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Institute for New Economic Thinking, Department of Social Policy and Intervention, and Nuffield College, University of Oxford. brian.nolan@spi.ox.ac.uk, david.weisstanner@spi.ox.ac.uk

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Abstract

The declining 'subjective social status' of the low-educated working class has been advanced as a prominent explanation for right-wing populism. The working class has certainly been adversely affected by rising income inequality over the past decades, but we do not actually know if their perceived standing in the social hierarchy has declined correspondingly over time. This paper examines trends in subjective social status in two 'most likely cases' – Germany and the US – between 1980 and 2018. We find that the subjective social status of the working class has not declined in absolute terms. However, there is evidence for relative status declines of the working class in Germany and substantial within-class heterogeneity in both countries. These findings imply that rising income inequality has a nuanced impact on status perceptions. When assessing the role of subjective social status for political outcomes, longitudinal perspectives that consider both absolute and relative changes seem promising.

Keywords
subjective social status; income inequality; working class; absolute and relative changes

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Introduction

Subjective social status (SSS) – a person's self-perceived standing, respect, or esteem within a social hierarchy – matters for a range of social and political outcomes. A robust association has been found between SSS and health, above and beyond objective socio-economic circumstances (Präg, et al. 2016, Präg 2020). Recently, feelings of social marginalisation and resentment have been put forward as an explanation for electoral shifts in Western democracies – in particular, the rising support of radical right parties (Cramer 2016, Hochschild 2016, Gest, et al. 2018). This argument is not new: the role of resentment and status politics, as opposed to class politics, was already highlighted by Lipset (1959). Gidron and Hall (2017, 2020) forcefully argue that the concept of subjective social status can be brought in to explain how both economic and cultural developments interact in shaping support for right-wing 'populism'. In their view, the declining relative status of low-educated men compared with other groups exacerbates feelings of status anxiety and social marginalisation. This provides fertile ground to radical right parties promising to protect or restore these groups' status.

The working class has certainly been adversely affected by the economic changes of recent decades, and specifically by rising income inequality. Inequality not only increases the feeling of relative deprivation among the working class, but also makes social comparisons to better-off groups more salient (Schneider 2019: 411-412). Indeed, several cross-sectional studies have provided evidence for a negative association between levels of income inequality and subjective social status (Lindemann and Saar 2014, Schneider 2019, Gidron and Hall 2020). There is also ample evidence that the importance of subjective social status for support for radical right parties is reinforced by occupational change (Kurer 2020) and rising income inequality (Engler and Weisstanner 2020, 2021). Thus, it would be natural to expect that the working class's relative economic deterioration should translate into a decline in their perceived standing in the social hierarchy over time.

Surprisingly, however, few studies have investigated whether and how subjective social status has actually changed over time. To our knowledge, only two comparative studies from advanced democracies have analysed trends in subjective social status over the past decades. Gidron and Hall (2017) provide some evidence that the relative social status of non-tertiary educated men has declined in many advanced democracies. Oesch and Vigna (2020) critically examine these claims with a more thorough empirical analysis of the same survey data, measuring subjective social status with the 'social ladder' question of self-placement in the social hierarchy on a 1-10 scale and focusing on social class rather than educational categories. They find that, contrary to the thrust of Gidron and Hall (2017), the subjective social status of the working class has remained broadly constant between 1987 and 2017, with few differences across countries.

Given this scarce and contradictory evidence, we consider the issue whether the subjective social status of the working class has really declined over the past decades to be an open question. We argue that to bring forward this debate, a clear conceptual distinction between *absolute* and *relative* changes in subjective social status and corresponding changes in objective economic circumstances should be considered. Absolute change, as understood here, focuses on change in workers' own reported status over time (without reference to the levels reported by other groups). Relative change instead focuses on the *difference* between workers'

and non-workers' reported status. This leads to our two research questions: (a) Has the subjective status of the working class actually declined in absolute or relative terms over time? (b) Does the evolution of subjective status over time for these groups align well with observed changes in their objective socio-economic circumstances, and if not where are major divergences between objective and subjective measures to be seen?

In this paper, we aim to provide a longitudinal perspective to these questions by examining and comparing trends over recent decades in Germany in the US. These are selected first because they represent two 'most likely cases', in the sense that they are countries where we are most likely to see shifts in subjective status among some groups given the way economic circumstances and in particular income inequality evolved over the period. Income inequality has increased strongly in both countries since the 1980s, although from a considerable lower level in Germany (Pontusson and Weisstanner 2018) and with different phasing across the decades. In addition, income growth has been unequally distributed between different income groups in both countries (Nolan 2018a). In such a context of increasing socio-economic disparities, we can expect to observe not necessarily a decline in absolute levels of subjective status, but a widening relative gap in subjective social status between the working class and the rest of the population over time. Secondly, the country-specific survey data available for these two countries is of high quality and goes back as far as 1980, when inequality in the US started to trend upwards, whereas other countries often rely on the European Social Survey available only from 2001.

Our empirical analysis thus explores trends in subjective social status in the US and West Germany between 1980 and 2018, using the General Social Survey (GSS) for the US, and the German General Social Survey (ALLBUS) for West Germany. Our findings provide no evidence for the claim that the subjective social status of the working class has declined in *absolute* terms. Reported status among this group today is at similar levels in the US and at higher levels in Germany compared to the 1980s. In *relative* terms, we find that the status of the working class relative to the middle and upper class has declined in Germany, but not in the US. The results show that relative status decline is driven by objective economic circumstances, which mediate the relationship between class position and status over time. Finally, there is heterogeneity *within* the working class related to age, gender, and race. In Germany, the status gap between low- and skilled workers is increasing. In the US, a relative status decline among the white and male working class compared with other sub-groups of the working class is found.

These findings imply that rising income inequality has had a nuanced impact on subjective social status perceptions for the working class over the past decades. Our longitudinal findings are clearly at odds with the cross-sectional findings that higher income inequality is generally associated with lower status levels (Lindemann and Saar 2014, Wilkinson and Pickett 2018, Schneider 2019). Against what Gidron and Hall (2017, 2020) suggest, the working class has not increasingly felt 'socially marginalised', to the extent that we conceptualise this as involving an *absolute* decline in their subjective social status. However, unlike Oesch and Vigna (2020), we actually do find some important *relative* status decline among the working class in Germany. Our data covers a slightly longer time span than Oesch and Vigna (2020), but we also explicitly test if the relative change in the difference in status between working- and non-working classes over time is significant and document crucial variation within the

working class. Hence, when assessing the role of subjective social status for political outcomes, longitudinal perspectives that consider both absolute and relative trends would seem promising.

Theory, measures and hypotheses

This paper examines the widespread proposition that the subjective social status of the working class has declined over time. Following Gidron and Hall (2017: S61), we define *subjective social status* (SSS) as 'the level of social respect or esteem people believe is accorded them within the social order.' Behind this lies the concept of 'status order' set out by Max Weber: as Chan and Goldthorpe (2004: 383) describe it, "a set of hierarchical relations that express perceived and typically accepted social superiority, equality or inferiority of a quite generalised kind, attaching not to qualities of particular individuals but rather to social positions that they hold or to certain of their ascribed attributes (e.g. 'birth' or ethnicity)." This is to be distinguished from objective social class schema based on social relations in economic life such as the European Socio-economic Classification scheme or that put forward by Oesch (2006), as well as from other indicators of social stratification based on factors such as power or socio-economic resources such as income and wealth. With social status being a relational concept, *subjective* social status seeks to capture how people assess their social standing by engaging in social comparisons with other groups and by referring to the respect and esteem that is given to them by other people around them (Gidron and Hall 2017: S61, Schneider 2019: 411). Anderson et al. (2015) review a wide range of relevant studies suggesting that the desire for status is fundamental, with people's subjective well-being, self-esteem, and mental and physical health depending on the level of status they are accorded by others.

Moreover, subjective social status is context dependent. Several studies make the claim that there is a direct negative association between income inequality and SSS (Lindemann and Saar 2014, Schneider 2019, Gidron and Hall 2020). Status, in turn, reinforces social inequality and precludes low-status individuals from attaining positions of resources and power (Ridgeway 2014). Relative deprivation theory (Runciman 1966) expects that those groups most adversely affected by income inequality should feel more inferior and rank themselves lower in society (Schneider 2019: 411, Gidron and Hall 2020: 1040). In this view, higher income inequality should be associated with lower SSS primarily among those most adversely affected by inequality, like low-income, low-educated, or working-class groups.

In contrast, the 'status anxiety' mechanism highlights the damaging psychological and health consequences of income inequality for *all* individuals in society. Following Wilkinson and Pickett (2009, 2018), income inequality gets 'under the skin' as status hierarchies widen and individuals become more concerned with status comparisons. This in turn produces widespread status anxiety and can cause adverse physical and mental health outcomes (Layte and Whelan 2014: 526). A possible synthesis of both mechanism perspectives is that inequality not only increases the feeling of relative deprivation among adversely affected groups, but also makes social comparisons to better-off groups more salient (Schneider 2019: 411-412).

However, the empirical evidence from studies on the negative association between inequality and SSS (Lindemann and Saar 2014, Schneider 2019, Gidron and Hall 2020) is based on cross-sectional evidence, using the *level* of income inequality as a predictor for subjective social status. This could run the risk of spurious correlations because of unobserved variables. More

importantly, though, there is no evidence for the relative deprivation mechanism in these studies, since inequality appears to reduce status almost to an equal extent among *all* income groups. This is consistent with the damaging social-psychological consequences of inequality, but the absence of any effect of relative deprivation is still puzzling, given that some groups have clearly done much better than others in a context of rising income inequality.

Longitudinal studies that could shed more light on the consequences of inequality on trends in subjective social status are rare. Gidron and Hall (2017) claim that the relative social status of non-tertiary educated men has declined in many advanced democracies. Oesch and Vigna (2020) critically examines these claims. They find that, focusing on social class rather than educational categories, subjective social status of the working class has remained largely constant between 1987 and 2017. Longitudinal analyses of subjective well-being are somewhat more common. For instance, Richards and Paskov (2016) find that class inequalities in psychological well-being in the UK have not widened since the 1990s. Lipps and Oesch (2018) show that life satisfaction among the working class in Germany has declined in the 1990s and early 2000s both in absolute terms as well as relative to the middle and upper classes. Both studies show that objective economic conditions, such as employment status and income, account for a sizeable share of the class gaps in subjective well-being.

Capturing subjective social status

Here subjective social status (SSS) is operationalised using the 'social ladder' or 'MacArthur scale' question, where people mark their perceived position on the rungs of a ladder representing the social hierarchy from 1 'bottom' to 10 'top' (Adler, et al. 2000). This is the measure used in the studies discussed above on the relationship between inequality and SSS (Lindemann and Saar 2014, Schneider 2019) and political outcomes (Gidron and Hall 2017, 2020, cf. Oesch and Vigna 2020).

A potential downside of this measure is that the question posed does not define the social hierarchy, so when ranking themselves on the ladder respondents could have in mind other factors such as income, living standards, economic security, or education, alongside social status. This is the basis for critiques of its use in studies of populism by for example Bukodi and Goldthorpe (2021). The relationship between this 'ladder' measure and such objective factors clearly merits further investigation, as does its relationship with objective measures of status hierarchy such as Chan and Goldthorpe (2004)'s for the UK based on the occupational structure of friendship. However, the fact that the social ladder has been used in these highly-cited and influential studies makes the investigation of trends in this measure of particular interest. Furthermore, it has been argued that the question's structure makes it more comparable across cultures and over time, especially compared to subjective class identification, the major alternative in the literature to assess perceived social standing (Lindemann and Saar 2014: 8). Moreover, the fact that individuals have to come up with their own social comparisons and self-appraisals means that pre-defined subcategories whose meaning can change over time are avoided (Schneider 2019: 411).

Argument and expectations

There is no doubt that the working class has been adversely affected by rising income inequality over the past decades in many places (Nolan 2018a, b, Pontusson and Weisstanner 2018, Weisstanner and Armingeon 2020). But as discussed above, there is still disagreement on the impact of these developments on trends in subjective social status and, by implication, wider social and political outcomes. We argue that to bring this debate forward and resolve these contradictory findings, we need to introduce a clear conceptual separation between *absolute* and *relative* changes in subjective status and corresponding changes in objective conditions.

Absolute changes we use to refer to actual changes in the status levels reported by persons without reference to what other individuals or groups are reporting. By the nature of the concept and the measurement tool being employed, these will still be framed with reference to the respondent's own expectations and represent their perceived ranking relative to others. We do not necessarily expect that subjective social status has declined in absolute terms since the 1980s. Even though the working class has lost out in relative terms as income inequality has increased since the 1980s, real incomes and living standards have not actually declined; in some countries they have grown substantially, in others they have stagnated but not shown outright declines (Nolan 2018a). As a result, we examine the following expectation: *As income inequality has increased, have the actual levels of subjective social status of the working class remained stable over time?*

However, we are also interested in *relative* status changes, that is, how the actual levels of subjective social status of the working class evolved compared to those levels for other individuals and groups. Rising income inequality implies that the gap in the socio-economic hierarchy between the working class and the rest of the population has increased markedly. Higher income inequality leaves those at the lower end of the social hierarchy relatively deprived and prone to less favourable social comparisons with those at the upper end of the social hierarchy (Lindemann and Saar 2014, Gidron and Hall 2017, 2020). As a result, we should expect to see what we will refer to as a *relative* status decline for the working class relative to upper-class groups in cases where inequality has increased: the gap between their actual levels as reported should be expected to widen. We thus want to examine in particular: *As income inequality has increased, has the subjective social status of the working class relative to the rest of the population declined over time?*

Before proceeding with the empirical analysis, we anticipate that there might be substantial heterogeneity in subjective social status trends *within* the working class. We expect three main sources for variation cross-cutting the class cleavage – with slight differences between the two countries: age, gender, and education (German context) and race (US context). For the German context, the insider-outsider literature has documented substantial divides between higher-skilled and lower-skilled workers, and these risks are reinforced by age and gender (Schwander and Häusermann 2013). For the US context, many observers find relative declines in subjective social status as especially pronounced among older, male, and white working-class individuals (see Gidron and Hall 2017: S63-67). These are not the most materially deprived groups within the working class, but often seem to feel increasingly threatened by social decline, compared to ethnic minorities or women (Hochschild 2016, Gest, et al. 2018). Older, male, and white working-class citizens have also driven voting for right-wing populists (Mutz 2018, Norris and

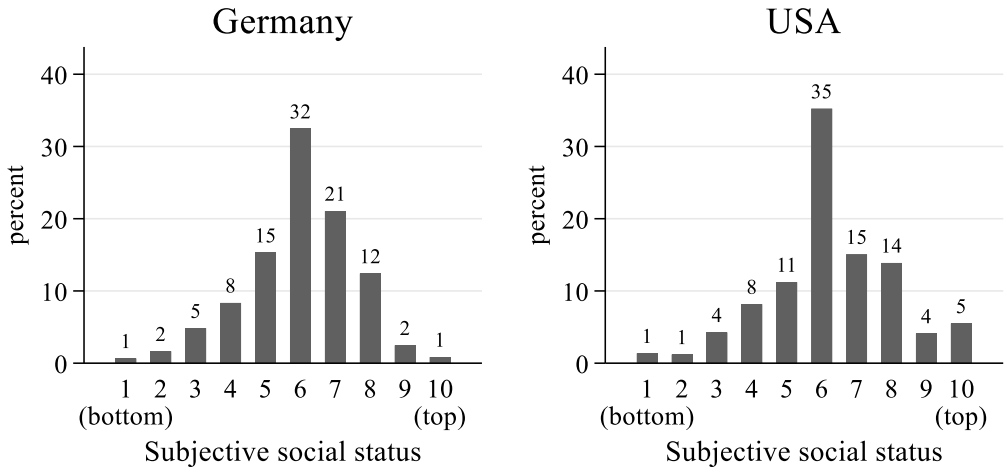
Inglehart 2019). Our goal here is not to provide a comprehensive account of how these group-based characteristics relate to subjective social status. Rather, our analysis will empirically assess the variation in trends *within* the working class who may not have been uniformly impacted by the major economic and cultural developments of the past decades.

Data

The empirical analysis is based on two surveys with information on subjective social status since the early 1980s: the German General Social Survey (known as 'ALLBUS', https://www.gesis.org/en/allbus/allbus-home) for West Germany, and the General Social Survey (GSS, https://gss.norc.org/) for the US. We exclude the former East German regions from our sample to compare the same regions in Germany before and after 1990. In Germany, 17 waves are available between 1980 and 2018, compared to 10 waves in the US between 1983 and 2018. The ALLBUS and GSS are also used as the basis for the International Social Survey Programme (ISSP), on which comparable studies rely (Gidron and Hall 2017, Oesch and Vigna 2020). However, the original ALLBUS and GSS are available for a longer time period than the ISSP, which records subjective social status only from 1987.

As discussed in the previous section, we measure subjective social status with the 'social ladder' question, where people self-assess their position in society from 1 'bottom' to 10 'top'. The question formulation is: '*In our society there are groups which tend to be towards the top and those that are towards the bottom. Here we have a scale that runs from top to bottom. Where would you put yourself on this scale?*'. Figure 1 shows the distribution of our dependent variable, responses to the 'social ladder' question, pooling all survey waves. In both countries, the most chosen answer category by large margins is '6', the category slightly above the (hypothetical) average of 5.5. About 32% in Germany and 35% in the US have placed themselves in category 6. In contrast, very few individuals place themselves at the very bottom or the very top of the social ladder. Overall, this pattern is consistent in many other countries (Evans and Kelley 2004). The notable exception is that in the US, 5% of respondents see themselves in the top category, while fewer than 1% in Germany do.

Figure 1: Distribution of subjective social status



Note: Data from ALLBUS 1980-2018 in Germany (N=25,451) and GSS 1983-2018 in the US (N=14,991).

Our major explanatory variable distinguishes the 'working class' (coded as 1) from upper/salariat and intermediate social classes (coded as 0). We identify working-class occupations based on the European Socio-Economic Classification (ESeC) (Rose and Harrison 2010), combining respondents who are (or previously were) employed in one of the following three categories: Lower services, sales and clerical occupations (lower-grade service workers), lower technical occupations (skilled workers), and routine occupations (semi- and unskilled workers). We coded these ESeC categories on the basis of harmonised information about occupation (3-digit ISCO-88 in the ALLBUS, 3-digit ISCO-08 in the GSS) and employment status.

According to this operationalization, 48% of German respondents and 44% of US respondents in our final sample pooled across waves belong to the working class. This share was higher in the 1980s (56% in Germany, 46% in the US). Yet by the 2010s, the share of working-class respondents has declined to 40% in Germany and 43% in the US. Our working-class measure includes a modest number of respondents in working-class occupations who have tertiary educational attainment (2% of all respondents in Germany, 3% in the US). Excluding these respondents, who are a distinctive group in terms of their history and prospects, from the '*working class*' label does not change the substantive results. Of course, there are alternative ways to conceptualise and operationalise the working class, based on more fine-grained class schemes. However, given the data limitations (no consistent information about supervision of employees and firm size across all years), our primary goal is to employ a simple class measure that can be related to trends in subjective social status alongside 'objective' economic characteristics.

Our main measure for objective economic circumstances is *income*. Income is asked as after-tax monthly household income in Germany[1] and pre-tax annual family income in the US. The German income data is available as a continuous measure (partly asked as an open-ended measure and partly in categories). Following common practices in inequality research, we top-code these incomes at 10 times the median of non-equivalised income. In contrast, the US income data is available in categories, which we coded into income amounts by assigning the midpoints of each category (Hout 2004).[2] Finally, we equivalised both the German and the US income data by the square root of number of household members and adjusted for inflation using 2015 CPIs.

In addition to income, some models control for employment status (dummies for part-time, unemployed, and non-employed, with full-time employment as the reference category) and education (five categories). Finally, all models control for gender (female=1) and age (in five age brackets). Summary statistics for all variables are available in Appendix 1. In the German ALLBUS survey, a potential data quality issue arises for the year 2002, when well-off respondents were severely over-represented in this year (for reasons unknown to us) and sampling weights do not adequately correct for this. While we should be cautious about the trends in this particular year, our substantive findings below are unchanged if we would simply drop this clear outlier year.

Methodology

We estimate ordered logistic regression models, in light of the ordinal 10-point scale of the dependent variable. There is no consensus in the related life satisfaction literature whether such scales can reasonably be compared with using linear regressions (e.g. Ferrer-i-Carbonell and Frijters 2004) or whether this ignores critical assumptions related to the ordinal nature of the scale (Schröder and Yitzhaki 2017). We opt for ordered logistic regression models of subjective social status, which allows us to model the precise point on this ladder on which someone with a particular set of characteristics place themselves. However, to facilitate presentation and interpretation of the results we use the estimated model to predict and visualise the probability that respondents select one of the above-average categories of subjective social status (7, 8, 9, or 10), as opposed to a value between 1 and 6 (see Figure 1). We also take a pragmatic stance with regard to methodological alternatives. As we discuss in the findings part and Appendix 2, our results are largely similar with estimating linear regression models or using different cut-off points in presenting the status outcome probabilities (i.e. the probability to select values 6-10 or 8-10 instead of 7-10).

We pool all waves, but always estimate separate models for the two countries, and use robust standard errors. To assess change over time, we begin showing the descriptive trends over each of the available survey years. To smooth out random fluctuations in individual surveys, we subsequently assign the available surveys to two dummy variables with value 0 for the 1980s/early 1990s (the reference group, surveys between 1980 and 1992, where available) and value 1 for the 2000s (2000-2008) and the 2010s (2010-2018), respectively. We interact these

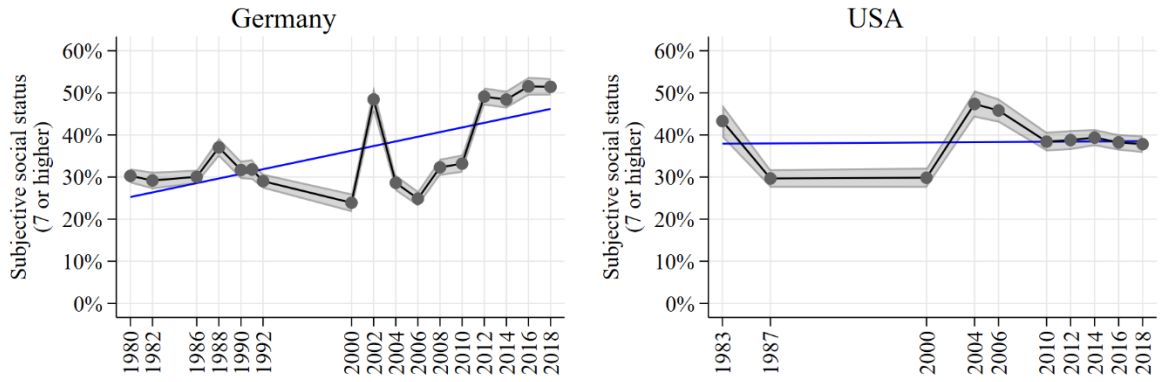
[1] There is no specific reference to which month the question refers to in Germany. However, the self-employed are asked about their *average* monthly net income. We used the harmonised variable 'hhinc'.
[2] For the open-ended top-category, we used the simple correction suggested by Donnelly and Pop-Eleches (2018: 359), using the width of the second-highest category plus the lower bound of the highest category.

dummies with our working-class measure and calculate the predicted probabilities of the outcome variable over time.

Findings

Before turning to the regression models, Figure 2 shows the overall trends in subjective social status across the entire population in Germany and the US. In neither case is there evidence for a general decline in subjective social status, here shown as the predicted probability of respondents selecting value 7 or higher on the 1-10 scale (alternative status outcomes are discussed below and in Appendix 2). In Germany, there is even a clear upward drift. The slope of the best-fit trend line is statistically significant (R^2=0.41, p=0.005, N=17), mostly because of the high levels of status in the last few years from 2012 to 2018. The outlier year 2002 does not affect this upward trend. In the US, the trend slope is basically flat (R^2=0.00, p=0.999, N=10). The data from these two countries clearly reject the widespread idea that rising inequality *per se* leads to a general fall in perceived social status.

Figure 2: Trends in subjective social status over time



Note: Predicted probability of selecting values 7, 8, 9, or 10 on the social ladder scale (with 95% confidence intervals). No control variables included. Blue line=best-fit regression line.

In the following, we explore if and how trends in subjective social status differ between the working class and the rest of the population. Table 1 presents the results of ordered logistic regressions of subjective social status. Models 1 (Germany) and 4 (US) control for age and gender, while objective socio-economic covariates are added in Models 2 and 5 (employment status and education) and Models 3 and 6 (income). The Bayesian Information Criteria (BIC) indicate that the model fit improves substantially when adding employment status, education, and income. The estimated coefficients are 'average marginal effects' (AMEs) that can be interpreted as the expected impact of having a particular characteristic, relative to someone who does not have it, on the probability of selecting values from 7 to 10 on the status scale. For example, the coefficient for 'working class' in Model 1 indicates that working-class respondents in the 1980s were 19.0 percentage points less likely to obtain a high status (7 or higher) than non-working-class respondents.

As the results in Table 1 show, the working class in both countries always has a considerably lower probability to obtain a high subjective social status, even after adding objective economic controls. However, we are primarily interested in how this relationship has changed over time, which we can capture with the interaction between 'working class' and the time period dummies.

Table 1: Ordered logistic regression models of subjective social status

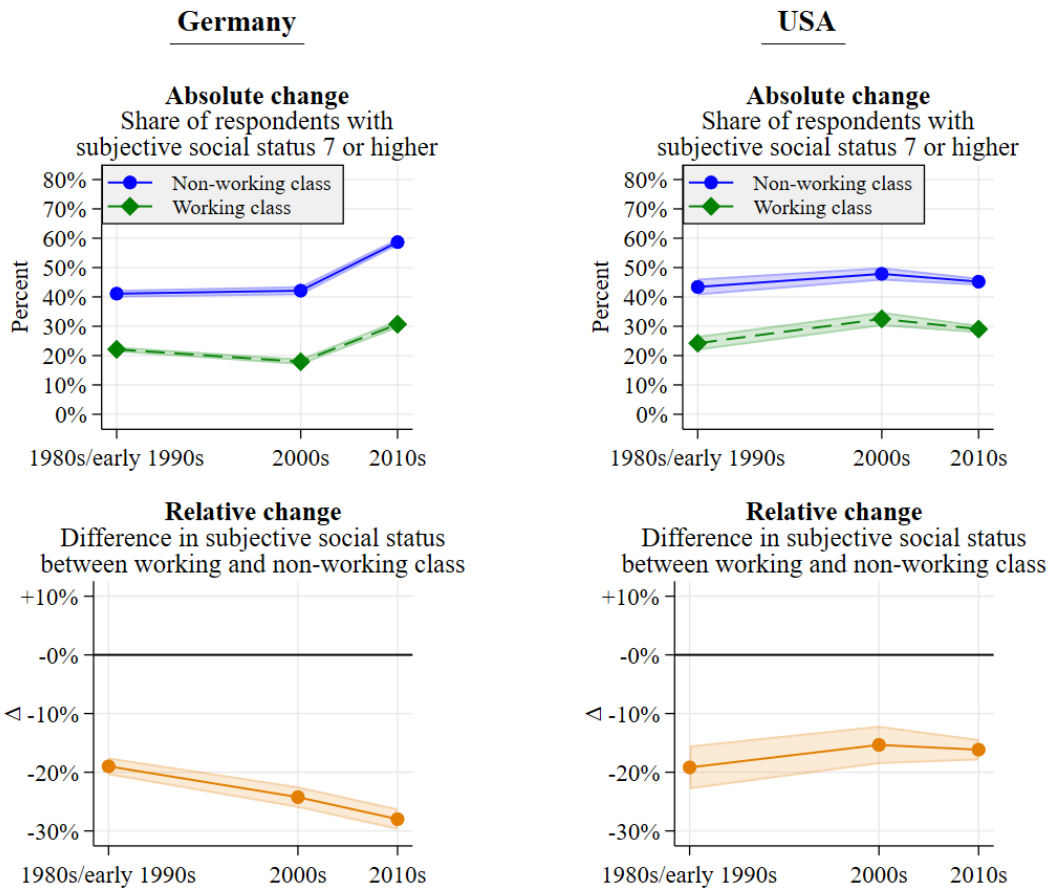
	Germany			USA		
	(1)	(2)	(3)	(4)	(5)	(6)
Working class (dummy)	-0.190***	-0.126***	-0.093***	-0.192***	-0.123***	-0.105***
	(0.008)	(0.008)	(0.008)	(0.019)	(0.020)	(0.018)
2000s (reference: 1980s)	0.010	-0.025**	-0.028***	0.045*	0.019	0.030+
	(0.010)	(0.009)	(0.008)	(0.018)	(0.017)	(0.016)
2010s (reference: 1980s)	0.176***	0.112***	0.118***	0.018	-0.017	-0.009
	(0.009)	(0.009)	(0.008)	(0.016)	(0.015)	(0.014)
Working class*2000s	-0.052***	-0.029*	-0.011	0.038	0.050*	0.065**
	(0.012)	(0.012)	(0.011)	(0.025)	(0.025)	(0.024)
Working class*2010s	-0.090***	-0.044***	-0.015	0.030	0.048*	0.062**
	(0.012)	(0.012)	(0.011)	(0.021)	(0.021)	(0.020)
Female	-0.026***	0.025***	0.017**	-0.040***	-0.035***	-0.019**
	(0.005)	(0.005)	(0.005)	(0.007)	(0.007)	(0.007)
Aged 30-39 (reference: 18-29)	0.017*	-0.001	0.001	-0.015	-0.028*	-0.039**
	(0.008)	(0.008)	(0.008)	(0.012)	(0.012)	(0.012)
Aged 40-49 (reference: 18-29)	0.029***	0.014+	0.001	0.008	-0.003	-0.033**
	(0.008)	(0.008)	(0.008)	(0.012)	(0.012)	(0.012)
Aged 50-59 (reference: 18-29)	0.013	0.013	-0.015+	0.020	0.021+	-0.023+
	(0.009)	(0.008)	(0.008)	(0.013)	(0.012)	(0.012)
Aged 60+ (reference: 18-29)	-0.019*	0.039***	0.002	0.063***	0.074***	0.035**
	(0.008)	(0.009)	(0.009)	(0.012)	(0.013)	(0.012)
Part-time employed		-0.024**	0.015+		0.002	0.019+
(reference: full-time)		(0.008)	(0.008)		(0.012)	(0.012)
Unemployed		-0.165***	-0.097**		-0.050*	-0.014
(reference: full-time)		(0.029)	(0.030)		(0.020)	(0.020)
Non-employed/other		-0.081***	-0.017*		-0.013	0.017+
(reference: full-time)		(0.007)	(0.007)		(0.009)	(0.009)
Education, 2nd category		0.120***	0.111***		0.092***	0.058***
(reference: no qualification)		(0.016)	(0.018)		(0.011)	(0.012)
Education, 3rd category		0.204***	0.180***		0.137***	0.088***
(reference: no qualification)		(0.016)	(0.018)		(0.017)	(0.018)
Education, 4th category		0.291***	0.241***		0.235***	0.144***
(reference: no qualification)		(0.188)	(0.020)		(0.014)	(0.015)
Education, 5th category		0.377***	0.292***		0.338***	0.213***
(reference: no qualification)		(0.017)	(0.019)		(0.016)	(0.017)
Monthly household income			0.110***			0.034***
in 1,000s € / $			(0.003)			(0.001)
BIC	89,926	88,722	86,901	56,840	56,254	55,630
N	25,451	25,451	25,451	14,991	14,991	14,991

Notes: + $p<0.1$; * $p<0.05$; ** $p<0.01$; *** $p<0.001$. Estimates are average marginal effects (AMEs) and can be interpreted as expected changes in the probability of selecting values 7-10 on the social ladder scale. Robust standard errors in parentheses. BIC=Bayesian Information Criterion.

The key finding in Table 1 is that there is only partial support for the expected relative decline in subjective social status of the working class over time. In Germany, the interaction term between working class and time period is negative and statistically significant in Model 1, which indicates that the subjective social status of the working class relative to the non-working class has declined over time. In contrast, in the US, there is no evidence for such a relative status decline. There the interaction terms are positive – which would indicate a relative status *increase* of the working class, against our expectations – but not statistically significant in Model 4.

Figure 3 should facilitate the interpretation of these interaction results and further allows us to distinguish between 'absolute' change in subjective status of the working/upper classes and 'relative' change in the difference between the two groups. In *absolute* terms (upper panel of Figure 3), there is certainly no decline in status among the working class over the past four decades. In Germany, the increase in recent years is also shared among the working class. In the US, the working class has seen a strong increase in status in the mid-2000s. Its status has subsequently declined to slightly lower levels after 2010, but is still above the earlier status levels.

Figure 3: Subjective social status trends among the working class and non-working class



Note: Predicted probabilities with 95% confidence intervals, based on Models 1 and 4 in Table 1.

The picture in *relative* terms (i.e. differences between the two groups, see lower panels of Figure 3) is notably different. In Germany, the status gap of the working class relative to other classes has widened significantly over time, from a 19%-gap in the probability to attain high status in the 1980s and early 1990s, to a 24%-gap in the 2000s, to a 28%-gap in the 2010s. In the US, the status gap between the working and upper classes has not widened in relative terms – if anything, the gap has narrowed.

Appendix 2 shows that this pattern of absolute and relative changes is robust to different ways of measuring the dependent variable and alternative model specifications (such as linear regression models of average SSS). Only one specification that predicts status values 6 or above as the outcome variable fails to confirm the relative decline of working-class status in Germany in the 2010s, but still finds a statistically significant relative decline in the 2000s compared to the 1980s. Moreover, Appendix 3 shows some variation in the pattern across different birth cohorts, but no fundamental differences. The relative status decline of the German working class seems to be driven by cohorts born in the 1950s and 1960s, and some relative status decline is also found in the US for cohorts born in the 1960s. We will resume discussing variation within the working class by age, gender, education, and race below.

Returning to Table 1, we find that the relative status decline found for Germany can entirely be 'explained' by objective economic circumstances. The latter *mediate* the relationship between class position and subjective social status, since working-class respondents are associated with lower socio-economic resources, which in turn are associated with lower status. Accordingly, once we control for employment and education (Model 2), the crucial interaction terms between working class and time period become weaker, and they become statistically insignificant in Model 3 once we control for income. Although we do not use a formal mediation analysis here, these findings are very similar to the longitudinal analysis of life satisfaction by Lipps and Oesch (2018) in Germany. In our case, this suggests that the observed relative decline of working-class status in Germany is mediated by, and can be traced back to, objective economic circumstances.

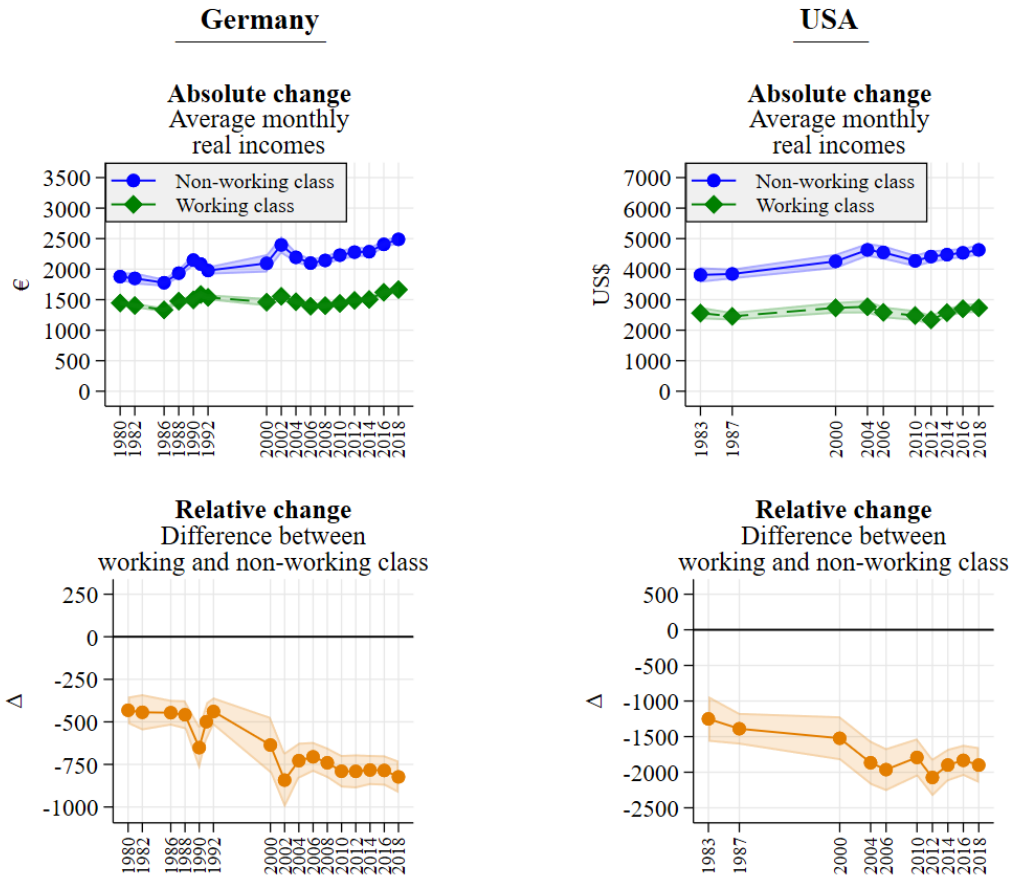
For the US, we find a similar mediation effect. While the interaction between working class and time period was not statistically significant in Model 4, controlling for employment, education and income in Models 5 and 6 leads to a positive and statistically significant interaction term. In other words, once we control for the adverse objective economic conditions of the working class, this group even has seen a relative status *improvement* in the 2000s and 2010s compared with 1983/1987.

The observation that income (and to a lesser extent, education and employment status) has strong mediating effects on the relationship between working class and subjective social status is not surprising given the well-known context of rising income inequality in Germany and the US. This increase has been documented and analysed extensively in the literature (Nolan 2018a, b, Nolan and Weisstanner 2021).[3] In Figure 4, we simply give a flavour to show how the objective economic circumstances of the working class relative to other groups have also deteriorated since the 1980s in the surveys on which we are relying for the measures of social status. Objective economic circumstances are measured by the household income item in the

[3] The Luxembourg Income Study database shows the Gini summary inequality measure for disposable household income rising since the early 1980s from 0.24 to 0.30 for Germany and from 0.31 to 0.38 for the US.

surveys. It is very likely that this imperfect measure underestimates the true extent of the relative decline in the working class's objective economic circumstances, because especially income at the top of the distribution is likely to be underreported.

Figure 4: Real income trends among the working class and non-working class



Note: Average real incomes by group and year estimated with linear OLS models (controls: age and gender). Based on inflation-adjusted equivalised household incomes as measured in ALLBUS (post-tax incomes, in 2015 euros) and GSS (pre-tax incomes, in 2015 US Dollars). 95% confidence intervals shown.

Despite these caveats, Figure 4 demonstrates that income gaps between the working class and the rest of the population have widened significantly since the 1980s even according to our surveys. In absolute terms, the working class has seen almost no real income growth compared to the 1980s in both Germany and the US. In contrast, other socio-economic groups have seen more robust absolute income growth. In relative terms, the income gap of the working class relative to other socio-economic groups has widened significantly over time. In Germany, the gap in monthly net income has increased from about €430 in 1980 to €820 in 2018 (inflation-adjusted). The monthly gross income gap in the US has widened from about $1250 in 1983 to $1900 in 2018.

To sum up so far, in both countries, we must reject the hypothesis that subjective status of the working class has declined in *absolute* terms. Reported status among the working class today is at equal or higher levels compared to the 1980s. In *relative* terms, however, we find that the status of the working class relative to other classes has declined in Germany, but not in the US. In both cases, the status gap between the two groups tends to narrow over time once we account for objective economic circumstances, which mediate the relationship between class and subjective social status and have diverged considerably over time. Hence, rising inequality stands out not as leading to outright status decline, but as an important factor in mediating the relative trends in different groups' status perceptions.

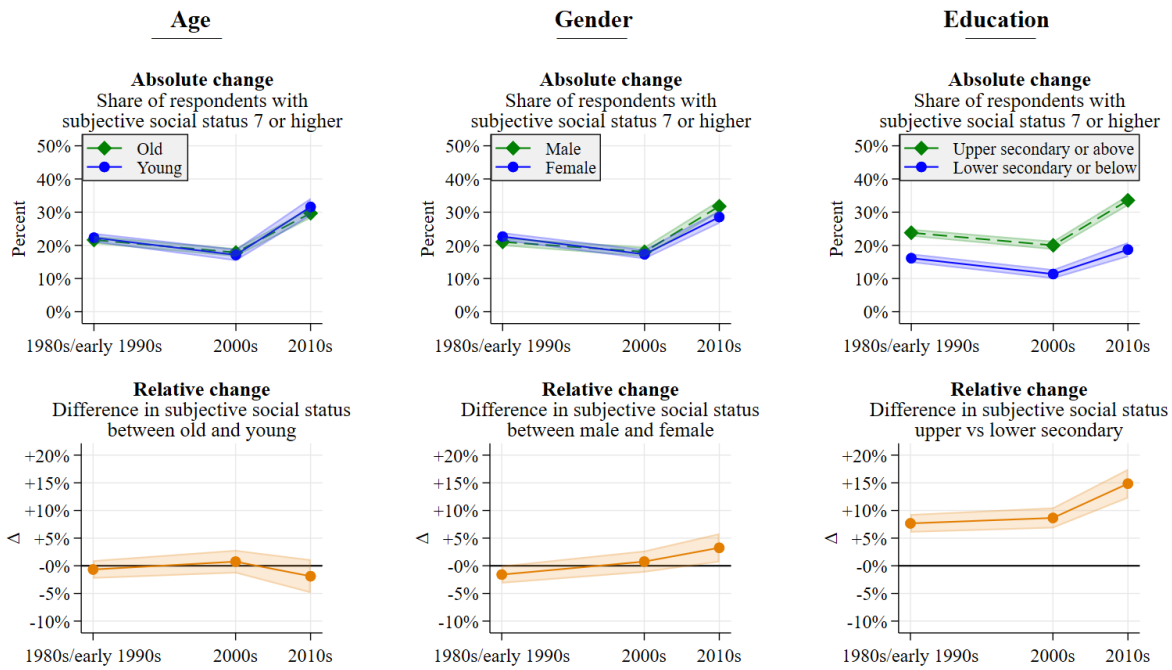
Variation within the working class

The final set of results in Figures 5 and 6 address possible explanations for the absence of a stronger absolute or relative status decline among the working class, given the scale of rising inequality in the two cases. Specifically, we explore the variation *within* the working class in terms of age, gender, education (for the German case, to capture differences between the high-skilled and low-skilled workers) and race (for the US race, as this information is only available in the GSS).[4] Group-based social inequalities related to these characteristics might cross-cut class cleavages in subjective social status trends. We expect that holding objective indicators constant, older, male, low-skilled, and white sub-groups of the working class might have felt doing less well in relative terms over the past decades. They might therefore be more likely than younger, female, high-skilled and non-white workers to have experienced relative decline in their status.

We find strong evidence for such heterogeneity within the working class, but with notable differences between the two countries. Figure 5 for Germany shows that for a sample restricted to the working class, there are few within-class status differences related to age and gender. But the German working class is strongly divided between high-skilled and low-skilled workers. The gap in reported status between with and without upper secondary qualifications has increased over time to about 15 percentage points. These patterns are broadly similar if we control for objective economic circumstances (Appendix 4).

[4] Due to the large sample size of the ALLBUS and GSS, the group sizes are sufficient for this analysis (see also the summary statistics in Appendix 1).

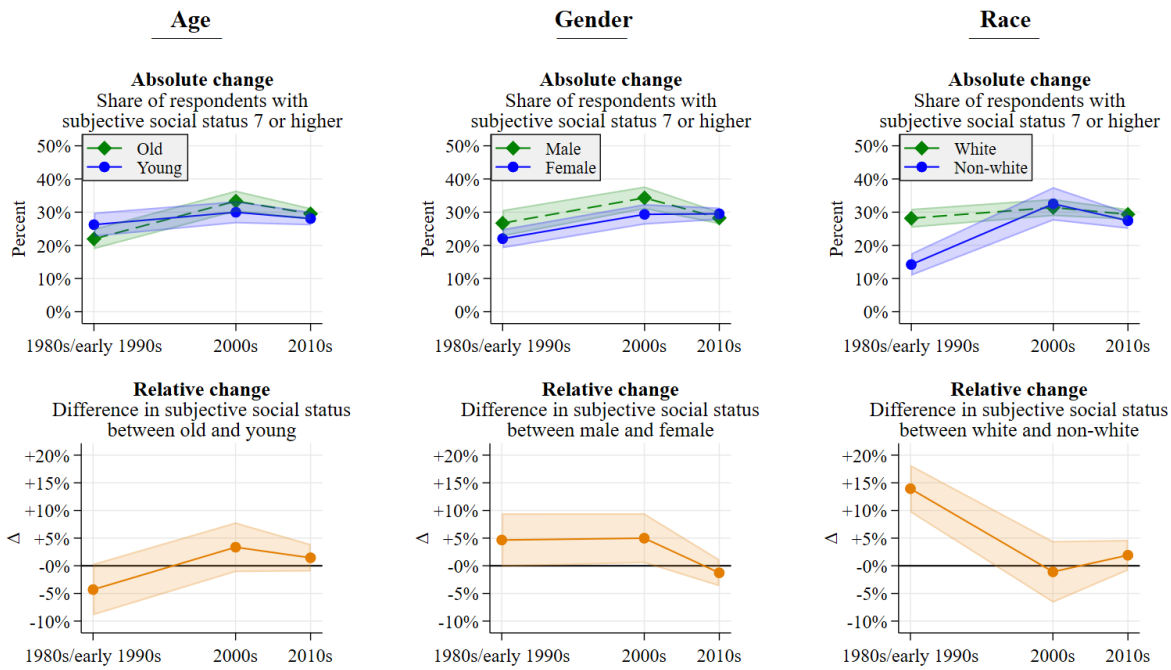
Figure 5: Variation *within* the German working class



Note: Predicted probability of selecting values 7-10. Based on ordered logistic regression models similar to Model 1 in Table 1 but with sample restricted to working class (N=12,152). 95% confidence intervals shown.

Group-based status differences within the working class also play an important role in the US, as Figure 6 demonstrates. First, older working-class members used to have a lower subjective social status than their younger counterparts in the 1980s, but this difference has vanished in the later time periods (see also the cohort patterns in Appendix 3, discussed above). Second, whereas working-class males used to have a higher status than working-class females in the 1980s and 2000s (though that gap was not statistically significant), the relative status difference has significantly reversed in the 2010s. Working-class men stand out as one of the few groups with a sharp and statistically significant *absolute* status decline between the 2000s and the 2010s.

Figure 6: Variation *within* the US working class



Note: Predicted probability of selecting values 7-10. Based on ordered logistic regression models similar to Model 4 in Table 1 but with sample restricted to working class (N=6,056). 95% confidence intervals shown.

Third, and most strikingly, there are substantial differences between white and non-white working-class respondents in the US. Non-white working-class respondents have seen a large absolute improvement in their subjective social status. Between the 1980s and 2000s, the share of *non-white* working-class respondents selecting one of the top categories increased from 14% to 33%, controlling for age and gender. The status of the *white* working class also slightly improved in absolute terms, but the difference relative to their non-white counterparts has fundamentally reversed. In the 1980s, 28% of white working-class respondents were likely to select 7 or higher on the status scale, compared with only 14% non-white respondents. By the 2000s and 2010s, the difference has become statistically insignificant. Since the 2000s, white and non-white working-class respondents had about the same likelihood to express high status attainment.

These major relative changes in status are especially remarkable because they are *not* explained by differences in objective economic circumstances between the white and non-white working-class sub-groups, at least insofar as we can capture those here. As shown in Appendix 4, the relative trend patterns are substantively similar if we control for income, education, and employment status – i.e. dimensions on which non-white and female respondents still face additional disadvantages and structural discrimination, but on which some modest improvements in relative terms will have been registered over the period studied. The increases in subjective social status for non-white working-class respondents we are noting here are therefore over and above any impact of such objective circumstances; teasing out what may be driving those increases is of significant interest but beyond the scope of this study.

Conclusion

The working class has been adversely affected by the economic changes of recent decades, including rising income inequality, in many rich countries. It would be reasonable to expect that this would translate into a decline in their self-perceived standing in the social hierarchy, and the notion that such a decline underlies rising support for populism is widely articulated. However, few studies have investigated whether and how subjective social status has actually changed over time. Gidron and Hall (2017) provide some evidence that the relative social status of non-tertiary educated men has declined in many advanced democracies, whereas Oesch and Vigna (2020) focusing on social class find that the subjective social status of the working class has remained broadly constant between 1987 and 2017, with few differences across countries.

This paper has provided a new perspective on these questions by in-depth analysis of trends over time in two particularly relevant cases, Germany and the US, where income inequality has increased strongly since the 1980s and consistent information on measures of subjective social status is available. At the outset we highlight the importance of a clear conceptual distinction between *absolute* and *relative* changes in subjective social status, arguing that increasing socio-economic disparities may not necessarily be associated with an absolute decline in reported status of the working class, but could drive a widening relative gap between them and the rest of the population.

Our empirical analysis finds no evidence to support the claim that the subjective social status of the working class has declined in absolute terms in either country. Status among this group today is at similar levels in the US and higher levels in Germany compared to the 1980s. In relative terms, the status of the working class relative to other groups has declined in Germany, and this is entirely driven by objective economic circumstances mediating the relationship between class position and status over time. No such relative decline in status for the working class as a whole is seen in the US. However, there is significant heterogeneity *within* the working class related to age, gender, education, and race. In particular, in the US a relative status decline among the white and male working class compared with other sub-groups of the working class is found, having controlled for changes in education, employment and income. This reflects an improvement in subjective status for those comparator sub-groups rather than an absolute decline for white male working-class respondents.

These findings imply that the relationships between rising income inequality, objective socio-economic disparities, and subjective social status perceptions for the working class over recent decades are complex and still poorly-understood. In contrast to Gidron and Hall (2017, 2020)'s influential work, we do not see the working class feeling 'socially marginalised' to the extent that this is conceptualised as involving an absolute decline in their subjective social status. However, our findings of relative status decline among the working class in Germany and among some groups within the working class in the US also offer a crucial qualification to Oesch and Vigna (2020)'s results on the subjective social status of the working class remaining broadly constant. Our findings thus serve to highlight that both absolute and relative changes in subjective status need to be incorporated into the picture, and that the drivers of trends in subjective status need to be better understood if their linkages to political behaviours and outcomes are to be reliably established. In the absence of panel data, investigation of more fine-

grained sub-groups such as by age cohort, gender and occupation may be particularly promising in that regard.

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ONLINE APPENDIX

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- Appendix 2: Alternative subjective social status measures/models
- Appendix 3: Cohort differences in subjective social status trends
- Appendix 4: Variation within the working class, controlling for objective circumstances

Appendix 1: Summary statistics

	DEU (ALLBUS)					USA (GSS)				
Variable	**N**	**Mean**	**S.d.**	**Min.**	**Max.**	**N**	**Mean**	**S.d.**	**Min.**	**Max.**
Subjective social status	25,451	6.00	1.55	1	10	14,991	6.25	1.80	1	10
Working class	25,451	0.52	0.50	0	1	14,991	0.56	0.50	0	1
Upper/intermediate class	25,451	0.48	0.50	0	1	14,991	0.44	0.50	0	1
Male	25,451	0.52	0.50	0	1	14,991	0.46	0.50	0	1
Female	25,451	0.48	0.50	0	1	14,991	0.54	0.50	0	1
Age 18-29	25,451	0.15	0.36	0	1	14,991	0.19	0.39	0	1
Age 30-39	25,451	0.19	0.39	0	1	14,991	0.21	0.41	0	1
Age 40-49	25,451	0.21	0.41	0	1	14,991	0.19	0.40	0	1
Age 50-59	25,451	0.19	0.39	0	1	14,991	0.18	0.39	0	1
Age 60+	25,451	0.27	0.44	0	1	14,991	0.22	0.42	0	1
Full-time employed	25,451	0.49	0.50	0	1	14,991	0.54	0.50	0	1
Part-time employed	25,451	0.14	0.35	0	1	14,991	0.12	0.33	0	1
Unemployed	25,451	0.01	0.08	0	1	14,991	0.04	0.20	0	1
Non-employed	25,451	0.37	0.48	0	1	14,991	0.30	0.46	0	1
DE: Basic education US: Less than high school	25,451	0.01	0.10	0	1	14,991	0.13	0.33	0	1
DE: Lower secondary US: High school	25,451	0.14	0.35	0	1	14,991	0.52	0.50	0	1
DE: Upper secondary US: Junior college	25,451	0.52	0.50	0	1	14,991	0.08	0.26	0	1
DE: Post secondary US: Bachelor	25,451	0.06	0.23	0	1	14,991	0.18	0.39	0	1
DE: Tertiary education US: Graduate	25,451	0.27	0.44	0	1	14,991	0.10	0.30	0	1
Monthly real income (mean-centred by year, in 1'000s €/US$)	25,451	0.10	1.03	-2.08	22.89	14,991	1.37	2.69	-3.86	13.03
Non-white respondents	n.a.					14,991	0.24	0.43	0	1
White respondents	n.a.					14,991	0.76	0.43	0	1

Appendix 2: Alternative subjective social status measures/models

Table A2: Regression models of subjective social status

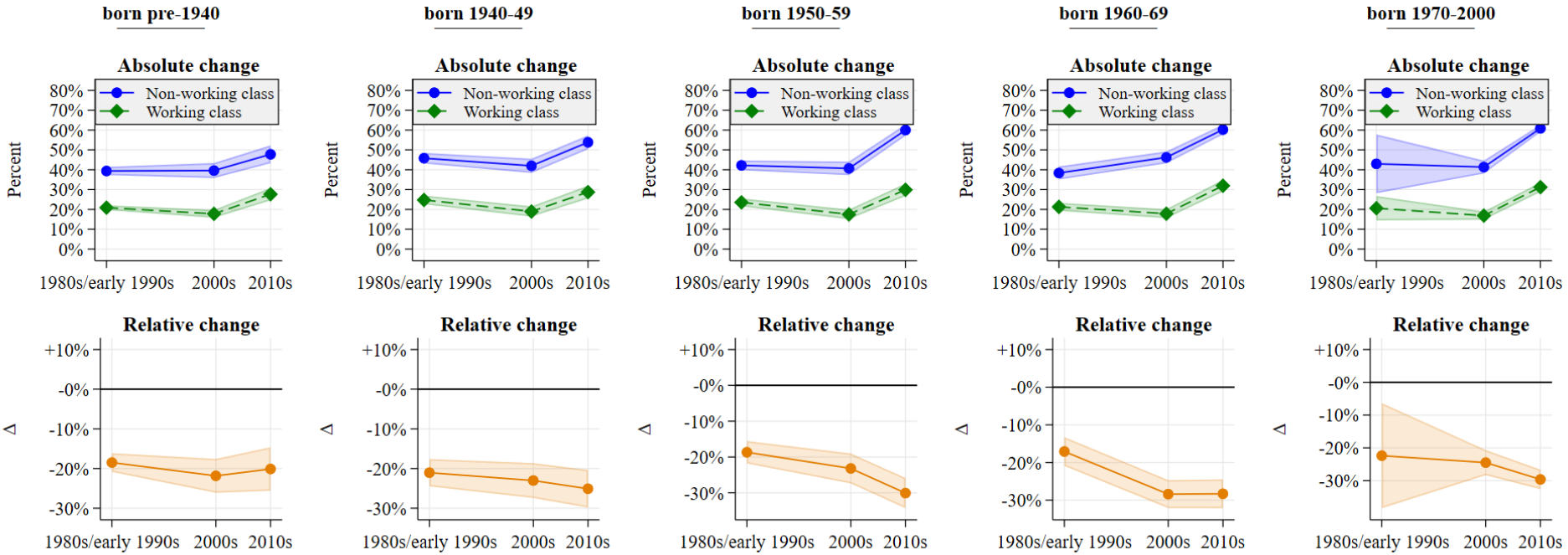
	Baseline *Ordered logistic regression with predicted share selecting 7-10*		OLS with SSS dummy (7-10=1)		OLS with linear SSS		Ordered logistic regression with predicted share selecting 8-10		Ordered logistic regression with predicted share selecting 6-10	
	DEU	USA	DEU	USA	DEU	USA	DEU	USA	DEU	USA
Working class (dummy)	-0.190***	-0.192***	-0.196***	-0.182***	-0.726***	-0.861***	-0.093***	-0.136***	-0.199***	-0.182***
	(0.008)	(0.019)	(0.010)	(0.022)	(0.030)	(0.088)	(0.004)	(0.014)	(0.008)	(0.019)
2000s (reference: 1980s)	0.010	0.045*	0.020+	0.027	0.008	0.018*	0.006	0.037*	0.008	0.029*
	(0.010)	(0.018)	(0.012)	(0.020)	(0.033)	(0.072)	(0.006)	(0.015)	(0.008)	(0.012)
2010s (reference: 1980s)	0.176***	0.018	0.184***	-0.000	0.499***	0.093	0.124***	0.015	0.107***	0.012
	(0.009)	(0.016)	(0.010)	(0.017)	(0.028)	(0.062)	(0.006)	(0.013)	(0.006)	(0.011)
Working class*2000s	-0.052***	0.038	-0.055***	0.016	-0.257***	0.272*	-0.023***	0.018	-0.074***	0.064**
	(0.012)	(0.025)	(0.015)	(0.029)	(0.050)	(0.113)	(0.006)	(0.019)	(0.013)	(0.023)
Working class*2010s	-0.090***	0.030	-0.082***	0.006	-0.171***	0.217*	-0.086***	0.017	-0.002	0.045*
	(0.012)	(0.021)	(0.014)	(0.024)	(0.044)	(0.096)	(0.007)	(0.015)	(0.011)	(0.021)
N	25,451	14,991	25,451	14,991	25,451	14,991	25,451	14,991	25,451	14,991

Notes: + $p<0.1$; * $p<0.05$; ** $p<0.01$; *** $p<0.001$. Estimates are average marginal effects (AMEs). Robust standard errors in parentheses. All models control for age and gender as in Model 1 in Table 1 (coefficients not shown).

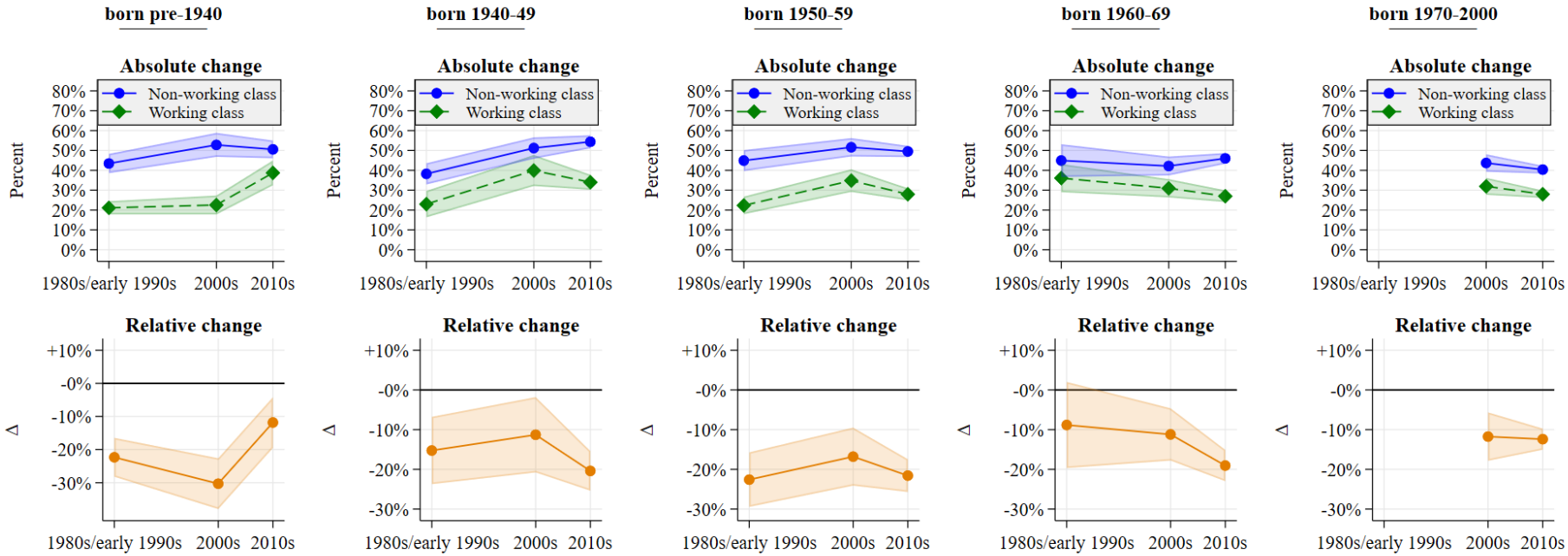
Appendix 3: Cohort differences in subjective social status trends

The following results show the predicted probabilities in attaining high status (7 or higher) by birth cohort. The estimates are based on a three-way interaction between working class, time period, and birth cohorts (in five categories). The ordered logistic regression models control for gender but not age (due to collinearity with the birth cohort measure).

Germany:



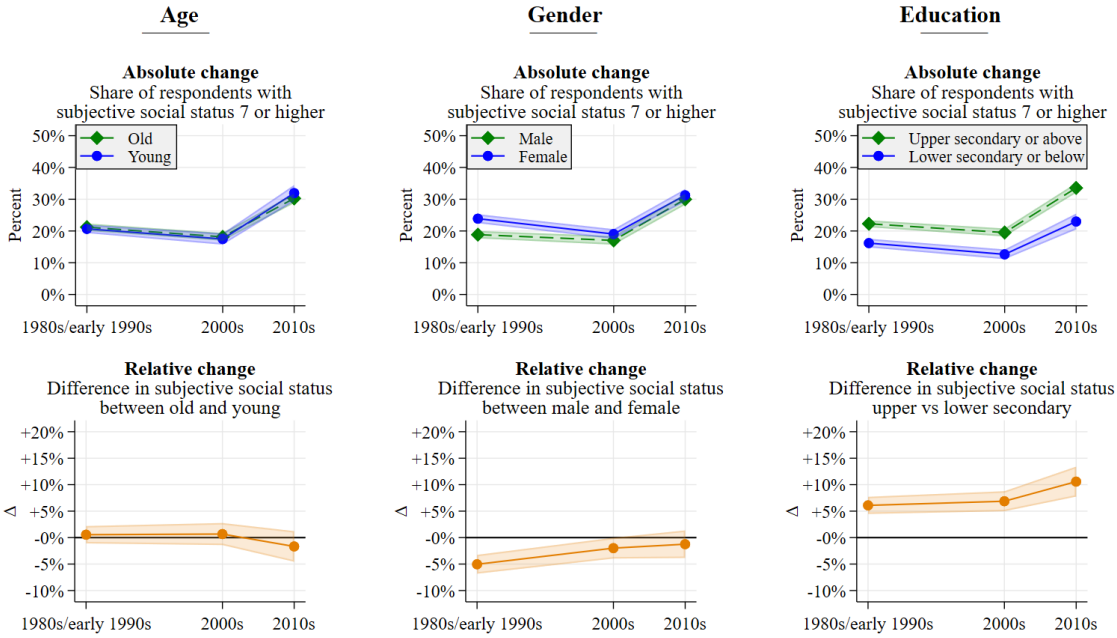
USA:


born pre-1940
born 1940-49
born 1950-59
born 1960-69
born 1970-2000
Absolute change
Non-working class
Working class
Percent
80%
70%
60%
50%
40%
30%
20%
10%
0%
1980s/early 1990s
2000s
2010s
Relative change
Δ
+10%
-0%
-10%
-20%
-30%

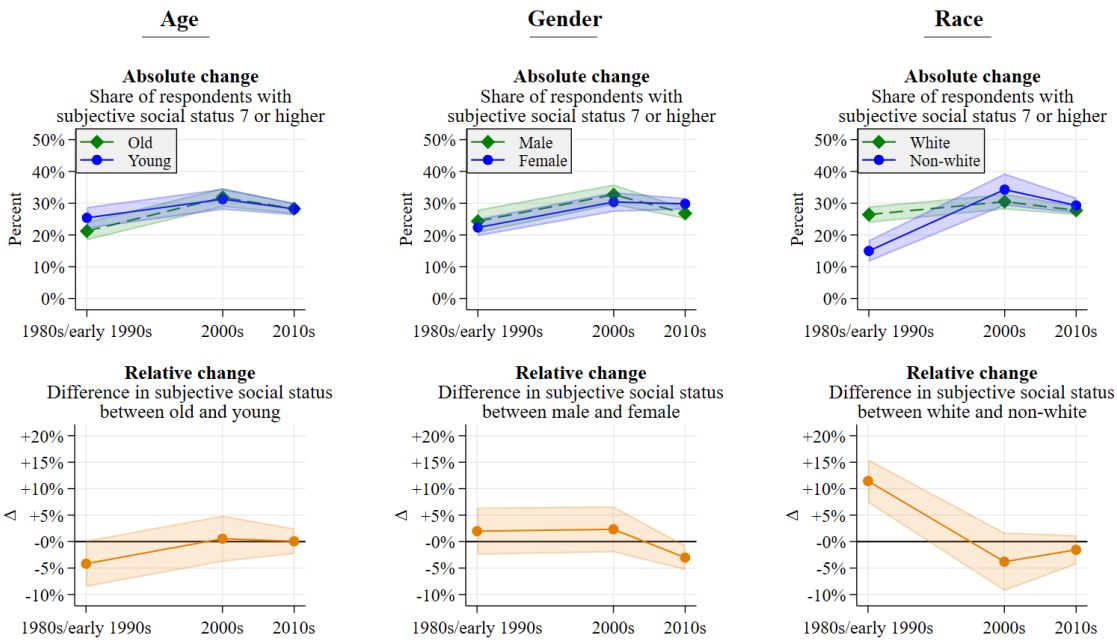
Appendix 4: Variation within the working class, controlling for objective economic circumstances

The following graphs replicate Figures 5 and 6 in the main document. The underlying models additionally control for income, education, and employment status (analogous to Models 3 and 6 in Table 1).

Germany:



USA:



Notes: Predicted probability of selecting values 7, 8, 9, or 10 on the social ladder scale. Based on ordered logistic regression models with sample restricted to working class. 95% confidence intervals shown.