style-type: none"> <li>Insurance via 'Broodfonds' [Bread fund] (sickness) or private market (sickness and disability)</li> </ul>
Poverty in old age	<ul style="list-style-type: none"> <li>Statutory pension insurance (GRV) for about a quarter of self-employed</li> </ul>	<ul style="list-style-type: none"> <li>General Old Age Pensions Act (AOW)</li> <li><i>Basic universal coverage for all residents (including all self-employed)</i></li> </ul>
	<ul style="list-style-type: none"> <li>Usually excluded from second pillar occupational pensions</li> </ul>	<ul style="list-style-type: none"> <li>Usually excluded from second pillar occupational pensions</li> </ul>
	<ul style="list-style-type: none"> <li>Third pillar voluntary private pensions. Riester pensions are subsidised by the state, but only available for dependent employees and a few groups of self-employed persons. Solo self-employed can conclude (also subsidised) Rürup pensions</li> </ul>	<ul style="list-style-type: none"> <li>Third pillar voluntary private pensions</li> </ul>
Pregnancy and childbirth	<ul style="list-style-type: none"> <li>Access to Mother Protection Act (Mutterschutzgesetz MuSchG) only for employee-like persons (since 1.1.2018)</li> </ul>	<ul style="list-style-type: none"> <li>Self-employed women receive at least the minimum wage for 16 weeks via Work and Care Act (WAZO)</li> <li>As an alternative the woman can opt for a benefit to hire a replacement during her antenatal and childbirth leave. Replacement is appointed by a professional agency.</li> </ul>
	<ul style="list-style-type: none"> <li>Fiscal facilities</li> </ul>	<ul style="list-style-type: none"> <li>Fiscal facilities, such as start-up allowances and SME profit exemption</li> </ul>

Sources: SER, 2010; Bögenhold and Fachinger, 2012; Haun and Jacobs, 2016; MISSOC, 2016; Schulze Buschoff, 2016a; 2016b; Vonk and Jansen, 2017; Schulze Buschoff, 2018

largely expected to protect themselves against the risk of, for example, unemployment, sickness and disability and poverty in old age in the private insurance market.

The Netherlands has a mixed system of national insurance schemes covering the entire population at a minimum level (for example, health and risk of poverty in old age) and employee insurance schemes providing income maintenance for wage

earners (for example, unemployment, sickness and incapacity for work). In terms of basic universal coverage, all Dutch residents – including the self-employed – are entitled to a basic pension after retirement age; the amount of benefits of this retirement pension is poverty-avoiding. Social health insurance is compulsory, contribution-based and based on residency. Whereas wage earners are covered by employee insurance schemes and occupational pension plans, self-employed workers are supposed to cover social risks such as unemployment, sickness and disability and supplementary pension themselves. Solo self-employed workers are partly compensated through fiscal facilities for entrepreneurs, generally lowering the taxable income of the self-employed.

Overall, solo self-employed people in the Netherlands are more integrated into the state social insurance system than the solo self-employed in Germany, mainly because several national insurance schemes cover the *entire* population at a minimum level (based on residency rather than occupational biography). Three types of risks that solo self-employed people face in *both* countries and which are covered in the current framework to varying but limited degrees are thus the risk of unemployment, sickness, disability and poverty in old age.

On the one hand, this study will not address the question whether self-employed people in Germany and the Netherlands protect themselves against the risk of unemployment or sickness. Self-employed people in both countries are largely of the opinion that these – typically – short-term spells without work are inherent to a job in self-employment. In that light, self-employed workers also seem to have no desire for collective strategies in relation to unemployment risk (Dekker, 2010; Conen et al, 2016). Although self-employed can still be precarious in terms of employment insecurity and may have to deal with substantial financial unrest resulting from unemployment or sickness, it is difficult to assess whether and how self-employed workers have covered these types of risks. Measurements capturing whether the self-employed have unemployment or sickness insurance do not suffice, as self-employed people may have other sources to cover such relatively short-term periods without work.

On the other hand, the situation is very different in the case of social protection in the areas of disability and poverty in old age; lacking methodical insurance in these areas is likely to have far more long-term consequences and it becomes virtually impossible to take corrective measures once faced with these risks. Especially when the self-employed person is the main breadwinner in the household, the consequences of becoming disabled while not having disability insurance can be substantial. The same holds when a self-employed person has not taken adequate measures to face poverty in old age.

The expectation that self-employed workers would protect the risk of incapacity for work in the private market, if deemed necessary, seems not to have been met in either country. Only around 20–25 per cent of contemporary solo self-employed people with a main income from self-employment have disability insurance in Germany and the Netherlands (Conen et al, 2016; Statistics Netherlands, 2017), and among those who are the main breadwinner in the household working more than 32 hours a week, this is still only 32 per cent (Germany) and 43 per cent (Netherlands) (Conen et al, 2016). The lack of disability insurance among the solo self-employed has led to increasing concerns about what such levels of underinsurance implicate for individuals, households, families and society as a whole (Conen et al, 2016; Kremer et al, 2017;

Klosse, 2017). Although for some a lack of insurance is a deliberate choice, it also means severe risk of precariousness and substantial insecurity and stress among the self-employed involuntarily lacking these provisions (Conen et al, 2016; Kremer, 2017).

Who are these solo self-employed people with or without disability insurance? In Table 3 we present multivariate logistic regression analyses carried out to explain disability insurance among the solo self-employed in more detail for Germany, the Netherlands and in total. For the analyses, we used data of a specifically designed survey among solo self-employed workers. The dependent variable on disability insurance was operationalised by asking whether self-employed people have disability insurance for their work as a solo self-employed person ('1' yes, '0' no). In the estimated models we included predictor variables on financial means, behavioural aspects and background variables to control for work-related and socio-demographic differences. The odds ratio represents the ratio of the probability of the self-employed having disability insurance to the probability that

**Table 3: Explaining disability insurance among solo self-employed, 18–65 years (logistic regression analysis)**

	Germany		Netherlands		Total	
	OR	p-value	OR	p-value	OR	p-value
Household income	1.22**	.00	1.23**	.00	1.21**	.00
Household income (missing)	1.40	.19	0.61	.11	0.96	.82
Financial knowledge	1.38*	.01	1.33*	.04	1.34**	.00
Orientation to time	0.87	.10	0.82*	.04	.84**	.00
Risk tolerance	1.04	.40	0.99	.79	1.01	.73
Work characteristics						
Voluntariness (0 = voluntary; 1 = involuntary)	0.59*	.02	1.23	.39	.85	.29
Hours worked/ week	1.01*	.02	1.03**	.00	1.02**	.00
Socio-demographic variables						
Age (years)	0.98	.07	0.96**	.00	0.97**	.00
Gender (0 = female)	1.00	.99	1.61*	.02	1.28	.08
Educational attainment level						
(Low = reference category)						
Medium	0.83	.61	1.08	.81	0.99	.98
High	0.82	.59	1.13	.70	1.00	.99
Partner (No partner = reference category)						
Working partner	0.78	.22	1.20	.51	0.93	.65
Non-working partner	0.79	.45	1.31	.40	0.98	.93
Country (0 = Germany; 1 = Netherlands)	-	-	-	-	1.10	.50
Pseudo R <sup>2</sup>	0.08		0.11		0.08	
N	696		693		1,389	

Notes: \* Significant at  $p < 0.05$ ; \*\* significant at  $p < 0.01$ . OR = odds ratio.

Source: Survey Solo Self-employment (SSE), 2014

**Table 4: Explaining perceived future retirement income adequacy among solo self-employed, 18–65 years (ordered logistic regression analysis)**

	Germany		Netherlands		Total	
	OR	p-value	OR	p-value	OR	p-value
Household income	1.34**	0.00	1.28**	0.00	1.31**	0.00
Household income (missing)	1.64*	0.02	1.14	0.52	1.37*	0.03
Financial knowledge	2.11**	0.00	1.94**	0.00	2.03**	0.00
Orientation to time	0.66**	0.00	0.65**	0.00	0.65**	0.00
Risk tolerance	1.05	0.12	1.00	0.95	1.03	0.24
Work characteristics						
Voluntariness (0 = voluntary; 1 = involuntary)	0.52**	0.00	0.54**	0.00	0.53**	0.00
Hours worked/ week	0.99	0.06	0.99*	0.02	0.99**	0.00
Socio-demographic variables						
Age (years)	1.01	0.26	1.02	0.06	1.01*	0.03
Gender (0 = female)	1.16	0.32	1.29	0.10	1.22	0.06
Educational attainment level						
(Low = reference category)						
Medium	0.93	0.80	1.03	0.90	1.00	0.99
High	0.81	0.48	1.01	0.95	0.93	0.67
Partner (No partner = reference category)						
Working partner	0.69*	0.02	0.85	0.42	0.76*	0.03
Non-working partner	1.31	0.28	0.98	0.95	1.07	0.70
Country (0 = Germany; 1 = Netherlands)	-	-	-	-	1.32**	0.00
Pseudo R <sup>2</sup>	0.13		0.11		0.12	
N	696		693		1,389	

Notes: \* Significant at  $p < 0.05$ ; \*\* significant at  $p < 0.01$ . OR = odds ratio.

Source: Survey Solo Self-employment (SSE), 2014

they have not. The analyses are restricted to solo self-employed workers between 18 and 65 years of age.

The estimation results show that in both countries the financial situation of solo self-employed people is positively related to having disability insurance. The higher the level of financial knowledge and the more future oriented solo self-employed people are, the more likely it is that they have disability insurance. The results do not support the hypothesis that the solo self-employed who are more risk-averse are more likely to cover these risks by opting for disability insurance. The results furthermore show that involuntary self-employed workers are less likely to have disability insurance in Germany, but in the Netherlands being involuntarily self-employed has no significant effect on having disability insurance. Solo self-employed people working more hours a week have a higher probability of having disability insurance<sup>6</sup> and older workers are less likely to have disability insurance. In the third model a dummy variable for the Netherlands was included. This model shows that

solo self-employed workers in the two countries do not differ in their probability of having disability insurance after controlling for the effects of financial means, behavioural aspects and characteristics.

Regarding the risk of poverty in old age, research is still limited on how much solo self-employed people save, also in ‘unconventional ways’, and whether this is sufficient to live comfortably in old age (Mastrogiacomo and Alessie, 2015; Zwinkels et al, 2017; Goudswaard and Caminada, 2017). In Germany and the Netherlands, about one-third of solo self-employed people think that their pension savings and other sources of income are insufficient to live comfortably after retirement, which is substantially higher than among employees (Van Dalen et al, 2010; Conen et al, 2016).

The next step is to explain the perceived future retirement income adequacy among solo self-employed people. Table 4 shows the results of an ordered logistic regression analysis testing what predictor variables influence the self-assessed sufficiency of income after retirement. In the estimated models we included the same predictor variables as in Table 3. The odds ratio represents the ratio of the probability that solo self-employed people think that their pension savings and other sources of income will be sufficient to live comfortably after retirement to the probability that they do not. The analyses are again restricted to solo self-employed workers between 18 and 65 years of age.

The estimation results show that in both countries the financial situation of solo self-employed workers is positively related to the perceived future retirement income adequacy. The higher the level of financial knowledge and the more future oriented solo self-employed people are, the more likely it is that they expect to have an adequate retirement income. The results do not support the hypothesis that solo self-employed people who are more risk-averse are more likely to cover the risk of poverty in old age. The results furthermore show that involuntary self-employed workers are less likely to have an adequate future retirement income in both countries. Solo self-employed people working fewer hours a week as a solo self-employed person have a lower probability of having adequate pension savings and other sources of income. In the third model a dummy variable for the Netherlands was included. This model shows that solo self-employed workers in the Netherlands have a higher probability of having adequate perceived future retirement income after controlling for the effects of financial means, behavioural aspects and various background characteristics. This finding may partly originate from the fact that Dutch solo self-employed workers know themselves to be covered against poverty in old age to some extent by the basic public pension schemes.

## **Conclusion: recommendations for action**

How to prevent a rise of rather precarious forms of solo self-employment and instead promote the expansion of self-sufficient forms of solo self-employment? The following recommendations refer to the criteria underlying the ‘precariousness’ of solo self-employment: low income and lack of social protection. If precarious conditions are to be prevented, these criteria must first be set.

### *Income*

For dependent employees, one would refer to minimum wage and collective bargaining to secure adequate income. The situation is more difficult for the self-employed. A widespread minimum wage for all self-employed people is practically and legally difficult to enforce. It is sometimes suggested that minimum tariffs for self-employed people are implemented in collective labour agreements, although the question remains whether this will be allowed by competition authorities and whether this can count on much support from solo self-employed people themselves (Conen et al, 2016; Kremer et al, 2017; Vonk and Jansen, 2017). In the Netherlands, there have been a few cases in which collective labour agreements have been declared applicable to a contract for services and contract for work (by Article 1(2) of the Act on Collective Labour Agreements). However, thus far only when self-employed service providers have been shown to be *in fact bogus self-employed* workers whose situation is comparable to that of employees, have collective labour agreement arrangements been imposed; otherwise it has been considered to be conflicting with competition law (Vonc and Jansen, 2017). In Germany, there is the possibility under the collective bargaining agreement (TVG § 12a) to negotiate tariff arrangements for worker-like people. This rule applies mainly in the media and culture sector. The possibility could be examined to extend the existing regulation (TVG § 12a) to other sectors, for example to the field of vocational education and training. This would be countered by a request from the EU Parliament: The EU Parliament resolution ‘Social protection for all, including self-employed workers’ of 14.01.2014 is appealed to the social partners and are asked to investigate whether and how self-employed people are included in collective bargaining’ (Haake, 2016, 318).

### *Social protection*

Central to the prevention of precarious forms of solo self-employment is also a comprehensive and universal protection of social risks. In the Netherlands, there is comparatively comprehensive social protection for solo self-employed people in terms of the access to (basic) pension and (basic) health insurance (in kind) as residents’ rights. Universal hedging avoids the emergence of gaps at the level of the individual, which can arise as a result of unfavourable occupational biographies. In addition, the growing ‘grey areas’ are taken into account that arise, for instance, from hybrid work constellations and the increasing difficulties of distinguishing between dependent and self-employed work.

There are also social security gaps in the Netherlands, however. First, gaps relate to the dominant system of second pillar occupational pensions that are predominantly not open to the solo self-employed. In the Netherlands, second pillar savings play an important role, with some 90 per cent of employees being entitled to supplementary occupational pensions. However, in the political debate on social policy for solo self-employment, the issue of the lack of risk insurance in the case of sickness and disability prevails (Westerveld, 2016). It is rightly argued that the expectation that solo self-employed workers should secure themselves in the private market has not been fulfilled. In contrast to state systems, private market-mediated products do not contain elements of solidarity compensation. Thus, those who are most likely to need

insurance are often denied access to private products – at least to realistic conditions (SER, 2010; Conen et al, 2016).

In Germany, the gaps in social security are much larger, however. The focus of the debate is on the lack of protection for the solo self-employed person in old age. Only about a quarter of self-employed people have compulsory special schemes. For individual groups of self-employed people, it was substantiated that a lack of protection was not justified; they were gradually integrated into the state pension system. It is obvious that other groups of self-employed people are also exposed to such social risks, similarly to those self-employed who are already subject to compulsory insurance. In many cases, therefore, a more comprehensive insurance for self-employed people of all occupational groups is called for, especially in the area of basic pension. There are, in principle, two possibilities for the compulsory insurance of self-employed people of all professional groups: first, the obligation to insure, which means the obligation to insure with a freely selectable insurance provider (also for private providers). The second possibility is compulsory insurance in the statutory pension insurance (GRV) scheme. An advantage of the compulsory insurance in the GRV is the statutory-wide range of benefits of the pension insurance, which includes not only the payment of old-age pensions but also employment, widow's/widower's and orphan's pensions as well as the implementation of rehabilitation measures. This would also close another gap, which is similar to the Netherlands: the gap in the supply of the solo self-employed worker in the event of a reduction in employment.

Against the background of income inadequacy of various groups of solo self-employed workers, the aftermath of the financial market crisis and the low interest rate policy, it seems problematic to resort to private provision. This has also been shown by the Dutch example: the insurance of the risk of disability can hardly be realised in the private market, in any case not on reasonable terms for all. Risks such as disability and poverty in old age can be reliably hedged in the state system or in the first pillar (Schulze Buschoff, 2016b). State systems usually contain elements of solidarity compensation; these are difficult to implement in private, mostly market-mediated systems.

## *Outlook*

Since 2012, the number of solo self-employed people in Germany has declined slightly again (Brenke, 2015, 790). This is probably due to the favourable labour market development, which makes it possible for some employees to prefer dependent employment to self-employment. Furthermore, it would be more difficult for employers to outsource their activities to self-employed people in order to save costs (Brenke, 2015, 790). Even if the trend of growth is currently interrupted, a further increase in the importance of solo self-employment is likely in the long term due to fundamental changes in the employment structure and in the organisation of work. The high growth and employment opportunities of certain services (for example, knowledge-intensive services and the healthcare sector) and changes in the organisation of work (for example, subcontracting, outsourcing and new business models such as digital platform management) open up further potential for solo self-employment. The decisive factor here is to support the solo self-employed with as universal and comprehensive a social security scheme as possible in order to prevent the emergence of precarious forms in this area.

## Notes

<sup>1</sup> These difficulties stem, for instance, from the lack of a clear distinction between (incorporated) business income and personal or household consumption; because self-employed have incentives to define their income in a way that minimises taxation; because self-employed workers are – probably more often than among paid employees – not ‘in it for the money’; and because self-employed people have large variations in their income flows (in year *a* they may earn a negative income, whereas in year *b* they earn a high profit).

<sup>2</sup> In general, all concepts and measurements have their own merits and drawbacks and future research may want to combine objective and subjective measures on income adequacy.

<sup>3</sup> According to the Eurostat indicator, individuals are considered to be at risk of poverty when their annual equivalised household disposable income is below 60 per cent of the national median, and individuals are considered to be ‘in work’ when they declare to have been ‘employed’ for more than half the income reference period of one year (Horemans and Marx, 2017).

<sup>4</sup> One problem with this concept is that little consensus exists as to which items should be included and why (Guio et al, 2016; Nolan and Whelan, 2010). In the case of the self-employed, it is sometimes considered to underestimate poverty as business income may increase spending power and limit material deprivation (Eurofound, 2017b).

<sup>5</sup> Mandatory age insurance schemes apply to domestic workers, teachers, educators, nursing staff, midwives, sea kills, coasters and coastal fishermen, tradesmen with entry into the craft roll and district chimney sweepers, artists and publicists, farmers, as well as free professions such as lawyers, notaries or doctors and so-called worker-like people.

<sup>6</sup> If we restrict the analysis to solo self-employed people working 32 hours or more per week the results remain similar except for the significance regarding the number of hours worked per week (not shown).

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