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Crowding Out of Disadvantaged Young Adults in Germany: Background Matters Depending on Local Labour Market

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Abstract

Research on socio-economic mobility focuses on how background affects later labour market outcomes. Growing up in a disadvantaged household does not always lead to the same outcomes however, and the extent to which this matters depends on the local labour market. Using multilevel models on the German Socio-Economic Panel Study, this article shows that disadvantaged young adults (16–35 years old) are more affected by the business cycle than their similarly educated counterparts from more advantaged backgrounds. We propose that a disadvantaged background lowers desirability on the labour market, which matters more to employers as the labour market worsens. When the local labour market is slack, disadvantaged young adults get crowded out of good jobs by their more advantaged but similarly qualified peers. Among the higher qualified, this means the disadvantaged work on lower paying jobs, while those who are less educated are most at risk of unemployment. These results are robust to using different specifications. As the early career has long-term effects, the conditions during which young adults enter the labour market can play a large role in their labour market outcomes and can affect inequality by background overall.

Introduction

Inequality by background is detrimental for society and for the economy as a whole. Many studies have focused on the extent to which people's careers depend on their background and how this social reproduction is mediated by qualifications (e.g. Triventi, 2013). Other factors such as the access to high-status contacts or cognitive and non-cognitive skills could also account for different outcomes, even among people with similar qualifications (Flap and Völker, 2008; Anger, 2012). What has not been considered is how inequality depends on the local labour market context. This article suggests that the business cycle affects those from a disadvantaged household more than the more advantaged and thereby impacts on the extent of intergenerational mobility.

Growing up in a household with lower economic, social, and cultural capital affects the skills and resources of children. Even when accounting for qualifications, young disadvantaged adults may then be seen as less desirable on the labour market compared to similarly qualified young adults from a more advantaged background. Whether a disadvantaged background leads to

worse labour market outcomes depends on the hiring decisions of employers. During good economic times, background might make little difference, on top of qualifications, as there are many positions available. When conditions become worse, there are more candidates for each job and employers can be more demanding (Reder, 1955; Devereux, 2002). Differences in skills or networks, associated with background, would then be given more weight in hiring decisions and the disadvantaged lose out relative to those who grew up in more desirable conditions.

This article focuses on young adults in West Germany in their early career between 1986 and 2011. Once education is taken into account, the German labour market is often considered to be meritocratic (Heineck and Riphahn, 2009). We indeed find that background does not matter much on top of education when conditions are good. On the other hand, as local labour market conditions worsen, those from a disadvantaged background are increasingly unlikely to find well-paying jobs or to find jobs at all and are crowded out of desirable positions by their more advantaged counterparts.

This matters because the experiences during early career can have long-lasting scarring effects (Gregg and Tominey, 2005). For the disadvantaged, having the bad luck of entering the labour market during a worse time can therefore have long-lasting effects and the transmission of this disadvantage over generations becomes all the more likely. Equally striking is that young adults from a more advantaged background are quite sheltered from adverse effects of the business cycle and therefore from downward mobility.

Conceptual Framework

Parental disadvantage is associated with children's lower education which in turn affects their labour market success (Triventi, 2013). While this is an important channel, we focus on how family background affects similarly qualified young adults. This article suggests two mechanisms through which background can differentiate between people with similar qualifications.

First, growing up in a more advantaged household is associated with higher cognitive and non-cognitive skills (Farkas, 2003; Cunha and Heckman, 2007; Anger, 2012; Barnes, *et al.*, 2012). Cognitive skills refer to characteristics such as intelligence or problem-solving capabilities, while non-cognitive skills refer to personality and behaviour, as well as attitudes. The latter are also valued in the labour market. For instance they have been shown to influence employment probabilities and wages when keeping education constant (Cunha and Heckman, 2007).

Secondly, growing up in a disadvantaged family affects the type of contacts young adults have access to through their social networks (Flap and Völker, 2008). Many young adults rely on their parents' networks while searching for work (e.g. Corak and Piraino, 2011). Besides reducing the cost of job search, recommendations through contacts also reduce uncertainty for employers and may lead to good jobs (Holzer, 1988). Young adults from a disadvantaged background may find it harder to get access to good jobs than their more advantaged peers, as their parental network will often not include high-status contacts (Flap and Völker, 2008).

These differences can render young adults from a disadvantaged background less competitive on average than their more advantaged counterparts. The degree to which this matters depends on the importance employers place on this. Reder (1955) proposed that employers react to the business cycle by lowering their hiring standards when demand outstrips supply and by increasing the hiring standards when supply is larger than demand. Pollmann-Schult (2005) and Buttner, Jacobebbinghaus, and Ludsteck (2010) confirm this for Germany.

During worse economic times, employers will attach more importance to skills (Reder, 1955). The disadvantaged can on average seem to be lower skilled than similarly qualified peers from a more advantaged background. This can come about through a c.v. with fewer extra-curricular activities, through type and quality of schooling, but also through perceptions of employers during the hiring process which are taken to be a signal for non-cognitive skills (Jackson, 2009; Humburg, de Grip and van der Velden, forthcoming).

As labour market conditions worsen and jobs become scarcer, people may depend more on their social networks to find out about opportunities. Employers may also rely more on recommendations as the uncertainty is higher (Kurz, Steinhage and Golsch, 2005). This would then lead to a larger difference between people depending on the quality and extent of their social networks which can increase differences by background.

One paper that addresses a similar question is Macmillan (2014). She uses British longitudinal data to show that the transmission of unemployment from father to son is stronger if the local unemployment rate (UE) is higher. She explains this through a shared network with low information on jobs. This crucial finding indicates that the effects of family disadvantage are linked to the local labour market. We test this using

German data but also add to this by specifically addressing a crowding-out mechanism among similarly qualified young adults.

In this article, we address the question whether those from a disadvantaged background are more sensitive to the business cycle than their more advantaged counterparts. We expect that disadvantaged young adults are more at risk of becoming outsiders on the labour market as conditions worsen, as they are crowded out by their more advantaged peers (Buchholz *et al.*, 2009). To gauge at labour market inclusion, we study the type of job contract and the hourly wage attached to the job, besides considering whether someone is employed at all. A higher risk of unemployment and lower wages threaten economic security and can impact life chances strongly. A temporary contract entails less protection and therefore offers less stability than a permanent contract (Kurz, Steinhage and Golsch, 2005). During times of high local unemployment, the disadvantaged would be less likely to obtain jobs that pay as well or are as secure as they would have when conditions were good. The lower educated would be most at risk of being crowded out of employment altogether as more advantaged young adults are hired over them (Reder, 1955; Humburg, de Grip and van der Velden, forthcoming).

Data and Methods

We use the German Socio-Economic Panel Study (SOEP) from 1984 to 2011 for West Germany.[1] This is a household panel study in which we observe the household situation while growing up and can link this to later outcomes. Our sample consists of 12,888 observations for 2,624 young adults, aged between 16 and 35 years and not in full-time education or currently working on an apprenticeship. We observe 9,641 observations in employment for 2,049 young adults. Random intercept multilevel models are used, estimated through maximum likelihood. These allow for a person-specific residual term to capture time-invariant unobserved individual characteristics (Scherer, 2004).

Equation 1 shows the model for person 'i' at time 't', with the outcomes Y depending on a vector of time-varying control variables X such as age, health status, and potential experience; time-invariant control variables Z including gender and migration status; family background (FB); local unemployment rate; a normally distributed person-specific error u, and white-noise residual ε. The interaction between background and the local unemployment rate tests the hypothesis that young adults from a disadvantaged background are more sensitive to the business cycle than their more advantaged peers. All these components are discussed in detail further on in this section.

$$Y_{it} = \alpha_0 + \beta_1 X_{it} + \beta_2 Z_i + \gamma_1 * FB_i + \gamma_2 * UE_{it} + \gamma_3 * FB_i * UE_{it} + u_i + \varepsilon_{it} \quad \text{(Equation 1)}$$

As the effect of local labour market context can differ by education the model is estimated separately for the lower educated ('no degree', 'basic secondary', 'technical or general secondary', or 'other secondary degree') and for those with some post-secondary qualifications ('apprenticeship or vocational qualification', 'technical school', 'other vocational', 'technical college', or 'university degree') while still controlling for each specific type of qualification.

To answer whether disadvantaged young adults are more likely to be outsiders on the labour market and how this depends on the business cycle we study three outcomes. First, whether someone is employed (dummy: employment), and when employed whether the contract is temporary rather than permanent (dummy: temporary) and the hourly wage. The first two are measured as indicator variables and estimated using logistic regression, while the natural logarithm of hourly wage is modelled using a linear model.

FB is a multidimensional concept. We measure three aspects of the socio-economic conditions of a household when the child was aged between 5 and 14 years. Parent's education is strongly linked to the child's cultural capital and education (Heineck and Riphahn, 2009; Anger, 2012). Occupational status is closely related to social networks and values in the household (Flap and Völker, 2008; Jonsson *et al.*, 2011). The highest years of education and occupational status, measured through the Treiman scale, of available parents are taken as indicative in each year. The final score is the average over all observed years between ages 5 and 14 years. Finally, the average household income over the observed period accounts for the financial means of the family while growing up.

These three aspects taken together provide an overall view of the resources available to a household, be they financial, cultural, or social. For ease of interpretation, we combine all three aspects in one average scale after standardization. A principal component analysis shows that they can be reduced to one concept and the Cronbach's alpha of this scale is 0.79. A method similar to ours has been used to construct a socio-economic status measure by Caro and Cortés (2012) who demonstrate its validity.

The resulting scale is split up in the lowest 20 per cent, seen as disadvantaged, the highest 20 per cent who

are advantaged and the middle 60 per cent. The results are shown for this composite measure to capture the effects of general socio-economic disadvantage rather than focusing on one single characteristic (Jackson, 2009; Bukodi, Erikson and Goldthorpe, 2014). We also present the main outcomes when using the separate aspects and while there are some differences these offer support for our hypotheses, as discussed further in the results section.

As the theoretical framework is concerned with the hiring behaviour of employers, we use the UE in the year of job entry for the employed and the current one for the unemployed (Devereux, 2002). The UE is centred around its mean to increase the ease of interpretation of the main effects and the interaction term.

The 'local labour market' is not clearly defined geographically and its size depends on how willing to move or commute someone is. The UE is available at three distinct geographical levels from the employment office (Bundesagentur für Arbeit, 2014a,b) and from the SOEP: the 11 West German states; the 75 smaller travel-to-work areas ('Raumordnungsregion': ROR) which consist of an economic centre and the surrounding area, taking commuting streams into account (Brueckner, Thisse and Zenou, 2002; Knies and Spiess, 2007); and the 'community' ('Kreis'). Using information criteria, the level of UE that provided the best fit was chosen. For the higher educated this is the state level, and for the lower educated the travel-to-work area. This follows earlier findings that the higher educated are more geographically mobile (Longhi and Brynin, 2007; Bauernschuster *et al.*, 2014).

We control for time-invariant differences (Z_i in equation 1) between people by including gender (dummy), migration status (dummy), and the sample group (a series of dummies) to account for design effects. We also include time-varying controls (X_{it} in equation 1). We include fixed effects for years and state of residence to account for institutional differences and shocks. We also include marital status (dummy) and the presence of children (dummy), age and age squared, and the age of father and mother. As health can affect labour market outcomes, we include satisfaction with health on a 10-point scale. We also include potential experience, which is the years someone is observed for since entering our sample (Christopoulou and Ryan, 2009). Table A1 in the online appendix shows the descriptive statistics by education and family background.

Children being present in the household, age and health satisfaction are possibly endogenous and are split up in the person-specific average and the deviations from that average. This method allows these variables to have different effects between than within individuals. The within-effects are shown to be equivalent to fixed effects coefficients and therefore to limit the problem of endogeneity (Bell and Jones, 2014).

As an extension, we test two possible mechanisms for why the disadvantaged would be more sensitive to the labour market conditions than their more advantaged counterparts: namely a difference in perceived skills or a lack of social networks. We cannot test these directly, so we include two further outcomes which are indicative of the mechanisms. First, we attempt to gauge the employer perception by studying whether young adults work on jobs that match their qualifications. Following human capital theory, being formally overqualified can reflect the fact that people with similar qualifications differ in other characteristics such as cognitive and non-cognitive skills or how they are perceived by employers (Leuven and Oosterbeek, 2011). This interpretation is supported in the Netherlands (Allen and Velden, 2001) and in the UK (Green and McIntosh, 2007; Chevalier and Lindley, 2009). If differences in the sensitivity to the business cycle by background are due to differences in (perceived) skills we should also see that the disadvantaged are more at risk of being overqualified—controlling for other structural factors such as age, gender, and career progression—than their more advantaged peers as the UE increases. While this measure is not perfect it can provide indirect evidence, particularly because we are interested in changes due to the business cycle and not in the levels of overqualification per se.

We follow a method proposed by Scherer (2004) to measure statistical qualification mismatch where the person's own status is compared to the average status of those with similar qualifications. We classify someone as not matched if their occupational prestige, measured through the Treiman scale, lies in the lowest quartile of those of similarly qualified peers.

Secondly, if the disadvantaged have a less efficient social network than the more advantaged and this network becomes more important as the labour market tightens, we expect them to be less likely to find a job through networks as the UE increases (Macmillan, 2014). If the networks of the more advantaged hold more information that leads to good jobs, we expect this difference by background to increase with the UE.

We model this through a dummy variable indicating whether someone found their job through friends and relatives rather than another method of job search. This combines both strong and weak ties which may have different effects (Lin, 2001). A further issue with this variable is that it is only available for those who are

working meaning we analyse differences in the efficiency of finding work through social networks rather than the use of networks in job search (Mouw, 2003). As this variable is only available from 1998 the analytical sample is restricted to 2,934 observations for 1,516 young adults.

To study whether part of the vulnerability to business cycle is due to job search or the likelihood of being seen as lowly skilled, we do not only use these variables as an outcome but also include them in the models on working on temporary contracts and the hourly wage.

Results

This section presents the estimates of the multilevel models for the different labour market outcomes. The estimates for employment probability and temporary employment are shown in odds ratios. Only the coefficients for family background, local UE, and their interaction are shown in Table 1. Table 2 presents the marginal effects of an increase in the local UE on all outcomes, calculated at the grand margin. To interpret the results further, the predicted outcomes, calculated at the grand margin, are presented graphically by background and UEs. Full results of the main models are available in Table A2 in the online appendix.

The second column in Table 1 presents the odds ratio of background interacted with the local UE on the probability of employment. As the local UE is centred, the main effects of family background show the estimated differences between otherwise similar young adults of different backgrounds at an average level of local unemployment. At both levels of qualifications, those who grew up in a disadvantaged household are significantly less likely to be employed. The odds of employment decrease significantly (at $P < 0.1$) for the disadvantaged as the local UE increases. Among the lower qualified, this effect is substantially different for the middle group but not the most advantaged, while among the more highly qualified the difference between the disadvantaged and the advantaged is statistically significant ($P < 0.05$).

The sensitivity of employment to the business cycle is shown in column 2 of Table 2 and in Figure 1. While a higher UE reduces the employment probability of all young adults with low qualifications, this effect is more than three times larger for the disadvantaged than those of a middle or advantaged background. There is little difference in employment probability by background when the local UE is very low but as the labour market slackens the disadvantaged are increasingly more likely to be unemployed and differences by background increase, as shown in the left half of Figure 1. Among the higher qualified an increasing UE only affects the

Table 1. Effect of background and the unemployment rate on labour market conditions

Low qualifications	Employment (odds ratio)	Log hourly wage	Temporary (odds ratio)	Network (odds ratio)	Prestige matched (odds ratio)
Middle (vs disadv.)	2.42 (0.65)**	0.038 (0.041)	1.06 (0.33)	0.80 (0.37)	1.00 (0.43)
Adv. (vs disadv.)	6.90 (3.03)**	0.151 (0.066)**	0.54 (0.29)	1.17 (0.84)	1.26 (0.92)
Unemployment rate (ROR)	0.75 (0.05)**	0.003 (0.008)	1.30 (0.10)**	0.86 (0.12)	0.86 (0.07)*
Middle * Unemployment	1.15 (0.08)**	0.003 (0.008)	0.85 (0.07)*	1.14 (0.16)	1.19 (0.13)
Adv. * Unemployment	1.03 (0.12)	−0.002 (0.019)	0.96 (0.15)	1.37 (0.31)	1.07 (0.24)
Rho	*0.61*	*0.63*	*0.61*	*0.46*	*0.72*
N persons	*1,370*	*754*	*754*	*376*	*754*
N observations	*4,198*	*2,503*	*2,503*	*563*	*2,503*
High qualifications					
Middle (vs disadv.)	1.56 (0.37)*	0.03 (0.03)	0.99 (0.22)	1.26 (0.33)	1.18 (0.45)
Adv. (vs disadv.)	2.10 (0.76)**	−0.03 (0.04)	1.62 (0.46)*	0.99 (0.32)	4.17 (2.11)**
Unemployment rate (state)	0.87 (0.07)*	−0.02 (0.01)**	0.82 (0.06)**	0.81 (0.12)	0.88 (0.08)
Middle * Unemployment	1.11 (0.08)	0.02 (0.01)**	1.11 (0.08)	1.08 (0.11)	1.06 (0.10)
Adv. * Unemployment	1.26 (0.14)**	0.02 (0.01)**	1.11 (0.09)	1.08 (0.12)	1.04 (0.13)
Rho	*0.54*	*0.32*	*0.58*	*0.36*	*0.84*
N persons	*1,845*	*1,570*	*1,570*	*1,123*	*1,570*
N observations	*8,690*	*7,138*	*7,138*	*2,045*	*7,138*

*$P < 0.1$, **$P < 0.05$, controlled for year (dummies), state (dummies), sample (dummies), school (dummies), gender, marital status, child, migrant, satisfaction with health, age of father, age of mother, potential experience. Rho indicates the proportion of residual variance that is due to unobserved person-specific characteristics.

Table 2. Differences in sensitivity to unemployment rate by background

Low qualifications	Employment	Log hourly wage	Hourly wage	Temporary	Network	Prestige matched
Disadvantaged	−0.027 (0.006)**	0.003 (0.008))	0.017 (0.044)	0.024 (0.007)**	−0.025 (0.016)	−0.009 (0.006)
Middle	−0.007 (0.003)**	0.007 (0.008)	0.036 (0.044)	0.009 (0.007)	−0.002 (0.016)	0.001 (0.006)
Advantaged	−0.006 (0.004)*	0.001 (0.018)	0.008 (0.112)	0.015 (0.011)	0.025 (0.023)	−0.004 (0.011)
High qualifications						
Disadvantaged	−0.004 (0.003)	−0.023 (0.007)**	−0.154 (0.049)**	−0.019 (0.007)**	−0.026 (0.019)	−0.007 (0.005)
Middle	−0.001 (0.001)	−0.008 (0.004)*	−0.053 (0.030)*	−0.008 (0.004)**	−0.019 (0.016)	−0.003 (0.003)
Advantaged	0.001 (0.001)	−0.002 (0.006)	−0.011 (0.040)	−0.011 (0.007)	−0.017 (0.015)	−0.002 (0.002)

*$P < 0.1$, **$P < 0.05$, predicted marginal effects of local unemployment rate at the grand margin, showing the effect in percentage points for all binary outcomes. The effect on hourly wage is shown in log form and in pounds.

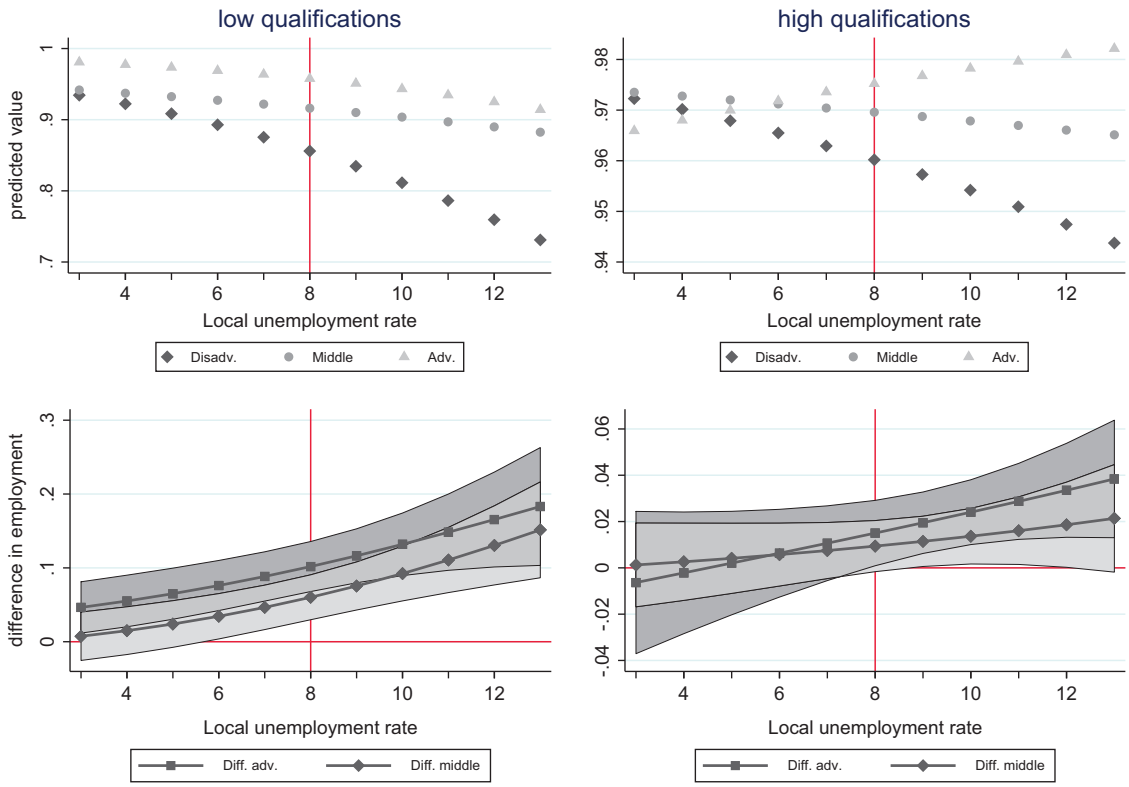

Figure 1. Employment probability and differences by background over unemployment rate

disadvantaged. Having post-secondary qualifications protects against unemployment, but even in this group we find that facing adverse conditions while growing up increases the risk of unemployment compared to the more advantaged and that there is a significant difference in employment probabilities at times of high local unemployment.

If the disadvantaged get crowded out of good jobs, we expect those young adults to work on less well paid jobs if the local UE is high at the time of entry. The coefficients for log hourly wage are shown in column 3 of Table 1. The hourly wage of those with lower qualifications is not significantly affected by the local labour market conditions. This is possibly because most people in this group work in jobs that are already paying close to the minimum and are more strictly regulated. Worsening conditions would then affect labour supply rather than wage, consistent with our findings. Among those with higher qualifications, there is no significant difference by family background when entering

employment during a time of average unemployment, but the wage of the disadvantaged decreases at a significantly ($P < 0.1$) higher rate than the wages of those from a middle or advantaged background as local unemployment increases. The lower panel of the third column of Table 2 shows that the estimated effect of a 1 p.p. increase in local unemployment on the log hourly wage of the disadvantaged is 0.02, while this effect is more or less 0 for the advantaged and insignificant (at $P < 0.1$) for the middle group. For small numbers, these coefficients can be interpreted as percentage differences. The fourth column of Table 2 shows the average effect of a 1 p.p. increase in the local UE in pounds. For the disadvantaged, this corresponds to a loss of around 15 pence per hour while it is 5 or 1 pence for those of a middle or advantaged background, respectively. Figure 2 shows the predicted wage and the differences by background. On the right hand it is shown that the wage for the disadvantaged is clearly most sensitive to the local labour market conditions on job entry. At low levels of local unemployment, the disadvantaged are actually estimated to earn more than the most advantaged. As the labour market slackens, this reverses. During worse economic times, the difference in wage between the middle group and the disadvantaged becomes statistically significant (at $P < 0.1$).

The fourth column in Table 1 presents the odds ratio of background and local UE on working on a temporary rather than a permanent contract. The degree to which background and the local UE influence the contract type differs substantially for the low and highly qualified. Among those with at most secondary qualifications a higher UE is associated with increasing odds of working on a temporary contract. Those from a middle or advantaged background are less affected although only the difference with those of middle background is statistically significant ($P < 0.1$). Among the more highly qualified, the probability of working on a temporary contract decreases with the UE. It does so most for the disadvantaged, but the differences by background are not statistically significant. The fifth column in Table 2 shows that among the lower qualified only the disadvantaged are affected by the labour market conditions, as a 1 p.p. increase in the local UE is associated with an increase in

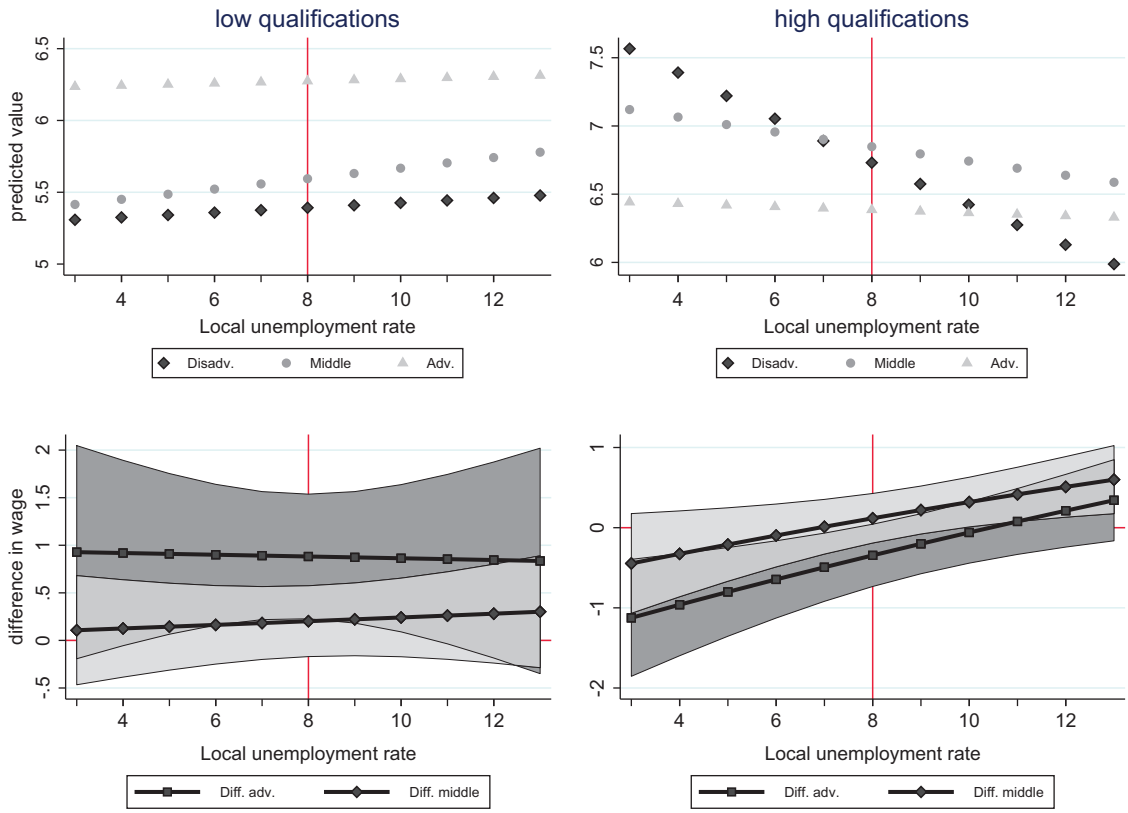

Figure 2. Wage and changing differences by background over unemployment rate

the risk of working on a temporary contract of 2.5 p.p. Among those with higher qualifications, the least advantaged are affected most by the business cycle and those from a middle background least. This can also be seen in Figure 3. The top panel shows that the predicted probability of working on a temporary contract depends most on the business cycle for the disadvantaged. The bottom panel of Figure 3 shows how the differences by background change. When the local labour market is loose, the disadvantaged with higher qualifications are estimated to be statistically significantly ($P < 0.1$) less likely to work on temporary contracts than the advantaged, while there are no differences during better economic times.

Among the lower qualified, worse conditions increase the risk of working on temporary contracts, while among the more highly qualified this risk becomes smaller. To explain this puzzling result, we estimated two more models in which the probability of being employed rather than unemployed was analysed for those who work on temporary contracts and those who work on permanent contracts separately. The marginal effects of the local UE by socio-economic background in these analyses are shown in Table 3. Among the lower qualified, the increased unemployment of the disadvantaged comes at the cost of both temporary and permanent positions, with the latter being affected the most. Among the higher qualified, worsening labour market conditions strongly affect the probability of working on a temporary contract for the disadvantaged but hardly affect their probability of a permanent contract. This change in proportions of the available jobs then explains the finding above that the disadvantaged are more likely to work on a permanent rather than a temporary contract as labour market conditions worsen. This might indicate that in worse economic times, employers reduce the amount of temporary contracts so that fewer jobs exist. The value of a temporary contract may also differ depending on education, consistent with work by Gebel (2009) and Kogan (2011) who find that the temporary jobs in Germany are found both at the top and the bottom of the educational distribution. This could indicate that these jobs are more desirable for those with higher qualifications but less so for the lower qualified, supporting the finding that the disadvantaged are again more likely to gain the less desirable positions the worse labour market conditions become.

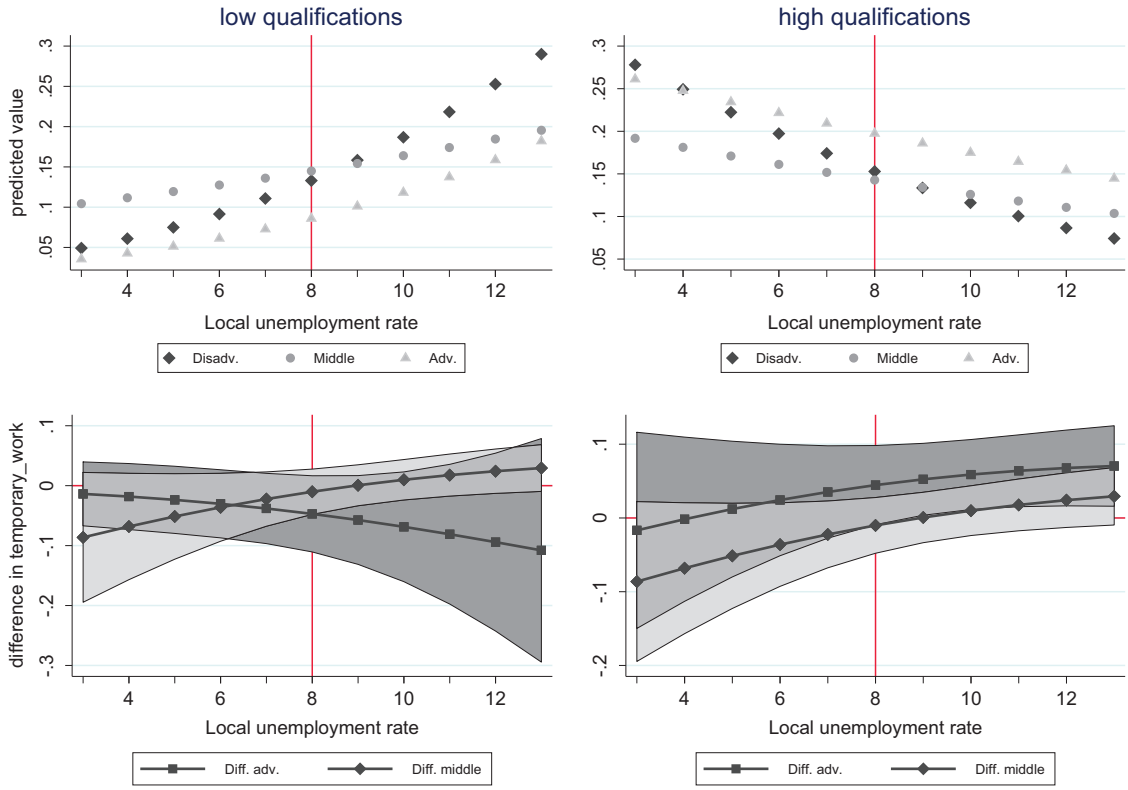

Figure 3. Probability of working on temporary contract and difference by background over unemployment rate

Table 3. Differences by background in temporary or permanent work rather than unemployment

Family background	Low qualifications		High qualifications	
	Temporary contract	Permanent contract	Temporary contract	Permanent contract
Disadvantaged	−0.026 (0.013)**	−0.039 (0.008)**	−0.020 (0.013)*	−0.004 (0.003)
Middle	−0.012 (0.009)	−0.009 (0.004)**	−0.004 (0.007)	−0.001 (0.001)
Advantaged	−0.008 (0.008)	−0.006 (0.004)	0.005 (0.007)	0.001 (0.002)
N observations	*2,034*	*3,631*	*2,784*	*7,143*

*$P < 0.1$, **$P < 0.05$, predicted marginal effects of local unemployment rate at the grand margin.

Table 4. Sensitivity to the business cycle by different aspects of parental background

	Low qualifications			High qualifications		
	Employment	Log hourly wage	Temporary	Employment	Log hourly wage	Temporary
Education						
Disadv.	−0.023 (0.009)**	−0.014 (0.012)	0.021 (0.011)**	−0.001 (0.003)	−0.009 (0.014)	−0.004 (0.014)
Middle	−0.015 (0.004)**	0.011 (0.007)	0.016 (0.006)**	−0.001 (0.001)	−0.011 (0.004)**	−0.009 (0.004)**
Adv.	−0.005 (0.003)	−0.006 (0.017)	0.003 (0.010)	0.000 (0.002)	−0.002 (0.006)	−0.015 (0.007)**
Income						
Disadv.	−0.021 (0.007)**	−0.001 (0.009)	0.029 (0.008)**	−0.007 (0.003)**	−0.006 (0.008)	−0.017 (0.007)**
Middle	−0.013 (0.003)**	0.004 (0.007)	0.009 (0.006)	−0.001 (0.001)	−0.011 (0.004)**	−0.011 (0.004)**
Adv.	−0.004 (0.003)	0.038 (0.016)**	0.016 (0.011)	0.000 (0.001)	−0.001 (0.007)	−0.009 (0.007)*
Status						
Disadv.	−0.020 (0.007)**	0.012 (0.011)	0.031 (0.010)**	−0.001 (0.002)	−0.020 (0.007)**	−0.020 (0.007)**
Middle	−0.015 (0.004)**	0.017 (0.008)	0.005 (0.007)	−0.001 (0.001)	−0.007 (0.005)	−0.007 (0.005)*
Adv.	−0.006 (0.004)	−0.013 (0.018)	0.009 (0.012)	0.000 (0.001)	0.002 (0.006)	−0.015 (0.007)**

*$P < 0.1$, **$P < 0.05$, predicted marginal effects of local unemployment rate at the grand margin. Each background characteristic estimated in a separate model.

The findings discussed above indicate that growing up in a disadvantaged household increases the vulnerability to the local labour market in a way that is consistent with them being crowded out of jobs by similarly qualified but more advantaged candidates. Those with higher qualifications are bumped down to jobs that pay less well. They are also less likely to work in temporary jobs which may provide a foothold to a better or more permanent job (Scherer, 2004; Gebel, 2013). Among those with lower qualifications, the difference shows itself in a rapidly increasing risk of unemployment for the disadvantaged when compared to their more advantaged counterparts. They are also more likely to work on less secure temporary contracts as conditions worsen.

In this article, we use a composite measure of disadvantage. While parental income, education, and socioeconomic status are related, they are not interchangeable and are expected to have separate effects (Bukodi and Goldthorpe, 2013). Our rationale in combining them is to offer a parsimonious measure of the general socioeconomic conditions young adults faced while growing up, rather than isolate these aspects (Jackson, 2009; Caro and Cortés, 2012). Table 4 shows the marginal effects of the UE for groups when using the different aspects separately. As expected, the different aspects all affect the sensitivity to the local labour market slightly differently, but they do point in the same direction. Among the lower qualified, all indicators point to those growing up in the least advantaged households being most affected in terms of finding work (column 2) or working on less secure temporary contracts (column 4). Among those with higher qualifications, the risk of unemployment is only more dependent on the business cycle for the disadvantaged than the more advantaged (column 5) when analysing household income. With regards to wage (column 6) the higher sensitivity of the disadvantaged is driven by parental occupational status although the disadvantaged are consistently more sensitive than the most advantaged. The type of contract (column 7) someone works on depends more on the business cycle for the disadvantaged than their more advantaged counterparts when defining disadvantage through household income or parental occupational status, but not when studying education. Parental

Table 5. Wage and temporary work affected by networks and overqualification

Low qualifications	Network: temporary (odds ratio)	Network: wage	Prestige matched: temporary (odds ratio)	Prestige matched: wage
Middle (vs disadv.)	1.43 (0.40)	−0.03 (0.06)	1.10 (0.35)	0.04 (0.04)
Adv. (vs disadv.)	0.56 (0.28)	0.04 (0.09)	0.55 (0.30)	0.15 (0.07)**
Unemployment rate (ROR)	1.21 (0.14)	−0.01 (0.02)	1.29 (0.10)**	0.003 (0.008)
Middle * Unemployment	0.79 (0.10)*	0.03 (0.02)	0.85 (0.07)*	0.00 (0.01)
Adv. * Unemployment	0.79 (0.17)	0.01 (0.03)	0.96 (0.16)	−0.00 (0.02)
Mediator	1.06 (0.30)	0.07 (0.05)	0.66 (0.15)*	0.02 (0.02)
Rho	*0.26*	*0.48*	*0.61*	*0.63*
N persons	*376*	*376*	*754*	*754*
N observations	*563*	*563*	*2,503*	*2,503*
High qualifications	Network: temporary (odds ratio)	Network: wage	Match: temporary (odds ratio)	Match: wage
Middle (vs disadv.)	0.98 (0.21)	0.03 (0.04)	0.98 (0.22)	0.03 (0.03)
Adv. (vs disadv.)	1.12 (0.30)	−0.05 (0.05)	1.62 (0.46)*	−0.04 (0.03)
Unemployment rate (state)	0.86 (0.09)	−0.02 (0.02)	0.82 (0.06)**	−0.02 (0.01)**
Middle * Unemployment	1.04 (0.09)	0.02 (0.01)	1.11 (0.08)	0.02 (0.01)**
Adv. * Unemployment	1.05 (0.10)	0.02 (0.02)	1.11 (0.09)	0.02 (0.01)**
Mediator	0.67 (0.10)	0.03 (0.02)	1.03 (0.14)	0.07 (0.01)**
Rho	*0.28*	*0.45*	*0.58*	*0.55*
N persons	*1,123*	*1,123*	*1,570*	*1,570*
N observations	*2,045*	*2,045*	*7,138*	*7,138*

*$P < 0.1$, **$P < 0.05$, controlled for year (dummies), state (dummies), sample (dummies), school (dummies), gender, marital status, child, migrant, satisfaction with health, age of father, age of mother, potential experience. Rho indicates the proportion of residual variance that is due to unobserved person-specific characteristics. The channel through which a job was found is only available from 1998 onwards.*

education then plays less of a role among the more highly educated, possibly because it is most closely linked to the child's own education and more similar among the highly qualified.

We suggest differences in the efficiency of social networks and a perceived or de facto difference in skills as possible drivers of these results. The last two columns of Tables 1 and 2 show the probability of being overqualified and the probability of having found a job through friends and relatives. To test the extent to which being overqualified or finding a job through networks or friends affect the other labour market outcomes, Table 5 presents their effects on wage and working on a temporary contract.

The fifth column in Table 1 shows that the probability of having found a job through friends and relatives is not affected by background or the business cycle in our models. Columns 2 and 3 in Table 5 show that jobs found through social networks tend to be slightly better paid than those found through other means for the lower qualified while for the higher qualified a job found through friends and relatives is less likely to be temporary. While there are independent effects of the type of job search method on labour market outcomes, we find no evidence for a mediation effect of socio-economic background.

Shown in the sixth column of Table 1, the probability of working on a job that matches someone's qualifications in terms of status decreases significantly (at $P < 0.1$) for the lower educated from a disadvantaged background, while those from a more advantaged household are less affected although the difference is not statistically significant. Among those with higher qualifications we see a similar pattern but the effect of the local UE is no longer statistically significant. The seventh column of Table 2 shows that an increase in the local UE is associated with a larger reduction in the probability of working on a matched job for the disadvantaged than for their more advantaged peers, but the effects are not statistically significant. Columns 4 and 5 in Table 5 show that working on a job that matches qualifications is associated with a higher wage among those with higher qualifications. For the lower qualified, being over-educated is associated with a significantly higher probability of working on a temporary contract.

We do not find a significant effect of background interacting with the local labour market on the mediators and including the mediators in the wage and

temporary work models does not change the coefficients or estimated marginal effects. We then conclude that overqualification or having found a job through networks does not mediate the higher sensitivity of the disadvantaged to the business cycle. As we cannot strictly test the mediation mechanism in this way for a binary outcome (i.e. temporary work), we estimated it as a linear probability model and found no evidence for mediation (not shown here). This suggests that further research is necessary on the mechanisms through which a disadvantaged background increases sensitivity to the labour market.

Finally, we present the main findings from some sensitivity analyses. The results are available in the online appendix. As the German labour market is quite segregated by gender, we carried out separate analyses for men and women, shown in Table A3. We find very similar results as reported in Table 1 with the exception of wage. The difference in wage sensitivity to the labour market between the disadvantaged and more advantaged groups is only statistically significant (at $P < 0.05$) for women although similar patterns are present for men. We also find that women with higher qualifications are more affected in their probability of working on temporary contracts than men and that there are no significant differences by background in this.

To test whether the found differences in the sensitivity to the business cycle are indeed due to differences by socio-economic background and not spurious, we tested two further interactions. First, an interaction of socio-economic background with a linear time-trend to test whether the effect we found is a result of a change in socio-economic inequality over time. Secondly, we include an interaction of schooling with the labour market, to test whether the differences in educational attainment, even within the lower or higher educated groups, are responsible for the differences. The results are shown in Table A4 in the online appendix. None of our results change through the inclusion of these interactions, indicating that the results are not due to the on average lower education of the disadvantaged or to changes in inequality over time.

In an additional test, the sample is split up to analyse the first 5 years in which a person is observed and the later years, shown in Table A5. There is no longer evidence of the disadvantaged being more sensitive to the business cycle in the later career. An exception is that in this group those from middle and advantaged backgrounds are estimated to earn a higher wage as conditions worsen, while the disadvantaged are not positively affected. Among the higher qualified, the differences identified are present in the early and later career, but the wage effect disappears in a later stage.

We also carried out the analyses using a subsample after the German reunification in 1991. Our findings are robust, although among the higher qualified there is no difference by background in how employment probability is affected and the wage effects, while similar in size, are no longer statistically significant (at $P < 0.1$). As a final test discussed here, we account for selection effects in which the disadvantaged are more likely to work in sectors that are more sensitive to the labour market. Including industry codes made no difference whatsoever to the coefficients. This then indicates that the findings on employment and on working on temporary positions are robust to several specifications, while the wage effect seems to mainly hold in the early stages of the career and for women. The coefficients for these two checks are shown in Table A6.

Conclusion

We study whether family background matters for early labour market success after accounting for education in West Germany and argue that to answer this question the local labour market context in which employers make hiring decisions must be taken into account. We show that young adults who grew up in a disadvantaged household are bumped down to worse jobs or out of work altogether as the local unemployment rate increases. Their equally qualified but more advantaged counterparts are more likely to get the better positions. Among the higher qualified, this means the better-paid positions, as the disadvantaged face the fastest decline in wage as the unemployment rate rises. Among the lower qualified, the probability of being in employment altogether is most affected. When employed, the disadvantaged are also most likely to work on a temporary contract. This crowding-out results in higher inequality by background when the local labour market is loose.

We proposed two explanations for this higher vulnerability, after accounting for education and work experience. As previous studies found that growing up in a disadvantaged background is associated with lower cognitive and non-cognitive skills this could be picked up by employers and be more relevant when competition for jobs is higher. Growing up disadvantaged may also affect the type of networks someone has access to. If the use of contacts becomes more relevant during worse economic times, this could also drive the increasing gap by family background. We find no clear evidence for these mechanisms mediating the higher sensitivity to the local

labour market conditions of those growing up in a disadvantaged household.

We tested these mechanisms indirectly, by studying differences in the risk of being overqualified as an indicator of perceived skills differences by employers; and by studying whether a job was found by friends and relatives rather than through another job search method. These tests are therefore only indicative. We have no reliable information on the preferences of employers or on the specific ways in which networks may aid the job search. Another limitation is that these measures are only available for employed respondents. The models do indicate that the disadvantaged are more likely to be overqualified and less likely to have found work through networks as the labour market loosens, although the effects are not statistically significant. Further research should aim to test these mediating mechanisms more directly, for instance through studies of the hiring process (e.g. Jackson, 2009).

While we focus specifically on how the decisions of employers may bring about increasing inequality by background, it is important to consider that our findings may also be due to differences on the supply side. It is for instance possible that the disadvantaged respond differently to the increasing uncertainty on the labour market due to facing higher constraints and therefore settle for any rather than no job.

Even in Germany, where the economy is strongly stratified by education, background still plays a role after accounting for objective measures such as education and work experience. Growing up in a disadvantaged household is not always equally bad, however, and is aggravated during economic downturns. These differences in the early career are important, as they may scar the later careers. The sheer bad luck of entering during worse economic times is then much worse for the already vulnerable. Future research could focus on establishing the specific pathways through which disadvantaged young adults are affected more by the business cycle. If it is a crowding-out by the more advantaged, then specific training or help with interviews from employment agencies could offer a solution.

Note

1 Socio-Economic Panel (SOEP), data for years 1984–2011, version 29, SOEP, 2013, doi:10.5684/soep.v29.

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Supplementary Data

Supplementary data are available at *ESR* online.

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