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# **Why do the Affluent Find Inequality Increasingly Unjust?**

## **Changing Inequality and Justice Perceptions in Germany, 1994-2014**

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# **Why do the Affluent Find Inequality Increasingly Unjust? Changing Inequality and Justice Perceptions in Germany, 1994-2014**

## **1. Introduction**

Inequality in Germany has changed profoundly since the beginning of the 21<sup>st</sup> century, involving a polarization of income and wealth as well as an increase in poverty and a decrease in social mobility (Frick and Grabka, 2009; Pollak, 2010; Groh-Samberg and Hertel, 2015). Between 2000 and 2007 in particular, income inequality and poverty grew faster in Germany than in any other OECD country (OECD, 2008). Despite growing employment since 2005 and a comparatively moderate impact from the financial and economic crisis (Dustmann *et al.*, 2014), poverty in Germany has not decreased and persists across individual life courses (Groh-Samberg, 2015). Although these developments are frequently expected to have negative consequences for social inclusion and cohesion (Moore, 1979; Paskov and Dewilde, 2012), the extent to which they actually do so depends on people realizing these disparities and assessing them as unjust. Sociologists have long recognized that perceptions of injustice can trigger social conflict and political protest (Runciman, 1966; Moore, 1979), and are an important antecedent in the formation of redistributive demands and political behavior (e.g., voting behavior, support of leftist political parties, etc.). However, because rising inequality does not translate automatically into perceptions of greater injustice, it is important to establish empirically whether people have become more critical of inequality over the last two decades or whether they have accommodated their views and became more accepting.

Previous research provides conflicting results in this regard. Earlier studies looking at the period from the mid-1980s until the end of the 1990s have found no clear-cut evidence that citizens' perceptions change in accord with actual inequality (Kenworthy and McCall, 2008; Kelly and Enns, 2010), with Germans' perceptions standing out as "markedly inaccurate" (Kenworthy and McCall, 2008). However, as noted above, since the beginning of the 2000s the German social structure has become more polarized and rigid. Along these lines, recent research shows that rising inequality in Germany coincides with increased media reporting on these issues (Schröder and Vietze, 2015; Petring, 2016) and that public sentiments of injustice have also increased since 2000 (Gerlitz *et al.*, 2012; Noll and Weick, 2012). Yet, since these studies focus on aggregate developments in attitudes, we do not know how the winners and losers of the transformation of inequality in Germany view and assess this change.

Against this backdrop, we use repeated cross-sectional survey data from the German General Social Survey (ALLBUS) and focus on the evaluative dimension of attitudes – i.e., justice perceptions – to explore how different income groups assess the justice of socioeconomic disparities in Germany over a 20-year time span, ranging from 1994 to 2014. Given the specific character of the rise in inequality (which we describe in more detail in the next section), we would expect injustice perceptions to have increased particularly among the poor and the middle class. Initial descriptive analyses, however, show that this is not necessarily the case. As a prelude to our results, Figures 1a and 1b document how justice perceptions of macro-level inequality in Germany have changed over time: first, on the aggregate level and in conjunction with actual inequality (as measured by the Gini coefficient), and second, across four income groups: the poor (<50 percent of the median income), those below average but above the poverty line ( $\geq 50$  percent and <100 percent), those above average but below affluence ( $\geq 100$  percent and <200 percent), and the affluent ( $\geq 200$  percent).

#### **Figure 1a: Income Inequality and Perceived Injustice in Germany, 1994-2014**

\*\*\* Figure 1a here \*\*\*

#### **Figure 1b: Development of Perceived Injustice across Different Income Groups, 1994-2014**

\*\*\* Figure 1b here \*\*\*

*Note:* Survey data are from the German General Social Survey (ALLBUS, ZA-Nr. 5240 and 4578); the question wording for perceived injustice-item is “Overall, I consider social differences in Germany just”, and response categories ranged from (1) “totally agree” to (4) “totally disagree”. For the displayed results we reversed the scale and recoded the item into a dummy variable (“totally disagree/tend to disagree”=1, “totally agree/tend to agree”=0). The objective data refer to the Gini coefficient two years prior to the survey year, because we assume that citizens’ perceptions react with a time lag to changes in objective inequality, e.g. because information (media reporting) about objective inequality is provided at a later point in time than it actually occurs. N=13.484

Figure 1a shows that the increase in inequality since the beginning of the 2000s, measured through the Gini coefficient (time-lagged for two years), has been accompanied by a rise in injustice perceptions.<sup>1</sup> As inequality has grown, so has the share of respondents that disagree with the view that social differences in Germany are just. Surprisingly, Figure 1b suggests that this overall pattern of increased injustice perceptions appears to be due to changes in the attitudes of high-income groups, rather than the poor or the middle classes. Interestingly, injustice perceptions among affluent respondents have increased steadily since 2000, reaching their peak in 2010 and declining slightly thereafter (without returning to their initial 1994

levels). By contrast, the perceptions of low- and middle-income groups have remained more or less stable, resulting in a convergence of the perceptions of different income groups over time. Accordingly, injustice perceptions among high-income groups appear to be more sensitive to changes in actual inequality than injustice perceptions among low- and middle-income groups.

In the remainder of this article, we seek to explain why injustice perceptions are rising among high-income groups. In doing so, we want to contribute to the existing literature in two ways: First, by looking at the development of group-specific injustice perceptions, we go beyond studies that analyze aggregate trends of justice orientations in the context of rising inequality (e.g., Gerlitz et al., 2012; Schröder, 2017). By tracking the evolution of group-specific injustice perceptions over two decades, we offer an in-depth view of citizens' attitudes during an era of profoundly changing inequality in Germany (Corneo, Zmerli and Pollak, 2014; Groh-Samberg, 2016). Second, by focusing on the justice assessments of high-income groups – which are among the supposed winners of the rise in inequality – we intend to illuminate the circumstances under which people hold “unlikely” or “unexpected” injustice perceptions. Contrary to recent approaches in political economy (Dimick, Rueda and Stegmueller, 2016; Rueda and Stegmueller, 2016; Rueda, 2018), we argue that such “unexpected” egalitarian attitudes on the part of the affluent not only relate to the negative externalities of inequality but can also be formulated on non-consequentialist normative grounds.

We proceed in four steps: The following section (2) presents our theoretical framework and discusses relevant findings from prior research. We then describe our data and methodological procedure in section 3. The empirical results are presented in section 4. The concluding section (5) summarizes our findings and discusses potential limitations, indicating avenues for further research.

## **2. Rising inequality and perceived injustice: theoretical framework and literature review**

As we will elaborate below, the configuration of various dimensions of inequality in Germany has changed profoundly over the last decades. We therefore focus on the evaluative dimension of inequality perceptions referring to the *societal* level – that is, order-related (in)justice judgments (Wegener, 1992; Wegener, 1992; Liebig and Sauer, 2016).<sup>2</sup> While these judgments refer to the larger macro-social arrangements in which individuals are situated, on the one hand they can still be seen to depend on whether people assess their own situation and the *outcomes* they receive – e.g., their income – as just (Wegener and Liebig, 2010). On the other hand, social

psychologists have emphasized that just *procedures* in the allocation of outcomes also matter for the assessment of societal arrangements as just (Tyler, 2000; Vermunt and Steensma, 2016). We now outline these two approaches and their relation to major changes in the German social structure in greater detail.

## **2.1 The “justice of outcomes”-perspective**

Outcome-related justice perceptions refer to the judgement of an individual’s own situation as just. They are generally viewed as resulting from social comparisons, and sociological and social psychological approaches have identified various relevant processes (Liebig and Sauer 2016: 53-54): While relative deprivation theory points out the importance of comparisons with similar reference groups (Runciman, 1966), equity theory highlights comparisons between the ratio of one’s own efforts and rewards with that of others (Walster and Walster, 1975), and in justice-function theory actual rewards are compared to the rewards regarded as just (Jasso, 2000).

Common to these approaches is that they are concerned with the *formation* of outcome-related justice perceptions. By contrast, our focus in the following is on the *consequences* of outcome-related justice perceptions for order-related justice judgements (Brickmann *et al.*, 1981; Gijsberts, 2002), leaving aside the question how people form outcome-related justice perceptions. Most basically, one can expect (un-)favorable *outcome*-related justice assessments of an individual’s personal situation to go along with (un-)favorable *order*-related justice assessments of macro-level patterns of inequality (Forsé, 2009: 103; Gijsberts, 2002). Therefore, groups or individuals holding disadvantaged positions within German society should assess their own situation as unjust and should thus be more likely to regard the overall shape of inequality as unjust. Privileged groups, by contrast, should be less likely to assess their own situation as unjust and should therefore also be less likely to regard overall inequality as unjust (cf. Verwiebe and Wegener, 2000: 142). Under conditions of rising inequality, increasing order-related injustice perceptions would then result from the “losers” of increasing inequality experiencing greater outcome-based injustice.

Who have been the “losers” and “winners” of recent inequality shifts in Germany, and what do we know about their outcome-related justice perceptions? One distinctive feature of inequality dynamics in recent decades has been the rapid growth in income inequality after a long-standing period of stability (OECD, 2008; Corneo, Zmerli and Pollak, 2014). The percentage of middle-

income households in particular has been declining since the early 1990s, while the proportion of poor and affluent households has grown, leading to a polarization of the income distribution (Grabka and Frick, 2010; Grabka *et al.*, 2016; WZB and Statistisches Bundesamt, 2016). Furthermore, while the persistently high levels of unemployment characterizing the German labor market until the mid-2000s have been declining, this has come at the cost of a growing low-wage sector and a rising percentage of atypical or “precarious” employment (Fromm and Bartelheimer, 2012). While low-income groups have been primarily affected by this development (Hipp, Bernhardt and Allmendinger, 2015), it has instigated a debate about a rise in “status anxiety” also among the middle-class (e.g., Lengfeld and Hirschle, 2009; Mau, 2012). Based on these developments we might expect perceived societal injustice to have increased primarily among low- and middle-income households.

Yet, also the top of the income distribution has become significantly more unequal, with very high incomes growing much faster than the rest (Corneo, Zmerli and Pollak, 2014: 276). Inequality in wealth holdings – which is far greater than income inequality – also increased in the mid-2000s (Corneo, Zmerli and Pollak, 2014). This kind of “runaway” top-end inequality may matter more for the justice perceptions of high-income individuals (or households), for whom the rich are a more significant reference group than for middle- and low-income groups (cf. Kevins *et al.*, 2018). Although the affluent respondents in our sample are unlikely to have experienced income loss or stagnation during our period of observation, population surveys seldom include the very rich. Thus, unfavorable assessments of their own situation resulting from “envious” upward social comparisons could explain why order-related injustice perceptions increased among this group.

From an outcome-based perspective, then, there are reasons to expect an increase in perceived injustice both among low- and middle-income individuals (or households) as well as among high-income groups. Empirically, prior studies show that lower-income groups are consistently more likely than high-income groups to assess their own situation as unjust (Liebig, Sauer and Schupp, 2011). However, since the 1990s the increase in outcome-related injustice perceptions has been relatively modest among low-income groups (Authors 2016: 221-222). While this may seem surprising at first glance, it is congruent with research that reports increasing just-world-beliefs as income inequality rises, which indicates adaptation to a changing status quo (Malahy, Rubinlicht and Kaiser, 2009). Similarly, recent studies on redistributive preferences find that the poor’s support for redistribution is relatively stable across contexts, whereas the rich are more supportive of redistribution in more unequal contexts, thus indicating a narrowing of

group differences under conditions of high inequality similar to our results in Figure 1b (Rueda, 2018; Dimick, Rueda and Stegmueller, 2016; Rueda and Stegmueller, 2016). However, it is not entirely clear whether this is driven by outcome-based assessments of the rich, either with regard to “envious upward comparisons” or with regard to sociotropic considerations of the negative externalities of high inequality (e.g, crime) (Dimick, Rueda and Stegmueller, 2018; Dimick, Rueda and Stegmueller, 2016; Rueda and Stegmueller, 2016).<sup>3</sup> Alternative explanations refer to greater political awareness among the rich or a concern for equal opportunities (Kim and Lee, 2018) .

In sum, extant studies provide somewhat mixed support for the notion that outcome-based injustice assessments explain why the affluent find society increasingly unjust. Nevertheless, in the empirical analyses we include indicators of respondents’ subjective evaluation of their personal economic situation in order to consider any potential effects on order-related justice judgments.

## ***2.2 The “procedural justice”-perspective: fair opportunities***

Apart from assessments of their personal situation, people also form opinions about the (in)justice of social arrangements on the basis of the procedures that bring about a certain status quo (Tyler, 2000; Vermunt and Steensma, 2016). Originating in social psychological research in the legal arena, the *procedural justice*-perspective suggests that the way in which, for instance, allocation decisions are made influences people’s reactions to and acceptance of these decisions (Vermunt and Steensma 2016: 219). Specifically, procedural fairness involves aspects such as equal treatment, participation in decision-making, and transparent and neutral rules (Liebig and Sauer 2016: 53; Tyler 2000: 121-122). Fair procedures are supposed to support people’s acceptance of “outcomes, policies, and status that they do not view as desirable” (Tyler 2000: 118). Conversely, perceptions of unfair procedures would negatively affect the perceived justice of the distribution of benefits and burdens within society.

With regard to the social structure of affluent capitalist democracies, *equality of opportunity* is an important aspect of procedural justice (Roemer, 1998). If the chances to obtain socially valued resources and positions are open to all, the resulting inequalities in outcomes are regarded as tolerable because they result from individual differences in “meritocratic” factors such as effort and ambition (Kluegel and Smith, 1986; Parsons, 2009 [1972]). Consequently, prior studies have shown that people who believe opportunities are distributed equally are more



supportive of rewarding individual effort and stimulating competition, and less supportive of redistribution (Kunovich and Slomecynski, 2007; Jaime-Castillo and Marqués-Perales, 2014). Hence, support for equality of opportunity is said to potentially legitimize existing inequalities, since equal opportunities are regarded as an important prerequisite for a meritocratic social order (Larsen, 2016; McCall, 2013).

Importantly, McCall (2013) has recently argued that although inequality of opportunities and of outcomes often tend to be separated in popular and academic debates, the public might in fact view growing inequality of outcome as a *signal of increasingly unequal opportunities*. She shows that people are more critical of income inequality when economic growth is viewed to be unequitable – i.e., benefiting only the rich – and that respondents are more critical of the rich when they believe that the advantages associated with social origin matter for getting ahead in society (McCall, 2013). In a recent experimental study, McCall *et al.* (2017) find that exposure to information about rising inequality increases perceptions that structural barriers to getting ahead exist and also raises support for policy measures to reduce inequality. Thus, to the extent that people have the impression that opportunities are unequal and that procedural injustice exists – e.g., because ascriptive characteristics such as social class or gender matter for obtaining valued goods and resources – they should regard inequality as unjust.

Indeed, a characteristic feature of the recent rise in economic inequality in Germany (and other countries) is that it has been accompanied by a decline in intergenerational social mobility, especially when looking at opportunities for upward mobility from the lowest ranks of the class hierarchy (Pollak, 2010; Gangl, 2015).<sup>4</sup> Analyzing absolute mobility trends, Groh-Samberg and Hertel (2015) note a decline in intergenerational mobility which is driven by decreasing upward mobility from the lower classes as well as (slightly) increasing downward mobility from the upper-middle and upper classes (Pollak, 2010; Hertel, 2016: 202-204). Furthermore, analyses of relative mobility rates – indicating the degree of social fluidity or equality of opportunity in Germany – show that across birth cohorts, the chances to remain in lower-class positions have increased, while the degree of intergenerational stability (or “inheritance”) within the middle and upper classes remained largely constant (Legewie and Bohmann, 2018). Similarly, looking at income mobility Groh-Samberg (2015: 313) shows that the risk to live in persistent poverty has increased especially for unskilled and skilled workers. Thus, the evolution of social mobility in the German social structure is characterized by a trend towards increasing rigidity among – or even decoupling of – the most disadvantaged classes. Correspondingly, research from the International Social Justice Project shows that between 1991 and 2006, the share of Germans

who perceived opportunities to be equal declined steadily from about half of respondents to one-third (Gerlitz et al. 2012: 268-269). Similarly, the share of respondents who thought that effort and skills are rewarded fairly has decreased from about 65-70 percent in 1991 to 50-60 percent in 2006 (Gerlitz et al. 2012: 268-269), while the share of respondents who think that well-educated parents are needed to get ahead has risen throughout several OECD countries (OECD, 2018: 21). Accordingly, looking at the development of perceptions of upward mobility in Germany between 1994 and 2014 reveals that the subjective importance of social origin for upward social mobility has increased particularly among the upper classes, whereas it has remained relatively constant among the middle- and lower classes (see Graph A2, Appendix).

This decline in perceived procedural justice may be particularly important for explaining the order-related injustice perceptions among the affluent. The belief in equality of opportunity is an important aspect of the “moral economy” of high-income groups, resonating strongly with their endorsement of meritocratic principles (Svallfors, 2006; Sachweh 2017). While individuals in higher social positions are generally more prone to believe that opportunities are equal and that inequality is just (Kluegel and Smith, 1986; Reynolds and Xian, 2014; Roex, Huijts and Sieben, 2018), Kim and Lee (2018) find that high-status groups are more supportive of redistribution when they perceive opportunities to be unequal. Furthermore, they find that differences in high- and low status groups’ redistributive preferences narrow in countries where more people perceive opportunities to be unequal (Kim and Lee, 2018: 310). Similarly, Roex, Huijts and Sieben (2018) have recently shown that class differences in the acceptance of income inequality are smaller in societies where fewer people believe in meritocracy. Extrapolating these findings from the cross-national to a cross-sectional perspective, we expect that the convergence of injustice perceptions across income-groups we observe in Figure 1b is related to changes in perceived procedural justice – that is, in perceived inequality of opportunity.

Specifically, we suggest that changes in perceived procedural justice matter more for the order-related injustice perceptions of higher-income respondents than of lower-income respondents, since the latter are more likely to rate social origin as important for upward mobility anyhow. Thus, to them rising inequality might not signal declining opportunities in the same way as it does for higher-income groups. We therefore hypothesize that an increase in perceived procedural injustice could explain the increase of order-related injustice perceptions among the affluent.

### 3. Data, indicators, and methods

#### 3.1 Data

Ideally, we would use panel data to investigate over-time changes in peoples' justice perceptions. Unfortunately, longitudinal data covering our period of observation are unavailable since the German Socio-economic Panel (GSOEP) only started to include items on justice perceptions by the late 2000s, i.e. after a large part of the rise in inequality had occurred. In our empirical analyses, we therefore rely on the pooled German General Social Survey (ALLBUS) for the years 1994 to 2012, with which we manually merged data for 2014 (Allerbeck *et al.*, 2014; Diekmann *et al.*, 2016). The German General Social Survey is a representative cross-sectional survey on attitudes, behavior, and social structure in Germany. It has been conducted since 1980 and is repeated every two years. Our analysis starts in the year 1994 because of changes in data collection after German unification and because the rise in inequality occurred in the middle of the 1990s. The sample contains a disproportionate share of East German respondents (oversample). The aggregate data on actual inequality in the descriptive analyses (cf. Figures 1a and 1b) have been extracted from the OECD database (OECD, 2015b).

#### 3.2 Indicators

As a *dependent variable* we use an item that asks respondents for an overall justice evaluation of inequality in Germany. The specific question wording is: "By and large, I consider the social differences in our country just. (1) Totally agree, (2) tend to agree, (3) tend to disagree, (4) totally disagree." In contrast to redistributive preferences, this item does not address specific policies to mitigate inequality nor who should carry them out. Neither is it associated with any specific behavior (e.g., voting), nor does it directly refer to objective developments of inequality or specific dimensions such as material disparities.<sup>5</sup> However, qualitative research shows that differences in income and material well-being more generally are an important aspect in individuals' thinking about inequality (Sachweh, 2010; Irwin, 2016). We reversed the coding of the original 4-point Likert scale and recoded the item into a dummy variable ("totally disagree/tend to disagree"=1, "totally agree/tend to agree" = 0). Thus, *order-related injustice perceptions* as we have defined them in the theoretical section are indicated by disagreeing with the view that social differences in Germany are just.

As we are interested in how respondents' socioeconomic situation is related to their perceptions of inequality over time, our central *independent variables* are household net equivalent income

(in categories) and time points (as indicated by the survey year). We use household income instead of class because income takes into account the household context. Thus, it provides a more encompassing measurement of respondents' actual material situation than occupation-based indicators such as class, the operationalization of which on the household level is contested (Szelényi, 2001; DiPrete, 2002).<sup>6</sup> Furthermore, by using income we cover not only employed respondents, but also those who are retired, unemployed and not yet employed. We used information on respondents' net household income in the ALLBUS data and generated the net equivalent household income for every year (Hagenaars, Vos and Zaidi, 1994), corrected by an inflation factor. Based on this equivalent median income for every survey year, we recoded respondents' net household income into four distinct income groups, partly conforming to common indicators for poverty and affluence (Bundesministerium für Arbeit und Soziales, 2013; OECD, 2015a): poverty (<50% of median income), below average (>=50% and <100%), above average (>=100% and <200%) and affluence (>=200%). In the analyses, the poor serve as reference category. As we know from prior survey research, income information is often characterized by missing values. This is also true for our sample, where about 17 percent of the values for the income variable are missing. Therefore, we conducted a multiple imputation of net income via predictive mean matching (Morris, White and Royston, 2014; Eddings and Marchenko, 2012; White, Royston and Wood, 2011; Allison, 2000; Vink *et al.*, 2014; Schafer, 1997; Rubin, 1996) and generated our income categories afterwards (corresponding on varying poverty lines)<sup>7</sup>. The results from the analyses with the imputed income variable hardly differ from the results using listwise deletion, which is even the more conservative solution (see Table A9 in the appendix for a comparison of results between listwise deletion, multiple imputation model and a model with missing category). Because Allison suggests that especially in the case of logistic regression, listwise deletion is an acceptable strategy in comparison to other common methods to handle missing data (2002), we feel safe that after intensive robustness checks our results represent a valid and reliable solution.<sup>8</sup> It is based on well-established procedures which enable us to compare coefficients between and within our models.

In order to explain increasing injustice perceptions among the affluent, we included further independent variables reflecting our theoretical considerations. As a proxy for outcome-related justice perceptions, we consider respondents' subjective assessment of their personal economic situation, which was measured on a five-point Likert scale ("very good, good, partly good/partly bad, bad, very bad"). The variable was recoded into three categories: "good", "partly good and bad", and "bad", with the middle category as reference category.<sup>9</sup>

As an indicator of *procedural justice*, we measured the perception of unequal opportunities through the following question: “What do you think: does everyone in Germany today have the chance to be educated in accordance with their talents and abilities? (Yes, No)”. This item was recoded to a dummy variable, with the value 1 indicating disagreement with the statement. This item does not address equal opportunities in general but perceived educational inequalities. However, because education is a central mediator between individuals’ class origin and their class destination in modern societies (Ishida, Müller and Ridge, 1995), this is not particularly problematic. Furthermore, one could argue that the perception this item measures is partly also captured by our dependent variable; if this would be the case, we would face an endogeneity problem. However, rather than measuring the same phenomenon, we would maintain that the perception of educational inequalities (as an indicator of procedural justice) can be regarded as one specific antecedent – amongst others, such as distributive justice – of order-related injustice perceptions. Moreover, the significance of perceived educational inequalities for evaluating overall societal inequality as unfair can vary across time points and social groups (see the previous section). Accordingly, there is a modest correlation between both items, ranging between 0.26 in the year 2008 and 0.31 in the year 1994. Hence, we assume that both variables measure somewhat related, but not identical theoretical concepts.

In order to rule out that our results are due to composition effects, we control for a number of individual characteristics whose composition might have changed within the four income groups over time and which were previously shown to impact justice perceptions (Wegener/Liebig 2010): education, employment status, gender, birth cohort, German citizenship, and region (East/West Germany). We also include an interaction term between birth cohort and region to account for different socialization experiences in East and West Germany before unification. Education was coded into three categories in line with the CASMIN classification: low education (no formal graduation, secondary school without vocational training), intermediate education (higher secondary school, with or without vocational training), and high education (university or higher educational degree). Employment status has five categories: employed, unemployed, student, retired, and other forms of non-employment; employed serves as reference category. Region, gender, and German citizenship are dummy variables (East Germany = 1; female = 1; no German citizenship = 1). Finally, we control for birth cohorts instead of age because differential processes of socialization matter more for justice perceptions than age itself (Wegener and Liebig, 2010). By using birth cohorts, we account for the possibility that changes in justice perceptions over time might be the result of compositional effects (i.e., the changing composition of birth cohorts over the different survey

years). We chose ten-year intervals for the birth cohorts, with a birth date before 1929 as reference category.

As a result of our selection of variables, our data contain 13,828 cases and six time points (1994, 2000, 2004, 2008, 2010 and 2014) which we include as dummy variables in all our models, with the year 1994 as reference category. Further information on the distribution of variables in our sample is provided in Table A.1 in the appendix.

### **3.3. Methods**

In the multivariate analyses, we examine whether over-time differences in justice perceptions are robust for compositional changes (i.e., a growing number of people with low incomes, or younger cohorts more critical of inequality) and how differences in injustice perceptions among various income groups can be explained. To account for mediating as well as moderating effects, we estimate stepwise logistic regression models with time-fixed effects and include interaction terms between time points and income groups as well as between income groups and our indicator for perceived procedural justice, respectively.<sup>10</sup> Regarding the oversampling of respondents in East Germany, we use design weights in all our analyses.

We proceed in the following manner: In the first step, we estimate only the time effect that indicates how injustice perceptions have evolved over time (Model 1). In the second step, we add interaction terms between time points and income groups which indicate how injustice perceptions have changed in the four income groups (Model 2). In order to test whether the observed trend of increasing injustice perceptions among the affluent is due to compositional changes in our sample, we then add the control variables (education, employment status, gender, birth cohort, German citizenship, region, interaction of birth cohorts and region) (Model 3). Next, we try to explain the affluents' changing injustice perceptions by adding our indicator for outcome-related justice perceptions (Model 4). Following that, we exchange this indicator for our measure of procedural justice (perceived inequality of opportunity), which we also interact with income groups (Model 5). Finally, in a last step, we estimate a full model containing all controls as well as both indicators for outcome-related and procedural justice perceptions (Model 6).

Because logit coefficients and odds ratios are not directly comparable across models, and because interpretation of interaction effects in logistic regression models is sometimes problematic (Ai and Norton, 2003; Mood, 2010), we graphically display the coefficients of interest in the form of predicted probabilities or plots of conditional marginal effects.<sup>11</sup>

## 4. Empirical Findings

How can we explain the increase in injustice perceptions among the affluent? In the following, we present the results of stepwise logistic regressions to test whether the descriptive findings presented in the introduction are due to compositional effects and how far they can be explained by indicators of outcome-related justice perceptions vs. procedural justice.

**Table 1: Pooled Logistic Regression Model with Time Fixed Effects, Dependent Variable: Perception of Social differences as not just**

\*\*\*Table 1 about here\*\*\*

*Source:* German General Social Survey (ALLBUS, ZA-Nr. 5240 and 4578); Standard errors in parentheses  
+  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Table 1 shows that there is a significant overall increase in injustice perceptions over time (see Model 1). While in the year 2000 injustice perceptions are below the level of the reference year 1994, in all other years – and especially in 2008 and 2010 – we observed a significantly higher share of individuals in Germany evaluating social differences as unjust. These findings correspond to the descriptive results shown in Figure 1a.

In Model 2, we add the interaction terms between time points and income groups. The direction and significance of these interaction effects indicate that income differences in injustice perceptions narrow over time, resulting in a convergence of injustice perceptions between lower and higher income groups which further corroborates our descriptive results (see Figure 1b). In Model 3 we add the control variables in order to test whether the increase in injustice perceptions among the affluent shown in Figure 1b is driven by a change in the composition of the sample, or if it persists after controlling for different social structural characteristics of the respondents, such as birth cohorts, gender, or place of residence (East Germany). Even after controlling for a range of control variables, both the affluent and individuals with household incomes above the median view social inequality more critically than in 1994. This is most notably the case in 2008 and 2010. By contrast, we do not observe a systematic time trend for lower-income groups, as their injustice perceptions remain relatively stable over time. Thus,

our results show that the descriptive finding of increasing injustice perceptions among the affluent is robust in a multivariate setting and not due to compositional effects.

To what extent can indicators of outcome-related justice perceptions – i.e., respondents' assessment of their personal economic situation – explain this increase? The findings in Model 4 show that a negative assessment of one's current personal economic situation is positively associated with injustice perceptions, while a positive assessment is negatively related to injustice perceptions. Hence, people who assess their personal economic situation as good are less likely to find social differences in Germany unjust, while people who assess their economic situation as bad are more likely to do so. Nevertheless, the durable trend of increasing injustice perceptions among the affluent is hardly influenced by including these variables.

Similar results can be observed when adding the variable for the perception of inequality of opportunity as well as its interaction with income (Model 5): While perceived inequality of opportunity has a significant positive effect on the level of perceived injustice, it does not substantially alter the significant time effect for the affluent, even if a slight reduction of the interaction term between time and being affluent can be observed.<sup>12</sup>

In our full model (Model 6), procedural as well as outcome-related justice perceptions are included. Still we can observe an increase of injustice perceptions among the affluent. The predicted probabilities for Model 6 in Figure 2 show this result graphically, illustrating that for the affluent the probability of disagreeing with the view that social differences in Germany are just increased most strongly between the year 2000 (49 percent) to 2010 (68 percent).

## **Figure 2: Predicted Probabilities of Injustice Perceptions for Different Income Groups**

\*\*\*Figure 2 here \*\*\*

*Note:* Results are based on the full model (Model 6) of the stepwise logistic regression (see Table 1).

As we can observe here, the predicted probabilities of evaluating societal differences as unjust do not differ significantly between income groups in 2008 and 2010 and remain constantly high until 2014, despite controlling for a wide range of potential explanatory factors.<sup>13</sup>

To illustrate how the time effect on injustice perceptions changes across our different models – that is, after controlling for social structural variables (model 3), outcome-related justice



perceptions (model 4), perceived procedural justice (model 5), and the full model (6) – we also show average marginal effects for the affluent only, with the year 1994 as reference category in Figure 3.

**Figure 3: Average Marginal Effects of Affluence on Injustice Perceptions based on Stepwise Logistic Regression Models, Ref.: 1994**

\*\*\*Figure 3 here \*\*\*

*Note:* Results are based on the Logistic Regression (Table 1): Model 2: Only Interaction Effect of Time Points and Income Groups. Model 3: + Education, Employment Status, Gender, Birth Cohort, German Citizenship, Region, Interaction between Birth Cohorts and Region. Model 4: + Perceived Economic Situation. Model 5: + Perceived Inequality of Opportunities (but without Perceived Economic Situation). Model 6: Full Model.

Although the effect of being affluent on injustice perceptions never changes fundamentally between the different models in all years, the effect is slightly reduced between model 4 and 5, particularly in the years 2008 and 2010. This indicates that perceiving opportunities as unequal does indeed play a role for the injustice perceptions of the affluent, although it does not completely explain the over-time trend. Additionally, when we display the interaction term between inequality of opportunity and income groups on order related justice perceptions graphically (see Figure 4), different effects can be observed for the income groups: The effect is stronger for the affluent than for the poor.<sup>14</sup> Thus, beliefs about equality of opportunity are indeed more important for the order related justice perceptions of the former group.

**Figure 4: Average marginal effects of Perceived Inequality of Opportunities on Injustice Perceptions**

\*\*\* Figure 4 here \*\*\*

*Note:* Results are based on the Full Model (Model 6) of the Stepwise Logistic Regression (see Table 1).

Overall, these results do only partly support the expectation that the increase in injustice perceptions among the affluent is mediated either by outcome-related justice perceptions or perceived unequal opportunities as an indicator of procedural (in)justice.

Nevertheless, both factors are associated with the *level* of perceived injustice, as indicated by the substantial increase of Pseudo- $R^2$  values and the comparatively low values of AIC and BIC in Model 6 (cf. Table 1). Yet, the *over-time trend* of increasing injustice perceptions among high-income groups remains more or less stable after including indicators of outcome-related and procedural justice perceptions. This means that at least between 2008 and 2010, factors beyond those aspects must be behind the increase in injustice perceptions among the affluent.

In our efforts to explain this puzzling finding, we conducted a series of robustness checks (see Table A2 to A6 in the Appendix). Alternative operationalization of variables – e.g., including a continuous income variable or using the original coding of the dependent variable – left the results substantively unchanged. Including additional control variables – the presence of children in the respondent's household, partnership status, subjective social class, social origin, self-employment, party preferences, political ideology (left-right), and political interest (as a proxy for respondents' awareness of objective socioeconomic developments) – likewise did not change our results. Also, dropping specific indicators, such as employment status, did not modify the income-specific over-time trend. Lastly, an interaction term between time points and birth cohorts also did not change the results. Additionally, we estimated ordered logit regressions as well as linear probability models instead of binary logistic regression models, which did not affect the time trend for the affluent either. Finally, separate analyses for East and West Germany did not change any of our main findings.<sup>15</sup>

## 5. Discussion and Conclusion

In this paper, we asked how justice perceptions referring to macro-level inequality in Germany have changed over the last two decades. During this time period, the shape of inequality has been transformed profoundly, involving a polarization of the income distribution, deepening poverty, declining social mobility, and an ongoing concentration of wealth (Pollak, 2010; Corneo, Zmerli and Pollak, 2014; Groh-Samberg and Hertel, 2015). Contrary to prior research showing a disconnect between the development of actual inequality and Germans' perceptions thereof (Kenworthy and McCall, 2008), we find that since the beginning of the 2000s justice perceptions indeed run parallel to the development of actual inequality: as inequality rises, so does the percentage of Germans who see injustice. This attitudinal shift towards a more critical assessment of social inequality appears to be mainly driven by a change in justice evaluations among high-income groups that increasingly regard social differences in Germany as unjust.

We have tried to explain this trend in our paper, asking whether outcome-related justice assessments and perceptions of procedural justice matter. We estimated stepwise logistic regressions for the years 1994 to 2014, including time-fixed effects for six points in time.

Our analyses show that the *increase* in injustice perceptions among the affluent, which peaked in 2008 and 2010 and has receded since (without returning to its initial level), cannot completely be explained by outcome-related justice assessments and perceptions of procedural justice. Both of these aspects affect the *level* of perceived injustice, however, and the effect of perceived procedural justice matters more for high-income groups. This is in line with qualitative research that shows that especially people in privileged positions criticize inequality if they find that equality of opportunity is not realized, which resonates with their strong endorsement of meritocratic principles (Sachweh, 2017). Furthermore, we also find that the importance people attribute to one's social origin for getting ahead in Germany has increased particularly among upper-class respondents (cf. Graph A2, Appendix). While this suggests that the rise in injustice perceptions among the affluent is indeed related to changes in their perception of unequal opportunities (i.e., procedural justice), we were not able to unambiguously establish that the latter is behind the increase in injustice perceptions.

To explain the observed time trend, we have considered alternative theoretical frameworks and carried out extensive robustness checks by using alternative measurements and operationalizations of the variables, as well as various methods of estimation. Even if certain factors demonstrated significant effects, they never changed the main result of increasing unfairness perceptions among the affluent.

If our theoretical framework cannot account for the puzzling rise in perceived order-related injustice among the affluent, what can? Objective indicators of inequality might have a direct effect on injustice perceptions among the affluent. On a descriptive level, we found that the increase in injustice perceptions parallels the rise in objective inequality, and that the injustice perceptions of the affluent appear to be more sensitive to changes in actual macro-level inequality than those of low- or middle-income individuals. Future research might therefore look in more detail into the effect of macro-level inequality on perceived injustice among the affluent. Several mechanisms might theoretically mediate this effect. First, growing inequality is often related to an increase in societal problems, which might raise awareness of inequality (and its associated discontents) among the affluent specifically, who otherwise might not take much notice (Rueda and Stegmueller, 2016). Second, an increase in related media coverage has accompanied rising inequality in Germany (Schröder and Vietze, 2015). Since the affluent read

newspapers more often than other income groups, increased media reporting on inequality might have raised awareness of inequality among this group. Third, the increased injustice perceptions among the affluent during 2008 and 2010 in particular, and their subsequent decline, might reflect a largely genuine – albeit temporally unstable – change in this group’s sociopolitical attitudes that was triggered by the Global Financial and Economic Crisis of 2008. Several results from prior studies speak to this interpretation. For instance, Blekesaune (2013) shows that high-income groups are more supportive of redistribution in countries under greater economic strain, and Margalit (2013), using panel data from the US, finds that experiencing crisis-driven unemployment increases support for the welfare state also among its opponents, but that this support declines as the crisis receded and reemployment was found. Hence, the rise in injustice perceptions among the affluent between 2008 and 2010 might be due to a genuine shift towards more critical attitudes. Unfortunately, repeated cross-sectional data do not allow for a proper test of this assumption properly, which would require panel data. Fourth, the crisis might have involved negative externalities for the affluent which we have not been able to measure here, e.g., drops in wealth holdings.

In sum, further research is needed that uses more observations on the macro level to estimate direct effects of objective inequality for different income groups. Since the proportion of the affluent perceiving inequality as unfair declined again in 2014, it will be interesting to see how their unfairness perceptions develop in the future. Future research should also explore the potential political consequences of the affluents’ injustice perceptions: for instance, we need to know whether high-income groups who perceive social inequality as unjust are more supportive of the welfare state than those who do not view inequality as unjust, or how injustice perceptions affect the political preferences and partisan alignment of the affluent.<sup>16</sup> These questions are important because the wealthy are more likely to vote and to engage in nonconventional forms of political participation (Schäfer, 2015). All in all, our results suggest that it may be worthwhile to pay more attention to the justice perceptions and sociopolitical preferences of high-income groups (Page, Bartels and Seawright, 2015), as these perceptions might be more sensitive to changing socioeconomic conditions, and thus more malleable, than has previously been acknowledged.

## Notes

<sup>1</sup> The objective data refer to the Gini coefficient two years prior to the survey year, because we assume that citizens' perceptions react with a time lag to changes in objective inequality.

<sup>2</sup> Order-related justice perceptions can also encompass citizens' support for specific principles of distributive justice, such as merit, equality or need (Wegener 1992: 271). Here, we focus exclusively order-related justice perceptions that refer to the assessment of actual societal arrangements as (un)just.

<sup>3</sup> While Dimick et al. (2016) find no support for the notion that envy of the "very rich" explains this "income-dependent altruism" (Rueda 2018), Rueda and Stegmueller (2016) suggest it is driven by a concern for the negative externalities of (high) inequality, such as crime. However, in our view it is difficult to apply this kind of macro-consequentialist reasoning to justice evaluations referring to the societal level, as these usually precede policy preferences to address it.

<sup>4</sup> Similarly, economists have pointed out the existence of a "Great Gatsby Curve", where mobility tends to be lower in countries with greater economic inequality (and vice versa) (Corak, 2013).

<sup>5</sup> Theoretically, then, injustice perceptions might also increase as actual inequality decreases, because the item only refers to respondents' subjective assessments of inequality. However, as the descriptive analyses in Figures 1a and 1b show, perceived injustice corresponds to actual inequality during our observation period.

<sup>6</sup> On the "gender and class"-debate, see the overview in Széleányi (2001). Importantly, this debate also has far-reaching implications for the understanding of class as a realistic vs. nominalist category which we cannot reiterate here due to space limitations.

<sup>7</sup> We also conducted a multiple imputation via multivariate normal regression. The results were similar to the results obtained by predictive mean matching. To avoid negative values for our income variable we opted for the latter. For the imputation we included all variables from our full model plus a detailed variable for employment status which implies the EGP-Class for the employed category. We specified 10 nearest neighbors and 10 imputed values (see Morris, White and Royston, 2014).

<sup>8</sup> Nevertheless, we checked whether the inclusion of a missing category would make a difference and found no changes in our results. Second, we examined the missing values more closely by checking with subjective social class; we found that income values were more likely to be missing for higher-income groups. Thus, we are likely to underestimate the positive interaction term for the affluent. Third, we obtained the same results when we used income as a continuous variable (see supplementary file).

<sup>9</sup> Ideally, we would have used an alternative indicator that more directly taps into respondents' assessment of their personal situation as unjust. While such an item indeed exists ("Compared with how others live in Germany: Do you think you get... your fair share? ... more than your fair share? ... less than your fair share? ... much less than your fair share?"), it was not fielded in 1994. In order not to lose another time-point, we chose to stick with the alternative operationalization.

<sup>10</sup> Due to the clustered structure of our data, we also estimated the regressions with cluster-robust standard errors. However, with few cases at the macro level, standard errors may be downwardly biased, which applies to our results (cf. Heisig, Schaeffer and Giesecke, 2017). Therefore, we use robust standard errors to account for the problem of heteroscedasticity. The presented results with robust standard errors are therefore rather conservative in terms of efficiency.

<sup>11</sup> Because interaction terms cannot be meaningfully displayed as average marginal effects in numerical form (Ai and Norton, 2003), we present them graphically.

<sup>12</sup> While the regression coefficients for the interaction term between income groups and inequality of opportunity are not significant, a more detailed graphical display of the interaction across all income groups (cf. Figure 4) shows that perceived procedural injustice plays a greater role for the affluent than for the poor.

<sup>13</sup> As pointed out by Ai/Norton 2003, one problem with interaction terms can be that they may be significant for one group but not for another. Therefore, as a robustness check, we display different graphs for people with high, average and low probabilities to evaluate social differences as unjust. Results show that the pattern of a larger increase for the affluent is also stable across groups which differ in their probability to view society as unjust (based on Model 6 of the logistic regression; see Graph A1 in the Appendix).

<sup>14</sup> The difference of effects for the affluent can also be demonstrated through the results of a linear probability model (see Appendix, table 5)

<sup>15</sup> The exact results of all our further analyses are presented in the supplementary file.

<sup>16</sup> Furthermore, according to a logic of "motivated reasoning" (Tabor and Lodge, 2006), the changing partisan alignment of the affluent or a vote choice for the parties in government might also affect injustice perceptions. While additional analyses indeed indicate that party preferences and vote choice for parties in government are significantly related to injustice perceptions (cf. Table A3 in the supplementary file), these factors do not explain the over-time trend of increasing injustice perceptions among the affluent.

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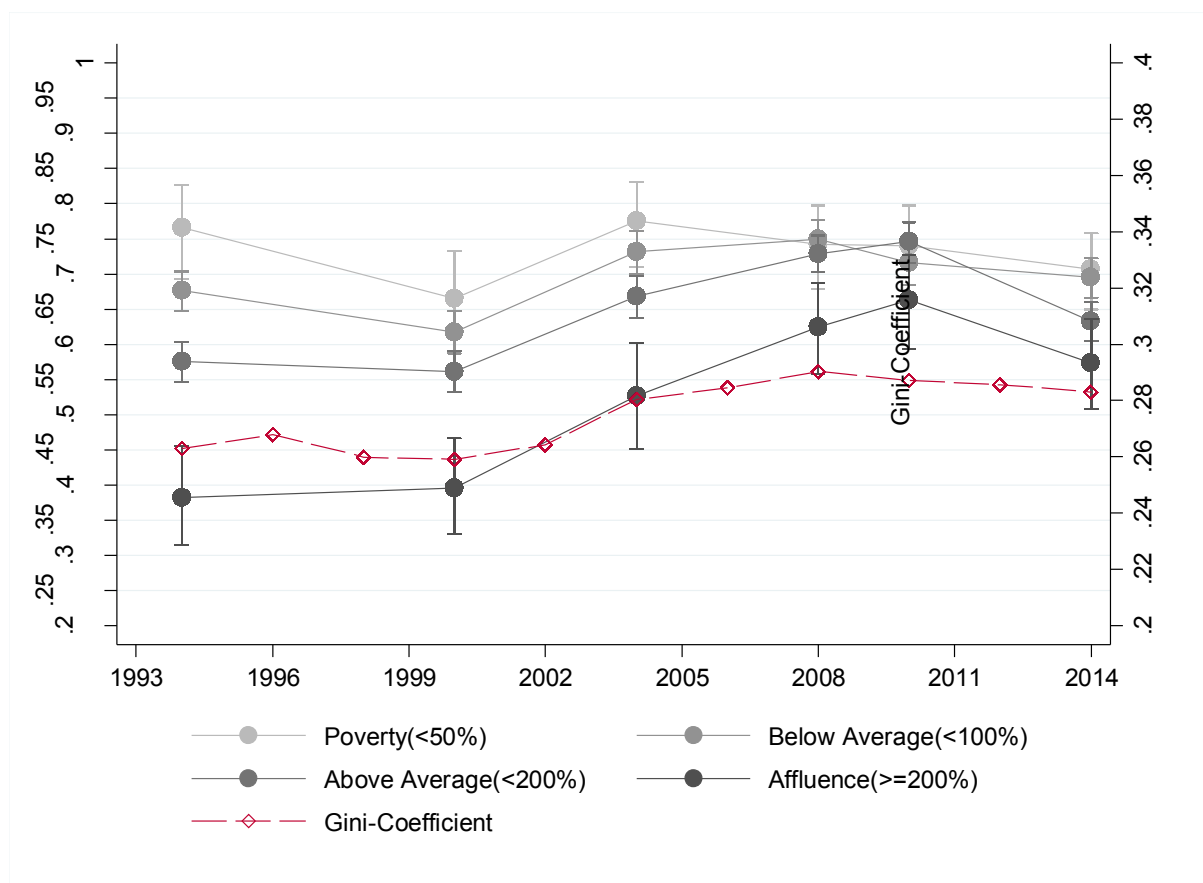
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**Figure 1a: Income Inequality and Perceived Injustice in Germany, 1994-2014**



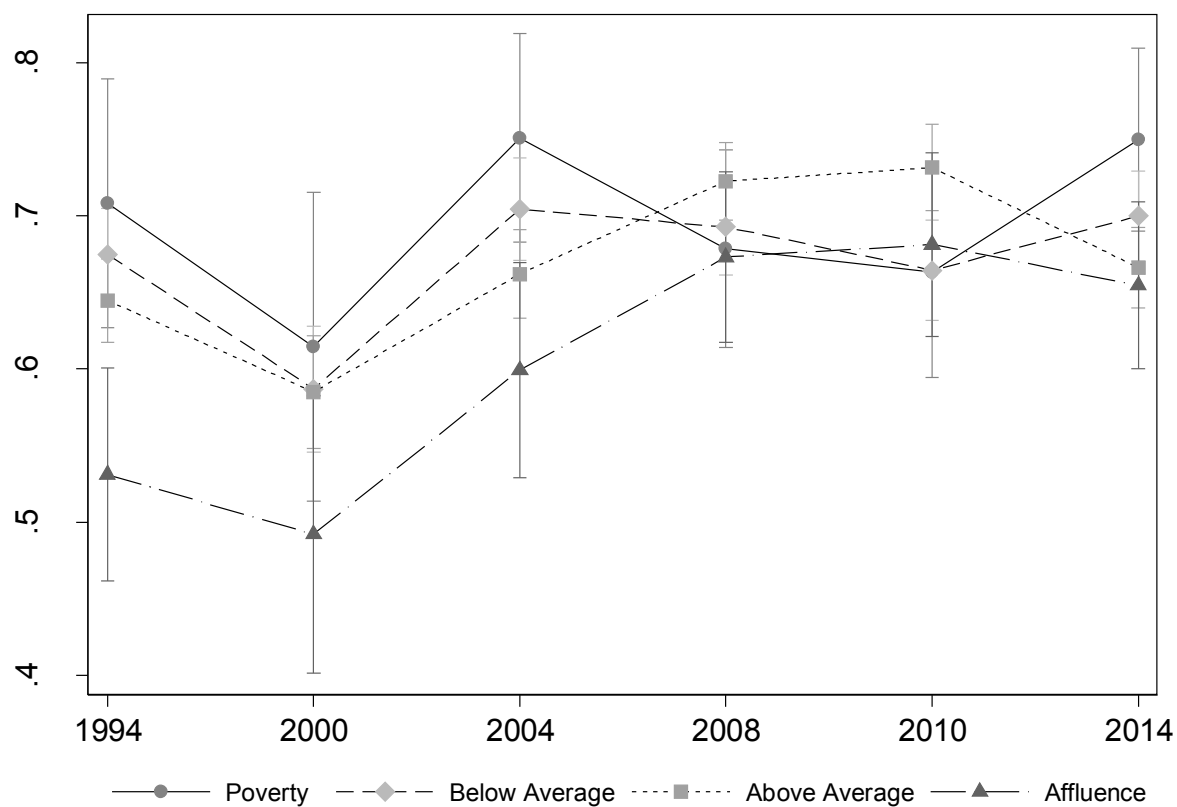
*Note:* Survey data are from the German General Social Survey (ALLBUS, ZA-Nr. 5240 and 4578); the question wording for perceived injustice-item is “Overall, I consider social differences in Germany just”, and response categories ranged from (1) “totally agree” to (4) “totally disagree”. For the displayed results we reversed the scale and recoded the item into a dummy variable (“totally disagree/tend to disagree”=1, “totally agree/tend to agree” = 0). The objective data refer to the Gini coefficient two years prior to the survey year, because we assume that citizens’ perceptions react with a time lag to changes in objective inequality, e.g. because information (media reporting) about objective inequality is provided at a later point in time than it actually occurs. N=13.484

**Figure 1b: Development of Perceived Injustice across Different Income Groups, 1994-2014**



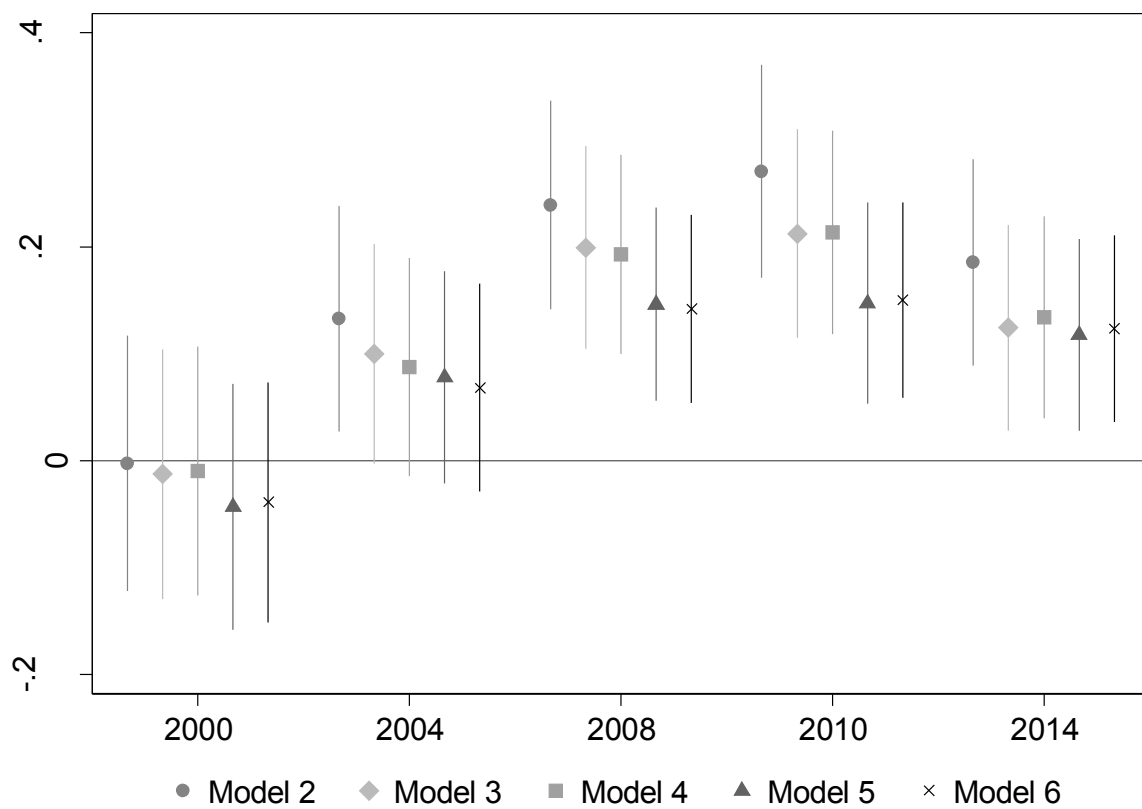
Note: See Figure 1a

**Figure 2: Predicted Probabilities of Injustice Perceptions for Different Income Groups**



*Note:* Results are based on the full model (Model 6) of the stepwise logistic regression (see Table 1). N=13,484

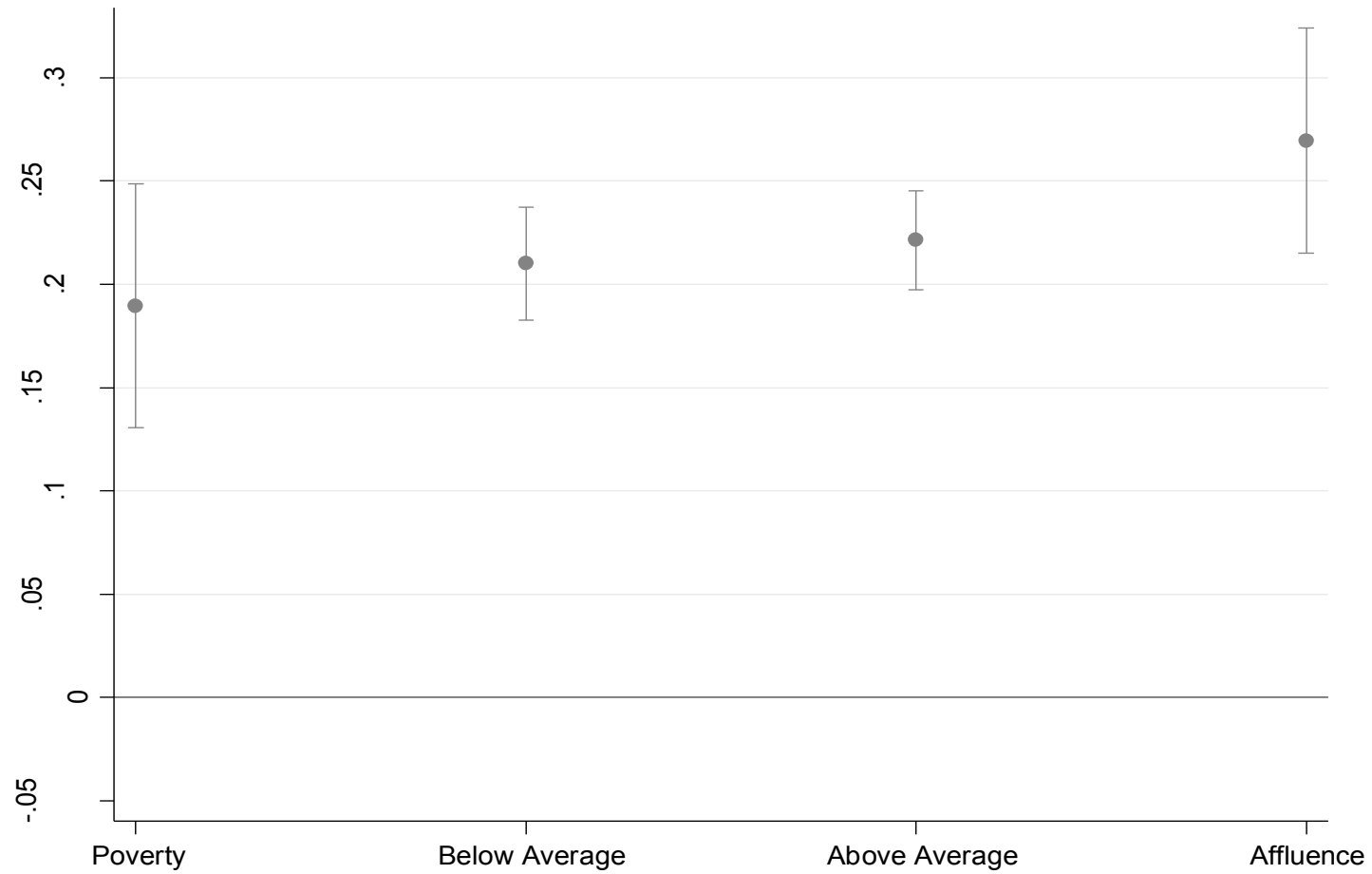
**Figure 3: Average Marginal Effects of Affluence on Injustice Perceptions based on Stepwise Logistic Regression Models, Ref.: 1994 (See Table 1)**



*Note:* Results are based on the Logistic Regression (Table 1): Model 2: Only Interaction Effect of Time Points and Income Groups. Model 3: + Education, Employment Status, Gender, Birth Cohort, German Citizenship, Region, Interaction between Birth Cohorts and Region. Model 4: + Perceived Economic Situation. Model 5: + Perceived Inequality of Opportunities (but without Perceived Economic Situation). Model 6: Full Model



**Figure 4: Average marginal effects of Perceived Inequality of Opportunities on Injustice Perceptions**



*Note:* Results are based on the Full Model (Model 6) of the Stepwise Logistic Regression (see Table 1). N=13.484



**Table 2: Pooled Logistic Regression Model with Time Fixed Effects, Dependent Variable: Perception of Social differences as not just**

	model 1		model 2		model 3		model 4		model 5		model 6	
Years (Ref.: 1994)												
2000	-0.23***	(0.07)	-0.69*	(0.30)	-0.67*	(0.32)	-0.55+	(0.33)	-0.59+	(0.33)	-0.48	(0.34)
2004	0.37***	(0.06)	0.17	(0.28)	0.34	(0.30)	0.32	(0.30)	0.25	(0.31)	0.24	(0.30)
2008	0.58***	(0.06)	-0.12	(0.26)	-0.10	(0.28)	-0.09	(0.28)	-0.16	(0.28)	-0.16	(0.28)
2010	0.53***	(0.07)	-0.26	(0.26)	-0.28	(0.28)	-0.20	(0.28)	-0.32	(0.29)	-0.24	(0.29)
2014	0.24***	(0.06)	-0.06	(0.27)	-0.13	(0.28)	0.08	(0.29)	0.06	(0.29)	0.24	(0.29)
Income groups (Ref.: Poverty)												
Precarity+Below Average			-0.54*	(0.22)	-0.48*	(0.23)	-0.24	(0.24)	-0.42+	(0.24)	-0.21	(0.25)
Above Average			-0.98***	(0.21)	-0.79***	(0.23)	-0.42+	(0.24)	-0.70**	(0.24)	-0.39	(0.24)
Affluence			-1.71***	(0.26)	-1.47***	(0.27)	-1.04***	(0.28)	-1.38***	(0.29)	-1.03***	(0.29)
Years*Income groups (Ref.: 1994*Poverty)												
2000 # Precarity+Below average			0.34	(0.32)	0.28	(0.34)	0.17	(0.35)	0.15	(0.35)	0.04	(0.36)
2000 # Above Average			0.54+	(0.32)	0.43	(0.34)	0.32	(0.34)	0.29	(0.35)	0.19	(0.35)
2000 # Affluence			0.68+	(0.40)	0.61	(0.41)	0.50	(0.42)	0.39	(0.43)	0.29	(0.44)
2004 # Precarity+Below average			0.18	(0.30)	0.03	(0.32)	-0.06	(0.32)	-0.00	(0.33)	-0.09	(0.33)
2004 # Above average			0.23	(0.30)	-0.07	(0.32)	-0.11	(0.32)	-0.11	(0.32)	-0.15	(0.32)
2004 # Affluence			0.37	(0.36)	0.09	(0.38)	0.07	(0.38)	0.12	(0.39)	0.09	(0.39)
2008 # Precarity+Below average			0.53+	(0.28)	0.49+	(0.30)	0.37	(0.30)	0.35	(0.30)	0.26	(0.30)
2008 # Above average			0.86**	(0.28)	0.73*	(0.29)	0.69*	(0.29)	0.61*	(0.30)	0.58+	(0.30)
2008 # Affluence			1.09**	(0.34)	0.98**	(0.35)	0.98**	(0.35)	0.88*	(0.36)	0.88*	(0.36)
2010 # Precarity+Below average			0.46	(0.28)	0.40	(0.30)	0.28	(0.30)	0.29	(0.31)	0.19	(0.31)
2010 # Above average			1.05***	(0.28)	0.94**	(0.29)	0.88**	(0.30)	0.76*	(0.30)	0.71*	(0.31)
2010 # Affluence			1.37***	(0.34)	1.22***	(0.36)	1.19***	(0.36)	1.04**	(0.37)	1.01**	(0.37)
2014 # Precarity+Below average			0.22	(0.29)	0.18	(0.30)	0.01	(0.31)	0.04	(0.31)	-0.10	(0.31)
2014 # Above average			0.32	(0.28)	0.18	(0.30)	0.03	(0.30)	-0.00	(0.30)	-0.13	(0.30)
2014 # Affluence			0.81*	(0.34)	0.67+	(0.35)	0.53	(0.36)	0.51	(0.36)	0.38	(0.36)
East Germany					1.52***	(0.17)	1.56***	(0.17)	1.23***	(0.18)	1.28***	(0.18)
Birth cohorts (Ref.: /1929)												
1930/1939					0.32**	(0.11)	0.31**	(0.11)	0.30**	(0.11)	0.29*	(0.11)
1940/1949					0.49***	(0.11)	0.46***	(0.11)	0.41***	(0.11)	0.38**	(0.11)
1950/1959					0.85***	(0.12)	0.77***	(0.12)	0.68***	(0.13)	0.62***	(0.13)
1960/1969					0.95***	(0.12)	0.90***	(0.13)	0.74***	(0.13)	0.70***	(0.13)
1970/1979					0.92***	(0.13)	0.85***	(0.13)	0.71***	(0.14)	0.66***	(0.14)
1980/					0.91***	(0.14)	0.86***	(0.14)	0.71***	(0.15)	0.66***	(0.15)
East Germany*Birth cohorts (Ref.: West Germany#/1929)												

East Germany # 1930/1939	-0.06	(0.21)	-0.11	(0.21)	-0.10	(0.22)	-0.13	(0.22)
East Germany # 1940/1949	-0.21	(0.21)	-0.26	(0.21)	-0.15	(0.21)	-0.20	(0.21)
East Germany # 1950/1959	-0.32	(0.21)	-0.35 <sup>+</sup>	(0.21)	-0.16	(0.21)	-0.20	(0.21)
East Germany # 1960/1969	-0.71***	(0.20)	-0.75***	(0.20)	-0.52*	(0.20)	-0.57**	(0.21)
East Germany # 1970/1979	-0.86***	(0.21)	-0.90***	(0.22)	-0.62**	(0.22)	-0.67**	(0.22)
East Germany # 1980/	-0.91***	(0.22)	-0.95***	(0.22)	-0.61**	(0.23)	-0.65**	(0.23)
Female	0.36***	(0.04)	0.37***	(0.04)	0.30***	(0.04)	0.31***	(0.04)
Foreign nationality	-0.88***	(0.09)	-0.91***	(0.09)	-0.74***	(0.09)	-0.78***	(0.09)
Education (Ref.: Low)								
Medium	0.10	(0.06)	0.14*	(0.06)	0.10	(0.07)	0.13*	(0.07)
High	0.13	(0.08)	0.22**	(0.08)	0.08	(0.08)	0.15 <sup>+</sup>	(0.08)
Employment status (Ref.: Employed)								
Pupil/student/community servant	0.04	(0.13)	0.10	(0.13)	0.06	(0.13)	0.11	(0.13)
Retired person/pensioner	0.04	(0.08)	0.05	(0.08)	0.05	(0.08)	0.05	(0.08)
Unemployed	0.34**	(0.11)	0.12	(0.11)	0.30**	(0.11)	0.10	(0.11)
Other unemployed	-0.13 <sup>+</sup>	(0.07)	-0.13 <sup>+</sup>	(0.08)	-0.11	(0.08)	-0.12	(0.08)
Perception: Current economic situation (ind.)								
(Ref.: Party good and bad)								
good/very good			-0.46***	(0.05)			-0.39***	(0.05)
bad/very bad			0.47***	(0.08)			0.42***	(0.08)
Inequality of opportunity					1.04***	(0.16)	1.00***	(0.16)
Inequality of opportunity* Income groups (Ref.: no inequality of opportunity # Poverty)								
Inequality of o. # Precarity+Below average					0.07	(0.18)	0.06	(0.18)
Inequality of o. # Above average					0.11	(0.17)	0.12	(0.17)
Inequality of o. # Affluence					0.25	(0.22)	0.30	(0.22)
Constant	0.44***	(0.04)	1.26***	(0.21)	0.11	(0.24)	0.03	(0.25)
bic	17192.75		17152.50		16482.07		15705.44	
Aic	1240		1227		1167		1109	
Zavoina's pseudo R	0.021		0.041		0.134		0.205	
N	13828		13828		13828		13828	

Source: German General Social Survey (ALLBUS, ZA-Nr. 5240 and 4578); Standard errors in parentheses

<sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$