8 The Role of Work Before and After Retirement on Poverty Dynamics in Old Age. Evidence from a Follow-Up Study in Switzerland

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8.1 Introduction

As in many other European countries, the population in Switzerland is ageing. With baby-boom cohorts entering retirement, the share of people aged sixty-five and older has reached 18.7 percent in 2019 (Swiss Federal Statistical Office 2020). Together with declining returns from financial investments, this demographic shift has placed considerable stress on the pension system. However, with the discussions primarily focusing on the financial sustainability of the system, the questions of financial security and poverty in old age have been pushed into the background. This is happening even though old age poverty (OAP) remains relatively prevalent among the population aged sixty-five and older in Switzerland, with estimations for income-poverty around 16 to 20 percent (Gabriel et al. 2015; Guggisberg and Häni 2014; Oris et al. 2017; Wanner and Gabadinho 2008). In addition, OAP remains insufficiently understood. This is problematic given that substantial adjustments to the pension system are being discussed and could be implemented in the coming years. Given this societal and political background, and in the context of this book, our principal aim in this chapter is to synthesize what is currently known on the link between work and OAP and to then offer a discussion on how this nexus might develop in the future.

For this investigation, the most important starting point lies in the convergence of existing studies on OAP towards the finding that people's previous profession—no matter whether this is measured at the beginning of their work-life or at the end—appears to be strongly linked to the risk of

experiencing financial hardship in old age (Oris et al. 2017). Interestingly, work-trajectories (meaning the sequence of years spent either working or in unemployment) do not explain this relationship: Hence, for instance, manual labourers are not more susceptible to OAP because they might have experienced more episodes of unemployment and job changes (Gabriel et al. 2015). This finding has been interpreted as evidence for a social stratification framework, meaning that it is, above all, a person's position in the economic structure—whereas people's job can be considered a proxy for the latter—that determines a wide range of living conditions, and in our case the financial situation in old age. Moreover, the occurrence of critical life events, which for the whole of the EU have been proven to have a poverty-triggering effect (Vandecasteele 2011) have not been found to play a significant role in the Swiss context (Gabriel et al. 2015).

Beyond these well-established findings, numerous questions about OAP remain unanswered or inconclusive: Above all, the clear causal mechanisms and pathways for this pattern remain inconclusive. Neither is there clear evidence regarding the validity of social stratification for other measures of poverty that are not income-based. Also, little is known on what effect working beyond the legal retirement age has on poverty. And finally, despite the fact that poverty has been shown to contain an important temporal dimension (in the population of working age, only very few seem to remain in a situation of poverty for a prolonged time, but there are considerable movements *into* and *out* of poverty), OAP has almost never been assessed using such a dynamic view. Therefore, keeping this chapter's overarching aim in mind, the empirical part of our chapter addresses three aspects which we believe currently remain inconclusive in the existing literature: The first relates to the role of work *after* retirement on OAP, the second focuses on how poverty evolves over time, and thirdly, we explore the question whether the findings from income-poverty can be applied to the subjective perception of people's financial situation. Considering the dominant role that social stratification has played for previous analyses of OAP, we once again refer to this theoretical framework for our analyses and derive all of our hypotheses from it.

In the following part, we discuss the existing literature on OAP in more detail, providing an overview of the international literature and research in Switzerland and placing particular emphasis on the aspects of temporal dynamics, poverty-measures, as well as the role of work. We then build on our main theoretical background of social stratification and critical gerontology to derive our working hypotheses. The third part presents data and methods. The fourth section summarizes the results and part five discusses them. In this fifth and final part, we will also provide our view on how this relationship

might evolve in the future—based on the supposed transformations of work that are described in this book. In that sense, we attempt to 'look back to look ahead' (Kohli 2007).

8.2 State of the Art: Research on Poverty in Old Age

8.2.1 Three Historical Phases Of Poverty Research

Oris et al. (2017) suggest that poverty[1] research can be divided into three distinct phases. The first being the pre-welfare state phase, the old regime of 19th century industrial society where poverty was basically the norm for the majority of the working class (Rowntree 1901). Then followed the phase of welfare-state expansion around the middle of the 20th century, where poverty reduction and prevention were key concerns for public policies. The third phase could be entitled as post-welfare state transition, with globalization, (post-)modernization and population ageing increasingly putting the 'traditional' welfare state under pressure.

During the first phase, the focus on poverty in old age was largely absent. This absence can above all be explained by the dominant demographic reality. The share of elderly people was much lower at the beginning than towards the end of the 20th century, and the ageing of the population was no issue at that time (Gavrilov and Heuveline 2003; Hayward and Zhang 2001). As the century progressed, the share of elderly steadily increased and gave rise to old age as an object of study in the 1970s and 1980s (Laslett 1987; Neugarten 1970). Simply put: 'old age is relatively young' (Samuel 2017, 153), and as a consequence, research on poverty in old age is even younger. However, this does not mean that the elderly population was not matter of concern during the past century—on the contrary: The pauperization of the elderly was a significant social problem at the end of the 19th and in the first half of the 20th century, both in Switzerland as well as in the rest of Europe, and the general public concern regarding this issue was in fact central to push welfare states to develop pension systems.

In the second phase, with welfare states expanding, research on poverty intensified in order to provide empirical evidence for the design of new social policies. During this phase, the paradigm of studying poverty also started to

1 Poverty can be conceptualized in multiple ways. For a discussion of the different measures and definitions, see Haveman (2001). Almost all studies reviewed in this section utilize an absolute income poverty approach. In our own analyses we employ both an absolute income-poverty approach as well as a subjective poverty measure.

shift towards a more dynamic understanding (Bane and Ellwood 1983). Yet, due to the lack of longitudinal data this new approach would not result in a notable rise in corresponding studies. Insights on poverty in old age often appeared, if at all, merely as a by-product of more general poverty studies. OAP, therefore, was often presented as being static and structural—the idea being that once people rely on a form of pension, their economic situation would not change much anymore (Walker et al. 1984). It has to be noted that some authors were ahead of their time and focused on poverty in old age, such as Holden et al. (1986) who relied on a small sample of elderly couples and widows, to conclude that poverty in old age might perhaps not be static after all.

Finally, the welfare states of the post-war years started to come under pressure as early as the 1970s, fueled above all by globalization, slowing economic growth but also in the context of (neo)liberal public policies (Lessenich 2015; Harvey 2011). This development intensified towards the 1980s and was at its most pronounced towards the 1990s. The rise of this post-welfare state phase also coincided with a rise in awareness of the new demographic reality of population ageing in the Western World. This sparked an ongoing debate on the future of pension systems across Europe (Bonoli 2003; Kohli and Arza 2011; Schulz and Borowski 2006) and as a consequence, towards the turn of the century numerous studies launched with the aim of better understanding the living conditions of the retired population. At the same time, influenced by the life course approach, research contributed to the rising awareness that old age is a particular life stage with regards to poverty (Leisering and Leibfried 2001). However, OAP mostly continued to be a side-topic in more general poverty studies. Also, the paradigm of poverty as a time-dependent phenomenon was increasingly incorporated into the study designs (Layte and Whelan 2003). Following the pattern that research on OAP seems to have a lag of about a decade in terms of methodology, this shift towards a dynamic view is only starting to happen today.

8.2.2 International Research on Old Age Poverty and Evidence from Switzerland

As has been described so far, research on poverty in old age is a relatively young field. In addition to population ageing only stepping into the public and scientific spotlight, another reason why studies have been lacking is the absence of reliable data. Several large national projects, most of them based on large-scale surveys, around the 1990s addressed this shortcoming and have led to corresponding studies on OAP: Hauser and Neumann (1992) focused

on Germany, Price (2006) on the UK, Paugam (1991) on France, and Leu et al. (1997) as well as Lalive d'Epinay (2000) on Switzerland. All of these studies reached similar conclusions: poverty was found to be a significant phenomenon affecting a large share of pensioners, and gaps in the pension system were believed to be the most likely cause. Later, the Survey of Health and Retirement in Europe (SHARE) provided a first pan-European perspective. And again, the conclusion pointed towards it being an underestimated phenomenon (Börsch-Supan et al. 2008). In the early 2000s, due to its design as a panel study, SHARE also offered the basis for first analyses on the temporal dynamics of OAP. Accordingly, OAP was by no means found to be stable or structural, but considerable movements into and out of it were detected (Börsch-Supan et al. 2008). Surprisingly, the latter finding seems not to have been followed up by further research—not by the SHARE consortium, nor by other researchers. In fact, over the last decade, the emphasis on old age in the larger context of poverty studies has even grown weaker again. An important explanatory factor for this situation is that longitudinal and individual-level data remain exceedingly scarce. Instead, research seems to have gone back to more general poverty studies which does often feature old age as one area of interest, but more often place their main focus on the life course and life events as triggering mechanisms (Sandoval et al. 2009; Vandecasteele 2010; Vandecasteele 2011).

As a result, research on OAP remains a field that can still be considered marginal, which led Kwan and Walsh (2018) to state in a recent literature review, the 'focus on OAP [among existing studies] is limited' (Kwan and Walsh 2018, 1). However, while few in number and largely focused on estimating the prevalence of poverty and exploring the associated protective and risk factors, the findings of these studies drew a mostly coherent picture. Firstly, with regards to prevalence, they found that OAP still appears as a phenomenon of substantial relevance, particularly income-poverty (Börsch-Supan 2014; Börsch-Supan et al. 2008; Haitz 2015). This also applies to Switzerland, where income-poverty at the age of retirement might even be more prevalent than in most of Europe (Guggisberg and Häni 2014; Wanner and Gabadinho 2008).[2] Secondly, the studies focusing on the identification of associated risk-factors

2 The high prevalence of income-poverty is sometimes relativized, particularly in Switzerland, by pointing at the fact that retired citizens often have considerable wealth assets (see Guggisberg and Häni 2014). However, to date it has not been convincingly demonstrated—using individual level data—whether the latter means that income-poverty can be considered less problematic or might even be dismissed on these grounds. For example, owning real estate objects such as an apartment might account for considerable assets in terms of wealth but cannot easily be transformed into an actual revenue to be utilized for daily expenses.

also yielded coherent results relating to age/cohorts (Berthoud et al. 2009), gender (Haitz 2015; Smeeding and Sandstrom 2005; Vlachantoni 2012; Yang 2011), work status (Yang 2011), socio-economic position (Arent and Nagl 2010; Nolan and Marx 2009; Oris et al. 2017), and migration (Kaeser and Zufferey 2015; Phua et al. 2007). The impact of employment trajectories (Budowski and Suter 2002; Budowski and Tillmann 2006; Himmelreicher and Frommert 2006), as well as other life trajectories or critical life events (Gabriel et al. 2015), turned out to be less clear with contrasting results. One notable study with a more conceptual design shows OAP as the result of a complex interplay between individual factors—meaning both social and economic resources as well as having experienced certain critical life events and having experienced specific trajectories in various domains of life—and macro-political settings through pension systems (Möhring 2015).

Moreover, as Kwan and Walsh (2018) also point out, most of the aforementioned studies are susceptible to two methodological shortcomings: an income-centred definition of poverty and the use of cross-sectional data, therefore neglecting the temporal dimension that has now become one of the cornerstones of poverty research for the general population. For Switzerland, the methodological critique by Kwan and Walsh does hold true. Accordingly, the few studies that studied OAP in Switzerland (Gabriel et al. 2015; Oris et al. 2017; Wanner and Gabadinho 2008) suffered from those limitations. Three exceptions are the qualitative study by Pilgram and Seifert (2009), the multi-focal approach by Henke (2020) cross-examining three indicators from survey data, and a report by the Swiss Federal Statistical Office comparing SILC survey data with the Swiss HABE survey, integrating multiple measures such as income, deprivation, but also accounting for wealth (Guggisberg and Häni 2014).

Summarizing the literature on OAP, the few findings that appear in an almost undisputed manner is that it seems to affect a considerable part of the elderly population in European countries, Switzerland in particular, and that there seem to be distinct factors increasing or decreasing its risk. However, three important questions remain and would benefit from additional evidence: First, how OAP develops over time, whether it is stable or whether there are movements in and out of OAP; second, whether the findings of the current literature which are mainly based on income-poverty, are valid for other, notably subjective, poverty-measures and third, what role work after the age of legal retirement plays. These three aspects represent the questions for our empirical contribution to the literature.

8.2.3 Social Stratification and Critical Gerontology

Many of the previously mentioned risk or protective factors for OAP can be interpreted as being in line with a social stratification paradigm (Grusky 2001). Accordingly, it can be posited that OAP is fundamentally linked to the way society is structured with regards to socio-economic strata—or *class*.[3] To a large extent, this link is actually the result of how pension systems—or, from a more macro-sociological perspective: whole *welfare states*—are designed. Switzerland, considered as a rather liberal welfare state (Esping-Andersen 1990) thus features a high level of social stratification. The theoretical framework of social stratification in OAP has been used by Oris et al. (2017) where it was argued that life course institutionalization, a term used to describe the contributions by people to the so-called three-pillar pension scheme in Switzerland, is a strong factor of its reproduction. The strongest dynamics appeared to be related to education, people's first job as well as their last. More specifically, the latter relation especially applied to unskilled professions which showed a greatly increased risk of OAP.

Such a view on social stratification in old age also corresponds to a critical gerontology perspective. In fact, the latter goes back to a group of researchers who applied a Marxist framework to the area of gerontology, positing that it is above all, people's position in the economic structure during their work life, which is determinant of their living conditions in old age. According to these authors inequalities related to people's socio-economic position are even exacerbated in old age (O'Rand 2006; Phillipson 1981; Walker 1981). Based on the outlined theoretical framework, we, therefore, derive the following hypotheses:

1. Working after the legal retirement age is associated with increased risk of OAP (i.e. people who work at the age of retirement do so out of necessity) and mainly concerns people with a lower socio-economic position.

3 In the context of social stratification theory, the question of how social-economic position or class can be measured has a long tradition and is, and has always been, heavily debated. In our contribution, we use *work*—by which we understand the type of profession a person has carried out during professional life—as a proxy for socio-economic position. In the context of this book on the future of work, our operationalization might spark the critique, that *profession* does not necessarily say much about the characterization of *work,* such as the social structure of the workplace and other aspects. While we accept this point of critique as a limitation of our contribution, we also would like to stress the fact that using a dataset for the retired population, means looking back at people who have spent the majority of their working life at a time, in the 1960s until the 1980s, where *work* was still much more homogenous and most of the new developments of modern or even post-modern work-conditions have, if at all, only marginally affected these cohorts.

2. People's first and last job are strongly associated with *temporal dynamics* in OAP.
3. The subjective poverty measure is coherent with the objective measure (income poverty) and manifests the same aforementioned patterns.

8.3 Data and Methods

Our choice of methodological approach relies strongly on Kwan and Walsh's (2018) criticism regarding the shortcomings of existing research. Therefore, the present study considers multiple poverty measures by including both income-poverty and an additional measure based on individual perception of financial strain, and it considers the temporal evolution of poverty across time.

8.3.1 Dataset

For our analyses we use two waves from the largest and perhaps the broadest gerontological survey among the retired population in Switzerland called 'Vivre-Leben-Vivere' (VLV). VLV was conducted in 2011/2012 and a follow up was carried out in 2016/2017. In order to account for the structure of the population, VLV relies on a stratified random sampling approach. The first wave included 3080 respondents, was conducted in five cantons (VS, GE, TI, BS/BL, BE), and was stratified according to sex and age-group, to allow statistically robust analyses even for the (rarer) higher age-groups (for the specific composition of the original sample see Ludwig et al. 2014 and Oris et al. 2016).

The follow-up was conducted in four cantons (VS, GE, TI, BS/BL) and included 1,250 respondents, 51.5 percent of whom were male, representing roughly 40.5 percent of the original sample. The attrition between the two waves of VLV2 was mainly due to mortality (34 %), refusing to participate (18.6 %), and respondents being untraceable (17.2 %). As a result, the sample is slightly modified: For example, in VLV2, 9.4 percent of people had a low level of education compared to 16 percent in VLV1. However, the sample still contains a considerable proportion of oldest-old—in fact, the relative share of the age-group 90+ even increased somewhat to 16.6 percent. Similar patterns of attrition over six years have been observed in comparable studies among the elderly population (see Ihle et al., 2020). A critical evaluation of VLV showed that it performs well regarding minimizing survey errors and adequately representing the most vulnerable sub-population among the elderly. The latter was likely due to considerable efforts to capture the most vulnerable (Oris et al. 2016).

8.3.2 Target Variables

The target variables are two main measures of poverty in old age: The first is a binary indicator of income-poverty based on an absolute poverty line, using answers from respondents regarding their total net monthly household income (the total financial inflow including all pension schemes but also financial returns or social benefits). It was originally a 9-level categorical scale that was adjusted to household size using the OECD modified equivalence scale methodology. Then, based on an absolute poverty line of CHF 2,400 per month and single person, we dichotomized the answers into a binary indicator. The choice of the threshold is based on the maximum standard first-pillar pension (the basic pension which should allow to cover basic living expenses). It is also in line with recommendations by the NGO SKOS/CSIAS, and is used by the Swiss Government to allocate social welfare or supplementary benefits (SKOS and CSIAS 2013).[4] Accordingly, our weighted estimations for absolute income-poverty rates in Switzerland are 21.4 percent of 65+. As discussed in previous work (Gabriel et al. 2015), this finding based on VLV data is generally coherent with other studies, albeit being generally at the higher end of the estimations. It must be mentioned that this measure for income-poverty is based on self-reported monthly household income. As such, it might be prone to response bias. Even though notoriously difficult to obtain in terms of data protection and due to a lack of a national database, a better source of data would be individual-level tax data (Wanner and Gabadinho 2008).

Our second indicator is a subjective measure of poverty. It is based on the question to what extent respondents find it difficult to 'make ends meet financially, considering their monthly incomes'. The original scale was a 4-level Likert-scale ranging from 'very difficult' to 'not at all difficult'. This scale was dichotomized to create an indicator that measures whether people reported difficulties or not. Our case-weighted estimations show a prevalence of 14.7 percent who reported experiencing difficulties making ends meet. This value is slightly lower than for income-poverty. Possible explanations can lie in the fact that people might have savings that they can use for daily expenses, but other more psychological factors also act, such as frugality or

4 The SKOS/CSIAS (2013) recommendations define the threshold (a monetary amount) for the absolute poverty line in Switzerland which is required to ensure a 'humane existence', as guaranteed in the Swiss constitution. Their recommendations cover three areas: basic living expenses (food, clothing, transport, etc.), housing costs, and health care. Methodologically, they are based on the real-world data on the typical expenditure of the lowest income-decile of household in Switzerland. The recommendations are updated periodically and are available online at: richtlinien.skos.ch.

resilience to financial hardship, both of which more pronounced in older cohorts (see Henke 2020 for an in-depth study).

One limitation related to our income-poverty measure is the fact that we were not able to adjust it according to people's wealth. The reason for this has to do with the quality of the information on wealth in the VLV questionnaire, which was assessed with a single question where respondents were supposed to indicate the cumulative amount of all wealth assets (encompassing everything from savings, shares, stock holdings, real estate ownings, etc.). Here, there seemed to be large inconsistencies on whether people included real estate holdings (i.e. owning one's own home) in this calculation or not. Notably, a non-negligible share of individuals was found having reported low assets (< 20,000 CHF) but at the same time having also indicated owing their own home. As there was no means of reconstructing and validating the correct responses, the only solution was to completely omit this kind of information.

For the longitudinal analyses we have then used the information from both waves to calculate the four possible trajectories: Whether individuals stayed stable in one or the other situation (e.g. poor in 2011 and 2016 was coded as the trajectory 'stable poor'), or whether they changed from one into the opposite situation.

8.3.3 Covariates

Three covariates are used to test our hypotheses. They can be divided into concerning people's *past* work-life—which we use to proxy an indicator of social stratification—and variables on the more recent work-life *within* retirement.

The first variable is based on the classification of people's first job. In its original form in the questionnaire, this variable used the 11-item scale corresponding to the Swiss CSP (Levy and Joye 1994), later collapsed into six levels, to make them fit to the Goldthorpe categories (Bergman and Joye 2001; Goldthorpe et al. 1980). Accordingly, the modalities and corresponding distributions in the sample are: Managerial positions (13.6 %), intermediary jobs (e.g. lawyers[5]) (10.5 %), self-employed (3.5 %), white-collar jobs (39.1 %), blue-collar jobs (31 %), and inactive, for those who reported that they did not work (2.4 %)—the latter category being almost exclusively

5 The typology of socio-professional categories which is used here is designed to reflect the Swiss social structure and can in certain regards be counter-intuitive. This particularly concerns the distinction between intermediary jobs and self-employed jobs, with both working independently. However, the main difference between the two is that intermediary professions have a higher degree of academic level, and thus includes such professions as lawyers, dentists or physio-therapists. Typical professions which would be categorized as self-employed professions are plumbers, chauffeurs or shopkeepers.

made up of women. Then, we have the same measure but referring to the *last* job. Compared to the first measure, people moved away from blue-collar professions (only 16 %), and a growing share were inactive (up to 7 %), as well as self-employed (9.4 %), workers in managerial jobs (a strong increase to 25.6 %), or in intermediary jobs (11.5 %). White-collar jobs decreased for the end of respondent's work life to 30.4 percent.

Then, we use three binary indicators relating to the more recent work-life. We start with whether people reported as still having been working occasionally or regularly in a paid job at the time of the first interview in 2011. Then, using the same information from the second wave of the survey in 2016, we constructed two measures capturing the temporal evolution: Whether people have given up or started a job. In the VLV panel, 8.6 percent have stopped a job between 2011 and 2016, 4.3 percent reported having taken up a job and a mere 2.5 percent continued to work between the two surveys, either regularly or occasionally.

8.3.4 Confounding and Stratification Variables

Given that we study the elderly population, we have to account for a number of specific dynamics and circumstances, which can strongly influence the financial situation and whether respondents still work or not. Firstly, the most central dimension that we have to account for is age, since at higher ages the ability to work decreases, consumption patterns change, and potentially the need for care services increases. Next, we add sex as a confounding variable in all models to detect gender-specific patterns, which are often a key aspect of both ageing and poverty. Furthermore, we have to distinguish whether people live at home (95.7 %) or whether they live in a care institution (4.3 %) and finally, we also take into consideration differences in health among the respondents since health could be a financial burden, particularly in old age. We do so by using the self-rated health scale. While this scale does have a strongly subjective dimension, it is generally considered a good and simple measure for people's physical condition (DeSalvo et al. 2006; Idler et al. 1999).

8.3.5 Modelling Approach

Our analyses can be divided into a first block focusing on the cross-sectional VLV1 data with the aim of determining the link between working at the age of retirement and social stratification. In this first block, we distinguish between the two poverty measures: income-poverty and subjective poverty. For each, we proceed in an identical manner by constructing nested regression models, stepwise adding covariates starting with single covariates to assess their

unique effect, then proceeding to including two at the same time to check for mediation or moderation effects. More specifically, we start with a basic model that only shows the baseline effects for the confounding variables. Then we move to a model where we assess the effect of people's first job (model 2). Following this, we do the same with people's last job (model 3). Next, we assess the unique effect of still working at the age of retirement (model 4). Then, we include people's first job as a measure of social stratification as well as whether they are still working (model 5). The last model then does the same with people's first job and the work activity measure (model 6).

For the second block of analyses, we shift our focus to the temporal dynamics of poverty where our target variables are the four types of trajectories that have been described in section 8.3.2. For each trajectory type, we proceed in an identical way as for the static analyses described above: We start out with a confounder model (model 1), then move on to people's first job (model 2), estimate another model with people's second job (model 3), then stepwise add the three possible scenarios for the respondent's situation with regards to working: whether they have worked at both time-points (model 4), whether they have taken up a job (model 5) or have given up a job (model 6). If any of these event-measures turns out statistically significant, we will then proceed to building additional nested models to test for mediation/moderation effects with the measures of social stratification. As in the first block, these analyses are performed separately for each of the poverty measures.

8.4 Results

8.4.1 The role of social stratification and work after the age of retirement for poverty in old age

Table 1 shows the results of the six binomial logit regression models for factors affecting income poverty. The confounder model (m1) reflects findings that were expected based on research in Switzerland and internationally: Above all, it shows that income poverty in old age clearly affects women more than men, as shown by an odds ratio of 1.31. Furthermore, self-rated health negatively affects poverty (OR 0.85), meaning the better health respondents indicate, the less there is a risk for poverty. While this result has been found elsewhere, the exact underlying mechanism appears unclear (McDonough et al. 2005). Living in a care-home does not seem to be significantly affecting OAP. In model 2, a strong link can be found between the type of job people have carried out at the beginning of their lives and the risk of poverty in old age, many years later. Managerial jobs (OR 0.39) and intermediary profes-

sions (OR 0.69) are protective when compared to the reference category of white-collar workers, while starting as a blue-collar worker clearly increases the risk (OR 1.87). For the same indicator at the end of people's professional life (model 3), the patterns remain similar with only marginal shifts. From a more global perspective, this means that the upper and lower ends of the social structure almost *directly* relate to the respective risks of poverty in old age, which represents an almost perfect illustration of the social stratification paradigm. Another interesting result concerns self-employed workers who are also found to be highly likely to be in a situation of OAP (OR 3.84).

Next, one of our main interests in this chapter, the relationship of still working at the age of retirement reveals as something which concerns people with more favourable financial means: the odds ratio of 0.59 shows that being professionally active beyond the legal retirement age actually signifies *less* risk for OAP than not working. This finding stands in complete opposition to our hypothesis according to which we argued that working at the age of retirement might be positively associated with OAP, since retired citizens with modest financial needs might be pushed to work to earn an income in order to afford daily expenses. Model 5 and 6 then tested for mediation

Table 1: Poverty in old age in Switzerland 2011—regression on income below the absolute poverty line

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	1.01	1.00	1.01	1.00	1.00	1.00
Women	1.31***	1.42***	1.24*	1.28**	1.41***	1.21*
Living in Care Home	1.01	1.02	0.98	1.03	1.04	0.99
Self Rated Health	0.85***	0.87**	0.87**	0.84***	0.87**	0.86**
First Job Upper (Ref. White Collar)		0.39***			0.41***	
First Job Self-employed		3.84***			3.98***	
First Job Intermediate		0.69*			0.68*	
First Job Blue Collar		1.87***			1.90***	
First Job Inactive		2.19***			2.20***	
Last Job Upper (Ref. White Collar)			0.41***			0.42***
Last Job Self-employed			2.28***			2.41***
Last Job Intermediate			0.45***			0.43***
Last Job Blue Collar			2.05***			2.03***
Last Job Inactive			1.02			1.02
Still working				0.59**	0.68*	0.60**
Constant	0.23***	0.22***	0.24**	0.34*	0.30**	0.36*
Observations	2,500	2,483	2,460	2,480	2,463	2,440
Log Likelihood	-1,295.00	-1,229.00	-1,196.00	-1,277.00	-1,212.00	-1,180.00
Akaike Inf. Crit.	2,600.00	2,478.00	2,413.00	2,566.00	2,447.00	2,382.00

Note: Odds ratio of binomial logit regression. Significance: * p < 0.1, ** p < 0.05, *** p < 0.01
Source: VLV survey, 2011 & 2016, own calculations

effects between working in old age and social stratification, but yielded no significant results, reflected by only marginal and thus negligible shifts in the baseline odds ratios shown in models 2 and 3.

Table 2 displays the results of the regressions on the variable making ends meet, our subjective measure of poverty. Overall, we find almost identical results over all models as for income poverty. The confounder model shows a higher risk for women and seniors in poor physical health. Regarding people's first and last job we also find strong coherence with social stratification theory, but mostly for lower social strata, namely blue-collar workers where the odds ratio of 1.69 for the variable first job and 1.89 for last job signifies almost a double risk of OAP compared with the white-collar workers. Working at the age of retirement then also turned out as being negatively associated with OAP but not showing any mediation or moderation effects when included at the same time in a single model.

Table 2: Making ends meet in old age in Switzerland 2011—regression on having difficulties in making ends meet financially

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	0.98***	0.98***	0.98***	0.97***	0.97***	0.98***
Women	1.32**	1.49***	1.34**	1.28**	1.47***	1.33**
Living in Care Home	1.61	1.50	1.57	1.62	1.51	1.59
Self Rated Health	0.60***	0.63***	0.62***	0.61***	0.64***	0.63***
First Job Upper (Ref. White Collar)		0.72			0.78	
First Job Self-employed		0.86			0.89	
First Job Intermediate		0.54**			0.57**	
First Job Blue Collar		1.69***			1.73***	
First Job Inactive		0.81			0.80	
Last Job Upper (Ref. White Collar)			0.57***			0.60***
Last Job Self-employed			1.42*			1.48**
Last Job Intermediate			0.44***			0.45***
Last Job Blue Collar			1.89***			1.91***
Last Job Inactive			0.66			0.65*
Still working				0.45***	0.50***	0.49***
Constant	4.87**	3.47*	4.05**	6.73***	4.41**	5.26**
Observations	2,907	2,881	2,854	2,884	2,858	2,831
Log Likelihood	-1,138.00	-1,108.00	-1,077.00	-1,127.00	-1,098.00	-1,068.00
Akaike Inf. Crit.	2,285.00	2,235.00	2,173.00	2,266.00	2,219.00	2,157.00

Note: Odds ratio of binomial logit regression. Significance: * p < 0.1; ** p < 0.05; *** p < 0.01
Source: VLV survey, 2011 & 2016, own calculations

8.4.2 Adding the temporal dimension: the poverty trajectories 2011–2016

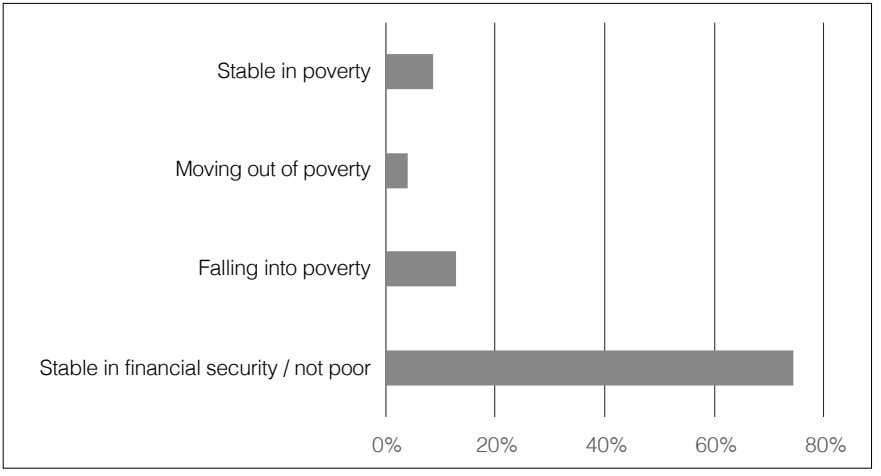
We now shift our attention to the temporal dimension. Here, the main finding is that poverty in old age does not appear completely static but that there are dynamic movements in and out of it. For income-poverty (Figure 1), only 8.7 percent appear to be poor in both waves of the survey. This number has to be contrasted with the estimate of 21.4 percent for people living in income-poverty in 2011. Hence, our data shows that less than half of those experiencing poverty at one time-point continuously remain in the same situation and thus experience *structural* poverty. At the same time, there are few but still non-negligible dynamic movements into (12.8 %) and out of poverty (4.1 %). For subjective poverty (Figure 2) the results once again are similar: While the large majority (80.9 %) never indicated to have difficulties to make ends meet between 2011 and 2016, only 6.5 percent reported to feel so in both waves of the survey. Equally important (8 %) is the share of people that started to feel under a financial strain, and a marginal share (4.5 %) reported having stopped feeling like it was difficult to make ends meet.

8.4.3 The Role of Social Stratification and Work on Poverty Trajectories in Old Age

In this section we explored the factors that influence the identified poverty trajectories. We once again performed this analysis for our two measures of poverty separately: income-based poverty and subjective poverty. Here, we must point out, that while we performed regression analyses for each of the four possible trajectories and for both poverty measures, we only display the results for two trajectories: 'stable poverty' and 'falling into poverty'. The reason for omitting 'stable non-poverty' is that the results are perfectly analogous to those found for stable poverty. The trajectory for 'moving out of poverty' is also omitted because of insufficient statistical power given that only a small share of individuals experience this development.

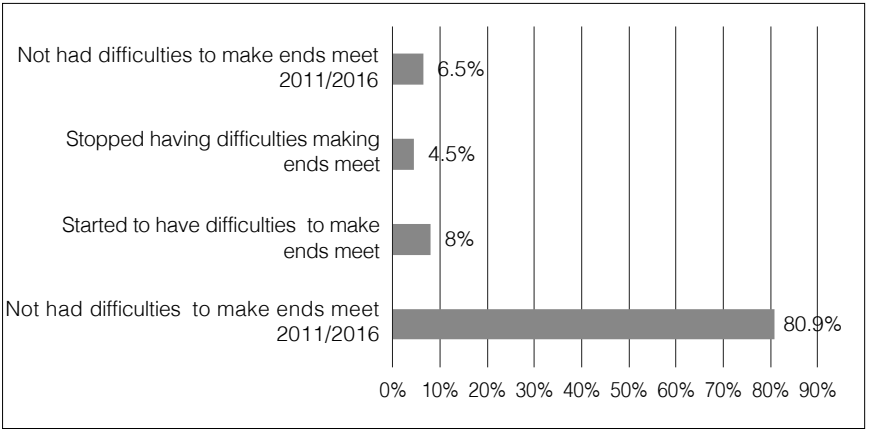
Table 3 shows the results for the two income-poverty trajectories 'being stable in a situation of poverty'—what might be described as *structural poverty in old age*—and 'falling into poverty'. Results once again provide strong support for a social stratification view on OAP and thus means this theoretical framework does not only apply to people's situation at a given point in time but also in a longitudinal perspective. For stable poverty, the effects for blue-collar workers, i.e. those at the lower end of the social structure, was most consistent with those from the static analyses. Accordingly, having started one's professional life as a blue-collar worker increases the risk of

Figure 1: Frequency of income-poverty trajectories 2011–2016



Source: VLV survey, 2011 & 2016, own calculations

Figure 2: Frequency of subjective poverty trajectories 2011–2016



Source: VLV survey, 2011 & 2016, own calculations

being in a situation of structural poverty by more than a factor 3 (OR 3.31), compared to white-collar workers. Comparing this with the same indicator but at the end of people's professional careers, the effect even increases to an odds ratio of 3.8. Contrasting with the results for the static analyses, we find no effect for the upper end of the social structure which we aimed to capture

with the category of upper managerial professions. Furthermore, those who were self-employed also show strong associations (OR 7.7 for the first and 3.6 for the last job) with OAP. Again, this is consistent with the fact that this group is somewhat at a disadvantage in the Swiss pension system. They have been shown to have more modest financial means in old age and to rely more substantially on the basic public pension scheme (AHV/AVS) and on private savings (Gabriel et al. 2015).

In a longitudinal perspective, work (not having worked continuously at the time of both surveys, having given up a job, having taken up a new one) does not seem to have any discernible effect on stable poverty. As has been previously mentioned, this result can also be attributed to the insufficient statistical power of these models. For the trajectory of falling into poverty, people whose first job was in a blue-collar profession face a significantly increased risk (OR 1.81) to fall into poverty while ageing. The same applies to people who indicated having been inactive (OR 5.55). At the same time, people whose last job was in a managerial position have a reduced risk of falling into poverty (OR 0.42) than white-collar workers. Regarding people's last job, the only significant effect concerns managerial jobs which appears as a protective factor. These findings are once again in line with a social stratification view, meaning that it not only drives structural poverty but also the movements *into* poverty.

Analogous to table 3, table 4 shows the results for the two trajectories of 'stable poverty' as well as 'falling into poverty' but, this time employing the subjective poverty measure, For stable subjective poverty, we find less evident patterns compared to the findings for the static analysis for 2011 as well as with the results for the income-based poverty trajectories. The only significant result can be found for intermediate professions. The latter are found to have a reduced risk to have difficulties making ends meet (OR 0.27). As this category includes well-paying jobs such as lawyers or dentists that can be attributed to the higher end of the social hierarchy, this can nevertheless be taken as evidence for our social stratification hypothesis. The absence of effects for social stratification variables might have to do with the fact that in the subjective evaluation of poverty, there are multiple psychological factors at play, such as long-term coping strategies—i.e. those who have always lived with modest financial means somehow get used to this situation, regardless of social background and previous profession (see Henke 2020). However, in the absence of additional psychological variables these effects are difficult to quantify. The absence of any effects for work might once again be explained on the grounds of lacking statistical power.

Table 3: Poverty trajectories in old age in Switzerland 2011–2016 – Regressions on poverty trajectories 'Stable poor' and 'falling into poverty'

	Poverty trajectory type											
	Stable income-poor						Falling into income-poverty					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	0.99	0.99	0.99	0.99	0.99	0.99	0.96**	0.96**	0.96**	0.96**	0.96**	0.97*
Women	0.97	1.36	1.02	0.97	0.99	0.99	0.86	0.87	0.70	0.85	0.85	0.89
Living in Care Home	0.52	0.49	0.48	0.52	0.50	0.52	0.60	0.58	0.60	0.60	0.60	0.59
Self Rated Health	0.70**	0.68**	0.70**	0.70**	0.70**	0.69**	0.71***	0.70***	0.70***	0.71***	0.70***	0.70***
First Job Upper (Ref. White Collar)		0.82						0.67				
First Job Self-employed		7.70***						1.67				
First Job Intermediate		0.44						1.16				
First Job Blue Collar		3.31***						1.81**				
First Job Inactive		0.0000						5.55**				
Last Job Upper (Ref. White Collar)			0.53						0.42**			
Last Job Self-employed			3.60***						1.27			
Last Job Intermediate			0.33*						1.21			
Last Job Blue Collar			3.80***						1.53			
Last Job Inactive			1.20						0.88			
Stable working				0.91						0.52		
Take up a job					1.58						0.94	
Give up a job						1.34						1.57
Constant	0.67	0.57	0.60	0.68	0.58	0.55	7.34	11.30	11.20	8.69	7.48	5.33
Observations	902	895	888	902	902	902	880	873	866	880	880	880
Log Likelihood	-241.00	-222.00	-217.00	-241.00	-240.00	-240.00	-307.00	-299.00	-294.00	-306.00	-307.00	-306.00
Akaike Inf. Crit.	491.00	464.00	455.00	493.00	492.00	493.00	623.00	618.00	608.00	624.00	625.00	623.00

Note: Odds ratio of binomial logit regression. Significance: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$
Source: VLV survey, 2011 & 2016, own calculations

Table 4: Making ends meet trajectories in old age in Switzerland 2011–2016 – Regressions on subjective poverty trajectories 'continued having difficulties' and 'started having difficulties' 2011–2016

	Difficulties in making ends meet in both surveys						Started having difficulties					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	0.97	0.97	0.97	0.97	0.97	0.97	0.98	0.98	0.98	0.98	0.98	0.98
Women	1.25	1.47	1.17	1.26	1.23	1.31	0.96	1.01	0.82	0.96	0.94	0.97
Living in Care Home	0.93	0.93	0.86	0.93	0.96	0.93	0.52	0.52	0.47	0.52	0.53	0.51
Self Rated Health	0.49***	0.50***	0.49***	0.49***	0.48***	0.48***	0.70**	0.72**	0.71**	0.71**	0.70**	0.70**
First Job Upper (Ref. White Collar)		1.02						0.33**				
First Job Self-employed		0.87						0.57				
First Job Intermediate		0.67						0.65				
First Job Blue Collar		1.66						1.84**				
First Job Inactive		1.35						2.49				
Last Job Upper (Ref. White Collar)			0.51						0.49*			
Last Job Self-employed			1.08						1.36			
Last Job Intermediate			0.27**						0.51			
Last Job Blue Collar			1.68						2.07**			
Last Job Inactive			0.78						1.61			
Stable working				1.16						0.83		
Take up a job					0.59						0.52	
Give up a job						1.85						1.23
Constant	7.28	5.56	7.40	6.96	8.87	5.01	1.42	1.56	1.93	1.49	1.65	1.25
Observations	942	935	928	942	942	942	925	918	911	925	925	925
Log Likelihood	-213.00	-208.00	-203.00	-213.00	-213.00	-212.00	-252.00	-241.00	-242.00	-252.00	-252.00	-252.00
Akaike Inf. Crit.	436.00	436.00	426.00	438.00	438.00	436.00	514.00	501.00	504.00	516.00	515.00	516.00

Note: Odds ratio of binomial logit regression. Significance: * p < 0.1; ** p < 0.05; *** p < 0.01
Source: VLV survey, 2011 & 2016, own calculations

As for the final trajectory, which contains individuals who have indicated as having started to have difficulties to make ends meet when they were interviewed for the second time in 2016, the results largely mirror the findings for the corresponding income poverty trajectory. For those who shifted towards having difficulties making ends meet, managerial professions (OR 0.33 for the first job and 0.49 for the last job) again seem protected, while blue-collar workers (OR 1.84 and 2.07, respectively) show a significantly increased risk. Overall, the results for subjective poverty are highly in line with the findings for income-poverty and confirm that social stratification is as much a dominant force for OAP at a specific given time, as it is for how poverty evolves over time.

8.5 Discussion and Conclusion

In this chapter, we have set out with the overall aim to evaluate the role of work for old age poverty (OAP). As part of this undertaking, we developed three contributions to the existing literature. Firstly, while multiple studies have assessed the relationship between past work-lives (which closely relates to social stratification) and OAP, we extended this focus by including work after the age of retirement. Secondly, we explored the relatively understudied temporal dimension of OAP, notably with regards to what factors drive changes in OAP over time. Thirdly, we addressed a continuing shortcoming in existing research on OAP that is a narrow focus on income-poverty alone, by considering an additional poverty measure, based on a subjective evaluation of respondent's financial situation. Our theoretical framework consisted of a social stratification view and critical gerontology perspective. We empirically tested our hypotheses using two waves of the VLV survey.

For the results from the 'static' analyses in 2011, we found that for both poverty indicators work beyond the age of retirement turned out the contradict our initial hypothesis as it was inversely associated with OAP, meaning that it is individuals in stable financial conditions who continue to work. Naturally, it is also possible that the causality has to be interpreted in the other direction, meaning that *because* people continue to work, they are less susceptible to OAP. What is undisputed, however, is that there are no interactions with the original pattern of social stratification, meaning that working in old age represents a distinct phenomenon.

For the dynamic analyses, both income-poverty and subjective poverty revealed themselves as by no means structural. There were non-negligible movements into and out of it. Regarding the factors that influence the trajec-

tories, we found coherent findings relating to social stratification across the 'stable' trajectories but also for falling into poverty, whereas the most consistent findings concern the lower end of the social hierarchy with blue-collar workers found to be almost always at a disadvantage. The dynamic analyses also demonstrated a high degree of coherence across both poverty indicators. However, with regards to work after the age of retirement, this factor played no role anymore for poverty trajectories. But as has been argued throughout the results section, this might also be linked to lacking statistical power.

Based on these findings, most of our hypotheses can be accepted. The most straightforward result concerns the coherence between the subjective and income-centred poverty measure. This raises the conclusion that the level of income does indeed signify a subjective reality of experiencing financial strain, and that this reality is strongly driven by socio-economic position. This goes against the argument presented by Guggisberg and Häni (2014) who claimed that income-poverty might not be problematic per se, because retired possessed financial assets that could be used to offset the lack of liquid income, or that the patterns of consumption naturally decrease due to ageing, so that the level of stress perceived by the concerned individuals was expected to be negligible. As a whole, the patterns we observed in this chapter strongly support the social stratification and critical gerontology view. Working beyond the age of retirement, however, returned unexpected results in more than one way: Not only did the negative association between still working and OAP go in the opposite direction than what we expected, but it also appeared as being independent of social stratification patterns.

Before we move on to our hypothesis regarding the social stratification and the temporal dynamics of OAP, we would like to stress the importance of the result that OAP is not simply a structural phenomenon. In fact, our findings actually stand in stark contrast to the majority of the literature on OAP, which, explicitly or implicitly, conceptualizes OAP as something being mainly static. In fact, we have ourselves made this assumption in previous work, incorrectly as it turns out, based on the idea that incomes at the age of retirement almost exclusively stem from a form of pension and thus remain relatively stable across time. But while incomes might remain stable, the rest of people's life does not. As is the case for the population overall, retired citizen's living arrangements and financial expenditure can change due to a variety of reasons, including requiring medical care at home, moving into a retirement home, or losing a partner.

This brings us to one of our main findings with regards to our theoretical framework: our results for poverty trajectories show that social stratification seems not only to have a dominant effect on poverty at a specific time point,

but also on how it evolves over time. As has been pointed out previously, this view is also in line with a critical gerontology perspective that emphasizes how patterns of socio-economic inequalities become even more pronounced in old age. The only result that goes against our initial hypothesis is that work after retirement is negatively associated with OAP, seems independent from social stratification and does not play a significant role in temporal dynamics.

In summary, these results leave us, once again to conclude to what tremendous extent poverty in old age is influenced by social stratification dynamics. This has been observed before, but only for income-poverty and only using a cross-sectional approach, and now has been confirmed for subjective poverty as well as for the most important trajectories as well. This also leaves us, with the persisting conundrum of how social stratification affects OAP. As we have previously mentioned, the exact causal mechanism for this strong relationship is difficult to determine and is most likely the result of multiple forces. However, a contributing factor is the Swiss pension system, which has a certain degree of social stratification built into it: High earners are able to heavily contribute to the so-called second pillar (professional pension plan) and often have the means to have a third pillar (private pension plan). Blue-collar workers, in contrast, have much more modest second pillar pensions and are less likely to dispose of disposable income allowing them to contribute to a third pillar. For the self-employed, this effect seems even more straightforward: they have no compulsory second pillar and thus mainly have to rely on AVS rent (unless they managed to contribute voluntarily to a third pillar). At the same time, differences between socio-economic position might also arise through the so-called non-take up (NTU) phenomenon related to supplementary benefits, a welfare benefit that supplements particularly small first pillar rents: Those with a better level of education such as white-collar workers might be less at risk of NTU than their blue-collar counterparts.

Finally, since in this chapter we tried looking back at the past in order to then look ahead and formulate how the future of work might affect poverty in old age, we believe two developments play a key role. The first is improved social security in old age and the transformation of the elderly population. Over the last three decades, living conditions have greatly improved for the elderly population in Switzerland, including a reduction in income-poverty (Gabriel 2015; Oris et al. Forthcoming)—despite a significant rise in life expectancy. Even though there are signs of persisting inequalities, the effect of the welfare state with the establishment of the 3-pillar pension was considerable. This might hint at a continuation of the past trends for the future: the continuing improvement of the system of social security and improving material conditions for the elderly. Also, Swiss residents have also gotten

much better educated over the observed period with a decrease of educational inequalities, a tendency which also becomes evident for the elderly population, leading to less people in the lower social categories, which in this study have shown to be vulnerable to OAP.

However, there is a second important dimension to take into consideration: the transformation of life courses, the labour market and with that, the patterns of contribution to pension schemes. The cohorts that we have so far studied are strongly characterized by standardized, gendered life-courses and there is practically no evidence for de-standardization of life courses among them (Widmer and Ritschard 2009). The dynamics of de-standardization were strongly fueled by the transformation of the economy with a rise of flexible and precarious work conditions. The first generations that will have their work-biographies strongly characterized by these tendencies are those born after 1960 (Brückner and Mayer 2005). It can be expected that the rise of such new work conditions will negatively affect the aforementioned cohort's capacity to fully contribute to the pension scheme, even though empirical proof of the relationship between work trajectories and OAP is still lacking (Gabriel et al. 2015; Oris et al. 2017). In fact, Ganjour and colleagues state that 'the degree of inequalities is more determined by social characteristics of individuals than by their occupational trajectories' (Ganjour et al. 2016, 711). Yet, if the aforementioned dynamics lead to more self-employment—shown in this study to increase the risk for OAP—and drastically fragmented work biographies, this might affect future pensions and OAP.

With this opposition between the positive dynamics of continuing improvements among the elderly population, fueled by a continuing democratization of education and other factors, and the negative effects of de-standardization and a rise of more instability in western society, it is difficult to determine which force will dominate and we refrain from formulating any more speculations. What we do want to emphasize, however, is that the effect of de-standardized life courses and work trajectories has to be better explored and should also be taken into account when discussing the reform of social security systems in Switzerland—a suggestion that we share with Frommert (2013) who has addressed this question for the German context. Also, based on our insights in this chapter regarding the longitudinal dimension of OAP we strongly encourage additional research focusing on poverty *trajectories*, rather than simply a static classification based on a one-time observation, as well as the factors that influence them. In light of the ongoing discussions on the reform of the pension system, we believe it is crucial to continue to advance our understanding of OAP in order to prevent those who are most vulnerable in old age, from being even more at a disadvantage in the future.

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