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ABSTRACT

Reservation Wages of First and Second Generation Migrants*

This paper analyzes the reservation wages of first and second generation migrants. Based on recently collected and rich survey data of a representative inflow sample into unemployment in Germany, we empirically test the hypothesis that reservation wages increase from first to second generation migrants. Two extensions of the basic job search model, namely an unknown wage offer distribution and different reference standards, provide theoretical justifications for this conjecture. In both extensions, changing frames of reference are identified as a channel through which the phenomenon of increasing reservation wages may arise. In as far as language skills or self-evaluated returns to characteristics reflect a person's frames of reference, we find empirical support for this mechanism to be present.

JEL Classification: F22, J15, J61, J64

Keywords: migration, ethnic identity, ethnosizer, Germany, unemployment, job search, reservation wages

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"We don't wake up for less than $10,000 a day."
Linda Evangelista, Supermodel, Vogue (1990)

1 Introduction

The literature which aims at explaining the migrant-native differences in economic outcomes such as labor force participation, labor earnings, and unemployment rates, is large. Starting with Chiswick's (1978) assimilation paper, most studies in most migration countries find a persistent wage gap between natives and immigrants. Namely, compared to natives, migrants exhibit higher unemployment rates, lower employment rates, and lower earnings. With some exceptions, most of the studies focus on first generation migrants, i.e., migrants who have themselves moved from one country to another. Second generation migrants, who are the offspring of first generation migrants and are born in the host country, have received less attention.[1] However, this group of migrants is of increasing concern, both from an academic and a policy perspective. In the course of the past century, many countries have accumulated sizeable stocks of migrants and their descendants. Although one would expect migrant-native differences in economic outcomes to decrease from one generation to the next, this is generally not the case (see Algan et al., 2010, for evidence on France, Germany and the UK).

Germany is an interesting example because of its relatively large migration inflows over a long period. These inflows became sizeable permanent stocks of both first and second generation migrants that are now present in Germany. In 2007, almost 19 percent of the German population (or 15.4 million persons) had a migration background. Fewer than half of those are actually foreign citizens. Among children aged 5 and below, the share is even higher: around one third is descended from a family with a migration background. Turks are by far the largest group of individuals with a migration background (about 2.5 million in 2007), followed by Poles, Russians and Italians (Rühl, 2009).

In addition, native-migrant gaps in economic outcomes are relatively persistent over the two generations of migrants in Germany. Algan et al. (2010) provide cross-country evidence on the performance of first and second generation migrants in terms of education, earnings and employment. Their results for Germany indicate lower educational outcomes of first generation immigrants when compared to natives, and particularly low achievements for those from traditional guest worker countries. While educational attainment improves substantially for second genera-

[1] Exceptions for Germany comparing the economic outcomes of immigrants, immigrants' children and natives include Gang and Zimmermann (2000), Riphahn (2003), Constant and Zimmermann (2003) and Uhlendorff and Zimmermann (2006). Among the first studies in the United States is Chiswick (1977).

tion immigrants, outcomes are still below those of comparable natives. With respect to earnings, Algan et al. (2010) conclude that wage assimilation from one generation to the next is weak, and that there remains a substantial wage differential for all immigrant groups even for the second generation. Lastly, the authors show that native-migrant employment gaps in Germany are relatively large, in particular for Turks and Central and Eastern Europeans, and that, at least for men, these gaps do not appear to decrease from one generation to the next.

The lack of migrant intergenerational improvement is puzzling and studies tend to find conflicting results. A number of potential explanations are discussed in the literature. First, second generation migrants may be discriminated against in the labor market. One would expect ethnic discrimination to be primarily a concern for first generation migrants, but evidence from various European countries indicates that also second generation migrants are affected (see, e.g., Jonsson, 2007, and other studies in the same volume). Moreover, second generation migrants who do not have the citizenship of the host country may also face institutional discrimination (Kogan, 2007; Phalet, 2007). Second, the endowment of second generation migrants in terms of ethnic and human capital may be another explanation for the lack of intergenerational mobility. The quality of the ethnic environment of first generation migrants, what Borjas (1992) calls ethnic capital, influences the skills and labor market outcomes of their offspring. Card et al. (2000) show that for the last 50 years in the United States, the rate of intergenerational assimilation in educational attainment has remained stable and the rate of intergenerational assimilation in earnings has remained constant. Kalter and Granato (2007) conclude that missing relevant human capital is still an important explanation for the lack of intergenerational improvement in Germany.[2] Third, there are explanations for the persistence of native-migrant gaps in economic outcomes across migrant generations, which are based on ethnic identity. For example, the concept of downward assimilation describes the assimilation of the second generation with the native underclass, which might lead to a permanent marginalization. Such developments are documented in the United States (Portes and Zhou, 1993) and in Europe (Silberman and Fournier, 2007; Heath et al., 2008). Two other processes are discussed in the literature: taste for isolation and oppositional identities (Blackaby et al., 2005). Both result either from discrimination or are made by choice, i.e., certain immigrant groups may actually like to isolate themselves from the receiving society or develop resentments against the dominant host culture (see Constant and Zimmermann, 2008, for a discussion in the context of first generation migrants).

[2]Constant and Zimmermann (2003) show that it is the mother's education and not the father's occupation that influences the occupational choices of the immigrant children. In stark contrast, Germans are more likely to choose occupations similar to their father's occupation when the father is in the white-collar or professional category.

Whereas these approaches focus on the lack of intergenerational improvement in terms of economic outcomes, this paper takes a slightly different perspective. It concentrates on one important underlying mechanism in determining economic outcomes: the process of job search and the acceptance of a job offer. Since employment biographies become more unstable and more fragmented, and labor markets in general become more flexible (Eichhorst et al., 2010), the importance of job search and the success of job finding are critical. But there may be crucial differences in job search behavior between first and second generation migrants. For instance, Heath and Li (2008) argue that the lack of intergenerational improvement in the United Kingdom may be explained by differences in the willingness to accept low paid jobs or to work in the enclave economy. The failure to catch up across generations could result from lower reservation wages of first generation migrants when compared to their offspring. Changing frames of reference from one migrant generation to the next are identified as a potential channel through which this phenomenon may arise. Whereas the comparative reference group of first generation migrants may be their families, co-ethnics and peers in the country of origin, second generation migrants may expect to be treated like their peers from the host country. Similarly, Stark and Taylor (1991) develop the hypothesis that international migrants (i.e., first generation migrants) keep their reference group in their country of origin in order to improve their relative position within their original reference group.[3] This positive effect of migration might be outweighed by changing the reference group to the one in the host society. The more different the home and host societies are, the less likely it is thus for reference group substitution.[4]

This paper empirically tests the hypothesis that reservation wages of second generation migrants exceed those of first generation migrants. Two extensions of the basic model of job search provide theoretical justifications for this hypothesis: *a*) an unknown wage offer distribution, and *b*) reference standards. In both cases, changing frames of reference are identified as a channel through which the phenomenon of increasing reservation wages over migrant generations may arise. Our empirical analysis uses data on entrants into unemployment at a very early stage of the unemployment spell.[5] Our results confirm our hypothesis and show an unconditional reservation wage gap of 2.3 percent between first and second generation migrants, which increases to about 3.5 percent and becomes statistically significant once differences in characteristics are taken into account. In a next step, we approx-

[3]This is also one reason that explains why immigrants are willing to work in low rank jobs that no native would be willing to take.

[4]The assumption about reference group substitution is part of the "relative deprivation hypothesis." Accordingly, relatively more deprived households are more likely to send migrants to foreign labor markets given that there is an expected income gain (Stark and Taylor, 1991).

[5]Reservation wages of migrants in Germany were also studied in Constant and Zimmermann (2005). However, this analysis does not distinguish between first and second generation migrants.

imate potentially different reference groups between the two migrant generations by introducing measures of ethnic self-identification, the *ethnosizer*—an objective two-dimensional measure of ethnic identity—and German language skills. Whereas the former two measures do not explain much of the reservation wage gap between migrant generations, German language skills do explain a substantial part of this gap. Although host language proficiency can be viewed as part of human capital, it is endogenously determined and depends on the individual's social network and his or her social interactions. Language may thus reflect, at least in part, frames of reference. A decomposition analysis moreover suggests that a substantial part of the unconditional reservation wage gap is driven by higher self-evaluated returns to characteristics of second generation migrants, e.g., with respect to education. We argue that self-evaluations may reflect frames of reference.

The remainder of this paper is organized as follows. After discussing theoretical considerations in Section 2, we provide an overview of our data in Section 3. Section 4 presents and discusses our empirical results. A sensitivity analysis is performed in Section 5. Finally, Section 6 concludes.

2 Theoretical Considerations

This section provides theoretical arguments for our hypothesis that reservation wages increase from first to second generation migrants. We start by briefly reviewing the standard model of job search and extend this framework in two ways: *a*) we relax the assumption of a known wage offer distribution, and *b*) we directly incorporate a reference standard into the model. Both extensions provide theoretical justifications to our conjecture that changing frames of reference are a channel through which the phenomenon of increasing reservation wages from one migrant generation to the next may arise.

2.1 The Basic Model of Job Search

The starting point of our analysis is the standard model of job search (McCall, 1970; Mortensen, 1970).[6] In this model the reservation wage represents the crucial wage above which an individual is willing to accept job offers. It is assumed that unemployed individuals seek to maximize the expected present value of future income streams over an infinite horizon. In a given period, a job offer with wage w is received with probability λ, where w is an exogenously determined random variable distributed according to the wage offer distribution $H(w)$. More importantly, this distribution is assumed to be known to the job seeker.

[6] See also Chapter 3 of Cahuc and Zylberberg (2004).

The basic setup furthermore assumes that *a*) individuals are risk neutral, *b*) the discount rate is equal to d, *c*) jobs are separated exogenously with probability q per period, *d*) search is costless, *e*) non-labor income equals b per period, and *f*) there is no on-the-job search. It can then be shown that the (unique) reservation wage ξ is determined by the following equation:

$$\xi = b + \frac{\lambda}{d+q} \int_{\xi}^{\infty} (w - \xi) \ \mathrm{d}H(w) \ . \tag{1}$$

Therefore, the individual's reservation wage ξ depends on the income stream during job search b, the job arrival rate λ, the discount rate d, and the job separation rate q. Employing the implicit function theorem, comparative static analysis reveals:

$$\frac{\partial \xi}{\partial b} > 0 \ ; \ \frac{\partial \xi}{\partial \lambda} > 0 \ ; \ \frac{\partial \xi}{\partial d} < 0 \ ; \ \frac{\partial \xi}{\partial q} < 0 \ . \tag{2}$$

Hence, according to the basic model the reservation wage ξ depends positively on the income stream during job search b and the job arrival rate λ, while it decreases with the discount rate d and the job separation rate q.

There are several extensions to the basic model of job search, addressing and relaxing assumptions which may be an oversimplification. In what follows, we incorporate two extensions to the basic model: *a*) an unknown wage offer distribution, and *b*) reference standards.

2.2 Unknown Wage Offer Distribution

The assumption of a known wage offer distribution $H(w)$ is sometimes referred to as one of the most heroic assumptions of job search models (Franz, 1980). But relaxing this assumption has important implications: if this distribution is unknown, the reservation wage becomes a function of the job seeker's beliefs.

Burdett and Vishwanath (1988) formulate a model which is based on the assumption that workers do *not* have precise knowledge of the distribution of the prevailing wages.[7] Their study is frequently cited for showing that when the distribution of prevailing wages is unknown, learning takes place during job search, and the individual reservation wage declines as a consequence of the selection process during the ongoing unemployment spell. However, the authors also address the situation at the very beginning of the unemployment spell. At the start of search, job seekers form beliefs about the unknown distribution $H(w)$, summarizing the knowledge which has been accumulated through various sources of information (e.g., newspa-

[7] Other studies relaxing the assumption of search models that the wage (or price) offer distribution is known include Kohn and Shavell (1974), Rothschild (1974), Bikhchandani and Sharma (1996) and Dubra (2004).

pers, wage statistics, wages of friends, relatives, or colleagues). In this setup, the reservation wage is therefore a function of the workers' beliefs—at the beginning of the respective unemployment spell based on external information, and subsequently modified after wage offers have been received.

How are initial beliefs about the wage offer distribution formed? We argue that reference groups play a crucial role in this regard, and that these reference groups shift from one migrant generation to the next (Heath and Li, 2008). More precisely, our working hypothesis is that first generation migrants are still relatively strongly attached to their country of origin, and therefore sources of information which they use to form beliefs (i.e., their reference groups) come to a sizeable extent from abroad. In contrast, the beliefs of second generation migrants should be more strongly based on German experiences because these migrants are born and raised in the host country and because individuals compare themselves with similar age groups. We thus expect reference groups to shift over migrant generations. Given that wage levels in migrants' home countries are below those of Germany, we would expect reservation wages to increase from first to second generation migrants.

Subsequently, during the course of the unemployment spell, individuals can alter and modify their beliefs depending on the wage offers they receive. Social networks and personal contacts are a major source of information about job offers, and a substantial number of jobs are found through these channels (Granovetter, 1995; Franzen and Hangartner, 2006). Updating initial beliefs may also occur through the process of peer updating, i.e., via wage offers that members of the individuals' network have received rather than the individuals themselves (Kriechel and Pfann, 2006). In both cases, if the composition of social networks or peer groups shifts from one migrant generation to the next accordingly (i.e., from stronger attachment to the country of origin towards a more German-oriented perspective), reservation wages of first generation migrants are also in the course of the unemployment spell lower than those of second generation migrants, other things equal.

2.3 Shifting Reference Standards

So far, reference standards are only indirectly included in the model by assuming that they play a crucial role in forming beliefs about the (unknown) wage offer distribution. A slightly different, albeit related and more pragmatic extension directly incorporates a reference standard r into this framework.

More specifically, we assume that the absolute wage w as well as the relative wage $(w - r)$ contribute linearly to the utility of an employed individual.[8] The

[8]See, e.g., Falk and Knell (2004) for a more general model of reference standards. They employ a similar specification into a more general framework of utility maximization.

discounted expected utility V_e of an employed individual can then be expressed as:

$$V_e(w) = \frac{1}{1+d}\Big((1-\theta)w + \theta(w-r) + (1-q)V_e(w) + qV_u\Big)\ , \tag{3}$$

where the discount rate is equal to d, the parameter θ determines the extent to which comparisons play a role, jobs are separated exogenously with probability q per period, and V_u is the discounted expected utility of an unemployed individual. Note that the discounted expected income of an unemployed individual does not change compared to the standard model of job search.

Utility maximization and rearranging terms yields the following expression for the reservation wage ξ:[9]

$$\xi = b + \frac{\lambda}{d+q}\int_{\xi}^{\infty}(w-\xi)\ \mathrm{d}H(w) + \theta r\ . \tag{4}$$

The reservation wage ξ is increasing in the reference standard r as well as in θ, i.e., in the extent to which comparisons play a role. Changing frames of reference is thus a channel through which increasing reservation wages from one migrant generation to the next may arise, if the reference standard r shifts accordingly across generations.

3 Data and Sample Characteristics

We test the hypothesis of increasing reservation wages from one migrant generation to the next using data from the *IZA Evaluation Dataset* (Caliendo et al., 2010). We concentrate on one of the two pillars of the data: a survey of almost 18,000 individuals who entered unemployment between June 2007 and May 2008. An important advantage of this dataset is that the individuals were interviewed shortly after entering unemployment. Our analysis is based on the first wave of the survey, which takes place about two months after unemployment entry.[10] The added value of this dataset is the large variety of topics that it addresses: questions cover many important individual characteristics which are rarely available for economic research but influence economic outcomes. Examples include personality traits (Borghans et al., 2008), attitudes (Bonin et al., 2007), cognitive skills (Heckman et al., 2006), and ethnic identity (Constant and Zimmermann, 2009).

Most importantly for our study, respondents in this dataset report their reservation wages (details are given below). Moreover, the dataset contains relatively detailed information about the individuals' migration background, migrant-specific

[9] See Appendix A1 for a more detailed representation, including intermediate steps.

[10] The survey consists of two additional rounds of interviews. Respondents are interviewed again one year and three years after unemployment entry, respectively.

characteristics (e.g., language skills and language use) and ethnic identity. This information allows us to construct the *ethnosizer* (Constant, Gataullina, and Zimmermann, 2009), a two-dimensional index of ethnic identity. Viewing this measure as an approximation of frames of references, we can proceed testing our working hypothesis. We also employ other approximations of frames of references, ethnic self-identification and German language skills, which are both part of the *ethnosizer*.

The setup of the *IZA Evaluation Dataset* takes into account the specific situation of migrants in Germany in a different way: next to a detailed assessment of the individuals' migration background, the interviews were—depending on the language skills of the interviewees—also available in Turkish and Russian. These are the native languages of the two major migrant groups in Germany. Altogether, 207 individuals were interviewed in these languages.

3.1 Sample Selection and Descriptive Analysis

For our analysis, we select individuals with a migration background, who are between 18 and 55 years old when entering unemployment. This "prime age" time frame helps us avoid difficulties with accounting for the decision to (early-)retire. We exclude individuals with missing information on important characteristics (e.g., wage information from previous employment) and focus on individuals who were unemployed job seekers during the first interview. Only these individuals are requested to state their reservation wages. We furthermore drop the top and bottom percentile of the reported net hourly reservation wages. After applying these criteria, we end up with 1,342 individuals with a migration background. Out of them, 776 individuals are first generation migrants and 566 individuals are second generation migrants. While first generation migrants are individuals who are not German-born, second generation migrants are *a*) individuals who are German-born, but do not have German citizenship, and *b*) individuals who are German-born, but at least one of their parents is not German-born. We thus apply a very straightforward definition of second generation migrants, including basically all individuals who have a migration background but are German-born.[11]

Table 1 displays descriptive statistics of our sample by migration background. First and second generation migrants have on average roughly the same age and the gender distribution is fairly similar. The share of migrants with German citizenship is high in both groups. Almost 70 percent of first generation migrants are German citizens. This high percentage can be explained by the substantial inflow of ethnic Germans, who immigrated from the former USSR and Central and Eastern

[11]We assess the sensitivity of our results to this definition in Section 5. More specifically, in the second generation group, we also include foreign-born individuals who migrated to Germany at a very young age.

European countries, in particular around 1990. These individuals were considered to be of German descent and were usually granted German citizenship upon arrival. Moreover, the migrants in our sample have been in Germany for a relatively long time, and thus for many of them it became possible to obtain the German citizenship.[12] The share of German citizenship holders among the second generation is even higher (about 80 percent). The naturalization requirements and procedure in Germany changed in 2000, when the German citizenship law was reformed. Before the reform, obtaining German citizenship was primarily through bloodlines (*ius sanguis*) and residence of at least 15 years. After the reform the law of soil (*ius soli*) became available to immigrant children born in Germany, and years of residence to apply for naturalization were reduced to eight (with exceptions such as three years for persons with a German spouse).[13] Less than 10 percent of the first generation migrants live in East Germany, whereas 18 percent of second generation migrants do. The share of married individuals among first generation migrants is higher than among second generation migrants. The share of first generation migrants without a formal educational or vocational degree is higher than that of second generation migrants. However, more first generation migrants have a general qualification for university entrance or a university degree than second generation migrants. First and second generation migrants in our sample earned similar average wages before becoming unemployed and the average duration of previous employment was almost the same in both groups. These statistics also indicate that both groups of recent entrants into unemployment had a relative strong attachment to the labor market in the past.

[12]Years since migration are 18 years on average, see Table 2.

[13]See Zimmermann, Constant, and Gataullina (2009) for a more detailed description and analysis of the naturalization process in Germany.

Table 1: Descriptive Statistics (Selected Characteristics by Migrant Generation)

	1st generation	2nd generation
Sociodemographic characteristics		
Age (in years)	34.942	35.002
	(9.796)	(9.986)
Male	0.512	0.472
	(0.500)	(0.500)
German citizenship	0.695	0.807
	(0.461)	(0.395)
East Germany	0.081	0.182
	(0.273)	(0.386)
Married	0.568	0.456
	(0.496)	(0.498)
Educational attainment		
No formal degree	0.023	0.014
	(0.151)	(0.118)
Secondary school (9 yrs.) (*Hauptschule*)	0.341	0.387
	(0.475)	(0.487)
Secondary school (10 yrs.) (*Realschule*)	0.335	0.387
	(0.472)	(0.487)
Technical college entrance qualification (11-12 yrs.) (*Fachabitur, Fachhochschulreife*)	0.052	0.051
	(0.221)	(0.221)
General qualification for university entrance (12-13 yrs.) (*Abitur, Allgemeine Hochschulreife*)	0.249	0.161
	(0.433)	(0.368)
Vocational attainment		
No formal degree	0.224	0.127
	(0.417)	(0.334)
Apprenticeship (dual system)	0.460	0.594
	(0.499)	(0.492)
Specialized vocational school	0.142	0.157
	(0.349)	(0.364)
University, technical college	0.174	0.122
	(0.379)	(0.327)
Previous employment		
Net hourly wage (in euros)	7.239	7.246
	(3.218)	(3.084)
Duration (in months)	40.406	40.251
	(61.124)	(61.081)
# Observations	776	566

Source: IZA Evaluation Dataset, wave 1, own calculations.
Notes: Standard deviations are in parentheses. First generation migrants are not German-born; second generation migrants are German-born, but not German citizens or at least one parent is not German-born.

Table 2 presents further descriptive statistics for the two groups of migrants in our data. It focuses on migrant-specific characteristics to shed more light on their migration background and migration history. We first consider the country of origin of first and second generation migrants. For this purpose, we aggregate the respondents' countries of origin into three major sending regions: *a*) guest worker countries, *b*) Central and Eastern European countries, and *c*) other countries.[14] The descriptive statistics then basically reflect two major developments in Germany's migration history. First, almost 60 percent of first generation migrants are from Central and Eastern European countries. This substantial share can be explained by the sizeable inflow of ethnic Germans who came to Germany around 1990, with the fall of the Iron Curtain and the subsequent East-to-West migration. Second, more than 40 percent of second generation migrants in our sample have a lineage in guest worker countries.[15] They are the offspring of the guest workers who were hired to migrate to Germany during the post-war economic boom and kept migrating until the early 1970s and the halt on labor migration in 1973.

Table 2 shows that, on average, first generation migrants have been in Germany for a long time, having moved when they were rather young. The average years since migration of first generation migrants exceeds 18 years, and the average age at migration is about 17 years. Moreover, about half of the first generation migrants completed an educational degree abroad and about 30 percent have a vocational degree from abroad. These numbers appear plausible as most first generation migrants spent substantial parts of their lives in their country of origin, mostly during childhood and adolescence when schooling takes place. The share of second generation who completed a vocational or educational degree abroad is virtually zero (1.6 percent).

[14]Guest worker countries include Turkey, the former Yugoslavia, Italy, Spain, and Greece. Central and Eastern European countries include Poland, the former USSR, the former CSSR, and Romania.

[15]The country of origin of second generation migrants is either *a*) the country of their citizenship (if they do not have German citizenship), or *b*) their parents' country of origin. If the latter is not the same for both parents, we take the father's country of origin (Card et al., 2000; Jonsson, 2007).

Table 2: Descriptive Statistics (Migrants' Characteristics)

	1st generation	2nd generation
Country of origin (by region)		
Guest worker countries[a]	0.202	0.419
	(0.402)	(0.494)
Central and Eastern European countries[b]	0.579	0.148
	(0.494)	(0.356)
Other countries	0.219	0.433
	(0.414)	(0.496)
Time in Germany		
Years since migration	18.139	–
	(9.756)	
Age at migration	16.809	–
	(10.883)	
Education abroad		
Educational degree abroad	0.487	0.016
	(0.500)	(0.125)
Vocational degree abroad	0.305	0.016
	(0.461)	(0.125)
# Observations	776	566

Source: IZA Evaluation Dataset, wave 1, own calculations.
Notes: Standard deviations are in parentheses. First generation migrants are not German-born; second generation migrants are German-born, but not German citizens or at least one parent is not German-born.
[a] Guest worker countries include Turkey, the former Yugoslavia, Italy, Spain and Greece.
[b] Central and Eastern European countries include Poland, the former USSR, the former CSSR and Romania.

3.2 Measures of Frames of Reference

To measure ethnic identity, we apply the two-dimensional version of the *ethnosizer* in our empirical analysis (Constant and Zimmermann, 2008; Constant, Gataullina, and Zimmermann, 2009). We argue that the *ethnosizer* provides an approximation of the different reference groups by measuring the intensity of commitment to the home and the host culture. It is a complex concept, which classifies immigrants into four distinct states or regimes: *a*) assimilation, *b*) integration, *c*) marginalization, and *d*) separation. An assimilated immigrant has a high commitment to the host culture and a weak one to the home culture. Being integrated means to be committed to both the home and host cultures. Marginalization displays a weak attachment to either culture, and separation exhibits a strong commitment to the home culture, but not to the host one. The four states are formed by combining four essential elements of personal devotion to the German culture and society and to the culture and society of origin: *a*) language, *b*) ethnic self-identification, *c*) ethnic interaction,

and *d*) migration history.[16]

Table 3 displays descriptive statistics of the specific variables we use in our model. For this purpose, we have transformed the respondents' answers vis-à-vis the four elements into variables ranging from 0 to 1. Note that for each element we have information on both countries. For each country, a value of zero indicates no commitment and a value of one indicates total and absolute commitment. For example, for the element language, a value close to one corresponds to better German language skills and a more frequent use of a different language than German as family language.

Table 3: Descriptive Statistics (Components of the *Ethnosizer*)

	1st generation	**2nd generation**
Language		
German language skills	0.775	0.903
	(0.195)	(0.127)
Family language	0.366	0.148
	(0.276)	(0.218)
Ethnic self-identification		
Self-identification with Germany	0.746	0.718
	(0.213)	(0.225)
Self-identification with country of origin	0.570	0.510
	(0.318)	(0.328)
Ethnic interaction		
Language with friends	0.301	0.116
	(0.271)	(0.186)
Migration history		
Intention to apply for German citizenship	0.804	0.864
	(0.346)	(0.308)
Center of interest in 5 years (10–15 years)	0.218	0.242
	(0.244)	(0.250)
# Observations	776	566

Source: IZA Evaluation Dataset, wave 1, own calculations.
Notes: Standard deviations are in parentheses. First generation migrants are not German-born; second generation migrants are German-born, but not German citizens or at least one parent is not German-born. All variables range between 0 and 1. A higher value corresponds to better German language skills, a more frequent use of a different language than German as family language, a stronger self-identification with Germany, a stronger self-identification with the country of origin, a more frequent use of another language than German with friends, a higher probability of applying for German citizenship, and a higher probability of leaving Germany.

[16]Our data do not include the exact same questions as the GSOEP, which has been used so far to construct the *ethnosizer*. Therefore, we use a modified version and rely only on four elements. The element "culture" is not included in our *ethnosizer* here.

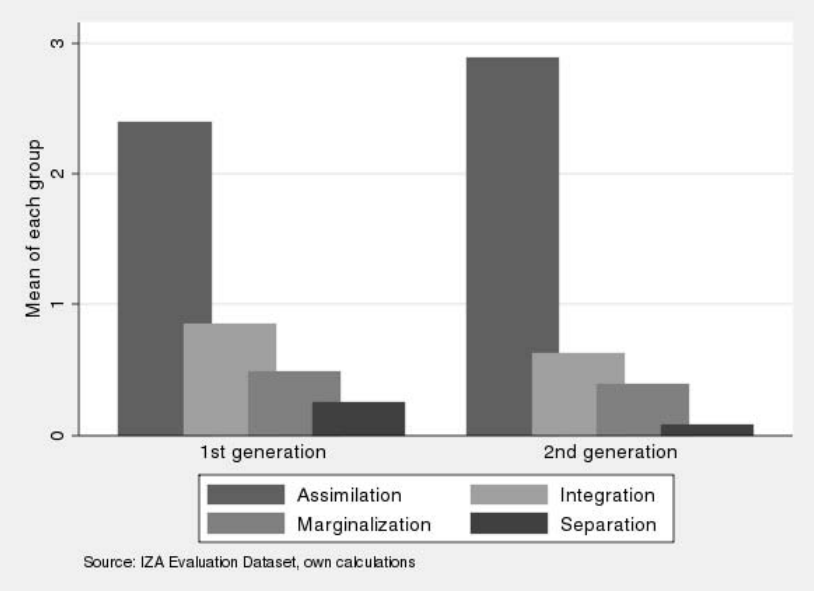
Second generation migrants report a better German language proficiency than first generation migrants and a less frequent use of a different language than German as their family language. The degree of self-identification with Germany is similar across the two migrant generations in our sample, albeit slightly weaker in the group of second generation migrants. Second generation migrants self-identify to a lower extent with the country of origin, but the difference is rather small. The use of a different language than German as a means of communication among friends is rather uncommon for second generation migrants, but more frequent among first generation migrants. Finally, second generation migrants report both a higher probability to apply for German citizenship and a higher probability of leaving Germany in the future.[17]

To construct the four identity states of the *ethnosizer* for each individual, we proceed as follows. With respect to language usage and ability, we approximate the commitment to the host country via the command of the German language and the commitment to the country of origin via the actual communication with family members. More specifically, a respondent with a 'very good' or 'good' command of the German language who communicates to his or her family members at least half in another language is classified as linguistically integrated; a respondent with at least a 'good' command of the German language who communicates to his or her family members 'only' or 'mostly' in German is classified as linguistically assimilated; a respondent with relatively poor or no command of the German language who communicates to his or her family members at least half in another language is classified as linguistically separated; and finally, a respondent with relatively poor or no command of the German language who communicates to family members 'only' or 'mostly' in German is classified as linguistically marginalized. Similarly, migrants who self-identify both strongly with Germany and with the country of origin are considered as integrated; migrants who self-identify strongly with Germany but to a smaller extent with the country of origin are considered as assimilated; migrants who self-identify strongly with the country of origin but to a smaller extent with Germany are considered as separated; and, finally, migrants who self-identify only weakly both with Germany and the country of origin are considered as marginalized. With respect to the other two dimensions of ethnic interaction and migration history, individuals are categorized analogously.

Figure 1 juxtaposes the distribution across all four states of the *ethnosizer* for first and second generation migrants in our sample. The distributions are rather similar: both have the highest score for assimilation, followed by integration and marginalization, while separation is ranking last. However, the score for assimilation is higher in the second generation, whereas the scores for all three other dimensions

[17]This is in line with the finding that migrants with German passports exit more frequently (Constant and Zimmermann, 2011).

Figure 1: Two-Dimensional *Ethnosizer* by Migration Status



Source: IZA Evaluation Dataset, wave 1, own calculations.
Notes: Mean scores for each of the four states of the *ethnosizer*. First generation migrants are not German-born; second generation migrants are German-born, but not German citizens or at least one parent is not German-born.

are slightly below those of the first generation. This seems plausible because second generation migrants feel more dedicated to the German culture than first generation migrants. Furthermore, this finding reinforces our hypothesis of changing frames of references from one migrant generation to the next.

3.3 Reservation Wages and Ethnic Identity

There are still comparatively few empirical studies that directly incorporate reservation wages in their analysis. The main reason for this lies in the scarcity of adequate data sets; but our data include self-reported reservation wages, which we can directly incorporate in our analysis. More specifically, respondents were posed the following questions regarding their reservation wage:

a) Now the focus turns to earnings expectations while searching for a job. How high do you expect your net monthly wage to be? How many hours per week would you at least have to work in order to receive this net monthly wage?

b) Would you also be prepared to accept a job offer with a lower net monthly wage? And if so, what is the lowest net monthly wage you would be prepared to accept? How many hours per week would you at least have to work in order to receive this net monthly wage?

Answers to these questions give us information about the individuals' reservation wage.[18] Moreover, we calculate the reservation wage ratio (RWR). This ratio is defined as the reservation wage at the time of the interview divided by the previous wage from (self-)employment, i.e., before entering unemployment.

Table 4 shows the average net hourly reservation wages and reservation wage ratios. The average reservation wage for the entire sample is € 7.18, which corresponds to an 11 percent increase compared to the previous wage of individuals in our sample. The average net hourly reservation wage of second generation migrants amounts to € 7.25 and exceeds that of first generation migrants. The latter amounts to € 7.13. However, the reservation wage ratios are the same in both migrant groups.

Table 4: Reservation Wage (RW) and Reservation Wage Ratio (RWR) by Migration Status and Ethnic Self-Identification

	Migrants		**1st generation**		**2nd generation**	
	RW	RWR	RW	RWR	RW	RWR
Total	7.18	1.11	7.13	1.11	7.25	1.11
Assimilation	7.18	1.10	7.09	1.12	7.32	1.06
Integration	7.33	1.09	7.18	1.07	7.55	1.13
Marginalization	7.00	1.16	7.16	1.17	6.87	1.16
Separation	6.75	1.13	7.04	1.15	6.16	1.07
# Observations	1,342		776		566	

Source: IZA Evaluation Dataset, wave 1, own calculations.
Notes: Net hourly reservation wage (RW, in €). The reservation wage ratio (RWR) is defined as the reservation wage divided by the previous hourly wage from (self-)employment before entering unemployment. First generation migrants are not German-born; second generation migrants are German-born, but not German citizens or at least one parent is not German-born.

When we further differentiate individuals according to the four regimes of ethnic self-identification, a few observations can be highlighted. First, integrated individuals have the highest average reservation wage. This result is mainly driven by integrated second generation migrants whose average net hourly reservation wage is particularly high with € 7.55. Second, first generation migrants have rather similar net hourly reservation wages across the four regimes of ethnic self-identification. Third, marginalized and in particular separated second generation migrants have

[18] If both questions are answered, one can interpret response *a*) as the conditional expected wage and *b*) as the reservation wage (Lancaster and Chesher, 1983).

rather low net hourly reservation wages. Fourth, the variation in terms of reservation wage ratios across the four regimes of ethnic self-identification is relatively modest in both migrant groups. The overall picture thus suggests that reservation wages are related to previous wage levels, and individuals seem to regard these as a reference for future wages. However, there is a considerable degree of variation across individuals of different migration status, and also across the four regimes of ethnic self-identification—in particular in terms of net hourly reservation wages.

We furthermore investigate net hourly reservation wages and reservation wages of male and female first and second generation migrants in West and East Germany, respectively, as well as reservation earnings and reservation earnings ratios across the four regimes of ethnic self-identification.[19] Based on our separate analysis of male and female first and second generation migrants in West and East Germany, two important observations become apparent: *a*) men generally have higher reservation wages than women, and *b*) individuals living in West Germany generally have higher reservation wages than those in East Germany. Hence, men in West Germany have the highest reservation wages irrespective of their migration status. Obvious reasons for these findings are that wage levels in West Germany are on average higher than in East Germany and the wages of men are higher than the wages of women. The difference between reservation wages of first and second generation migrants is relatively large in West Germany, whereas the reservation wages of both groups are relatively similar in East Germany. In terms of reservation earnings, it seems worth to note that reservation earnings ratios are generally lower than those based on hourly wages. This finding suggests that hourly reservation wages which exceed the previous hourly wages are not necessarily resulting from higher monthly earnings aspirations. Individuals seem to aspire similar earnings as they previously had, but they would like to work fewer hours for the same amount of money.

[19] See Tables A1 and A2 (Appendix A2) for details.

4 Empirical Results

Differences in average reservation wages between first and second generation migrants may be driven by differences in characteristics. We therefore proceed by controlling for observable and quantifiable differences. Furthermore, we perform a decomposition analysis of the reservation wage gap between the two groups. By doing so, we are able to shed more light on the underlying mechanisms which may drive our results.

4.1 OLS Regressions

To control for differences in characteristics between first and second generation migrants, we run OLS regressions of the individuals' reservation wage and compare the results with the unconditional gaps. The regressions include socio-demographic characteristics, household characteristics, educational and vocational attainment, unemployment benefits, previous employment and other explanatory variables. Finally, we include measures of ethnic identity as described above, and also a measure of language ability.

Table 5 displays the OLS regression results. The first column reports the unconditional reservation wage gap between first and second generation migrants in our sample. This raw difference amounts to 2.3 percent, i.e., the reservation wages of second generation migrants exceed those of first generation migrants by this amount. Although this difference can be considered as economically significant, it is not statistically significantly different from zero. However, once we include control variables, the gap between first and second generation migrants increases, see column (2). Second generation migrants have conditional reservation wages which are 3.5 percent higher than those of the first generation. The conditional difference is statistically significantly different from zero. All other control variables in this regression have the expected signs and most of them are statistically significant.

We extend our analysis in Table 6 when we additionally include approximations of frames of reference in our regression framework. Ethnic self-identification, the *ethnosizer* and German language skills are separately included, see columns (2)–(4). The first column again displays the results of our baseline regression to ease comparisons. When we include ethnic self-identification in column (2), the conditional reservation wage gap remains virtually the same at 3.4 percent. It thus seems that ethnic self-identification does not have any explanatory power regarding the reservation wage gap between first and second generation migrants. The coefficient on the separated ethnic self-identification variable is negative and relatively large, though not statistically significant. When we include the *ethnosizer* in column (3), the conditional reservation wage gap decreases slightly although none of the co-

efficients on the *ethnosizer* variables is statistically significant. However, when we include German language skills in column (4), the conditional reservation wage gap between the two migrant generations decreases to 2.6 percent. The difference moreover becomes statistically insignificant. Differences in German language skills, which combine speaking and writing skills, can therefore explain a substantial part of the difference in reservation wages between first and second generation migrants. The statistically significantly positive coefficient estimate indicates that better language skills increase reservation wages.

The results of these regressions thus confirm the first part of our working hypothesis: second generation migrants indeed have higher reservation wages than first generation migrants. However, we do not find strong support for the second part of our working hypothesis, namely that changing frames of reference are a channel through which this phenomenon may arise. Ethnic identity and the *ethnosizer*, which both can be viewed as approximations of frames of reference, do not explain much of the reservation wage gap between migrant generations. This is consistent with findings of Constant and Zimmermann (2009). Using the GSOEP, they find that the *ethnosizer* variables affect the work participation decision, but are not statistically significant for earnings.

On the other hand, German language skills do explain a substantial part of the reservation wage gap between migrant generations. This is a more standard explanation for this gap as language skills can be viewed as part of a person's human capital endowment, and should thus enter wages and productivity directly. But language skills are also endogenously determined and depend on the individual's social network and his or her social interactions. They may thus reflect, at least in part, a person's frames of reference. It is nonetheless difficult to disentangle these two components of language skills—human capital and frames of reference—from each other, although we control for example for previous earnings in our regressions.

Table 5: Baseline OLS Regressions Reservation Wage

	(1)	(2)
1st generation migrants	reference (reference)	reference (reference)
2nd generation migrants	0.023 (0.016)	0.035 (0.016)**
Male		0.074 (0.016)***
Age		0.009 (0.006)
Age squared		–.010 (0.008)
Married		0.047 (0.021)**
Partner working full-time		–.065 (0.021)***
Partner working part-time		0.025 (0.027)
Children in household		0.033 (0.024)
Number of children in household		0.031 (0.013)**
No formal degree		reference (reference)
Secondary school (9 years) (*Hauptschule*)		0.03 (0.05)
Secondary school (10 years) (*Realschule*)		0.051 (0.05)
Technical college entrance qualification (11-12 years) (*Fachabitur, Fachhochschulreife*)		0.048 (0.058)
General qualification for university entrance (12-13 years) (*Abitur, Allgemeine Hochschulreife*)		0.102 (0.054)*
No vocational degree		reference (reference)
Apprenticeship		0.041 (0.018)**
Specialized vocational school		0.047 (0.025)*
University, technical college		0.191 (0.033)***
Duration previous employment $>$10 years		reference (reference)
Duration previous employment $\leq$1 year		–.077 (0.028)***
Duration previous employment $\leq$5 years		–.043 (0.027)
Duration previous employment $\leq$10 years		–.035 (0.033)
Logarithm of unemployment benefits		0.001 (0.003)
Logarithm of previous earnings		0.203 (0.018)***
Country of origin: other countries		reference (reference)
Country of origin: guest worker countries		–.008 (0.018)
Country of origin: Central/Eastern European countries		–.043 (0.017)**
R^2	0.001	0.381
# Observations	1,342	1,342

Source: IZA Evaluation Dataset, wave 1, own calculations.
Note: Robust standard errors in parentheses. Dependent variable: (logarithm of) net hourly reservation wages. Additional control variables are dummies for German states, month of unemployment entry and time between unemployment entry and interview (7-14 weeks). Full estimation results are available upon request. First generation migrants are not German-born; second generation migrants are German-born, but not German citizens or at least one parent is not German-born.
*** significant at 1%; ** significant at 5%; * significant at 10%.

Table 6: Ethnic Identity OLS Regressions Reservation Wage

	(1)	(2)	(3)	(4)
Migration Background				
1st generation migrants	reference (reference)	reference (reference)	reference (reference)	reference (reference)
2nd generation migrants	0.035 (0.016)**	0.034 (0.016)**	0.032 (0.016)**	0.026 (0.016)
Ethnic Identity				
Assimilation		reference (reference)		
Integration		–.009 (0.015)		
Marginalization		–.006 (0.021)		
Separation		–.032 (0.025)		
Ethnosizer				
Assimilation			reference (reference)	
Integration			0.00006 (0.008)	
Marginalization			–.012 (0.01)	
Separation			–.009 (0.013)	
Language Skills				
German Language Skills				0.098 (0.042)**
R^2	0.381	0.382	0.382	0.384
# Observations	1,342	1,342	1,342	1,342

Source: IZA Evaluation Dataset, wave 1, own calculations.
Note: Robust standard errors in parentheses. Dependent variable: (logarithm of) net hourly reservation wages. Additional control variables are male, age and age squared, married, partner's employment status, educational and vocational variables, duration of previous employment, logarithm of unemployment benefits, children in household, logarithm of previous earnings, dummies for country of origin, German federal states, month of entry into unemployment and time between unemployment entry and interview (7-14 weeks). Full estimation results are available upon request. German language skills is measured on an ordinal scale and a higher value refers to better German speaking and writing skills. First generation migrants are not German-born; second generation migrants are German-born, but not German citizens or at least one parent is not German-born.
*** significant at 1%; ** significant at 5%; * significant at 10%.

4.2 Decomposition

Our previous results indicate a reservation wage gap between first and second generation migrants. To shed more light on the underlying mechanisms behind this finding, we perform a Blinder-Oaxaca decomposition of this gap (Blinder, 1973; Oaxaca, 1973).[20] The basic idea is to divide a wage gap between two groups into an explained part resulting from different characteristics such as age or education (endowments) and an unexplained part resulting from differences in returns to characteristics (coefficients). We additionally include an interaction which captures the

[20]See, e.g., Thomsen et al. (2008) for a study using a similar methodology to analyze wage gaps between migrants and natives in Germany.

fact that differences in endowments and coefficients may exist simultaneously between the two groups (Jann, 2008). Since we analyze differences in reservation wages and not in actual wages, the unexplained part represents differences in self-evaluations of given characteristics by the individuals rather than different rates of return in the market.

Table 7 presents the results of the decomposition exercise. The comparison between first and second generation migrants again reveals the unconditional reservation wage gap of 2.3 percent. We find a very small, but negative endowment effect. This is related to differences in the regional distribution of first and second generation migrants across German states. On the other hand we find a statistically significantly positive coefficient effect. It is even larger than the unconditional reservation wage gap and suggests a higher self-evaluation of second generation migrants for given characteristics when compared to first generation migrants. This is in line with our working hypothesis. More specifically, it appears that especially the returns to education are higher evaluated by the second generation.[21] The interaction effect is small and negative.

Table 7: Blinder-Oaxaca Decomposition

	2nd generation vs. 1st generation
Difference	0.023
Endowments	–0.005
Coefficients	0.054**
Interactions	–0.025
# Obs. (group 1)	566
# Obs. (group 2)	776

Source: IZA Evaluation Dataset, wave 1, own calculations.
Note: Dependent variable: (logarithm of) net hourly reservation wages. Additional control variables are male, age and age squared, married, partner's employment status, educational and vocational variables, duration of previous employment, logarithm of unemployment benefits, children in household, logarithm of previous earnings, dummies for country of origin, German federal states, month of entry into unemployment, time between unemployment entry and interview (7-14 weeks) and German language skills. Full estimation results are available upon request. First generation migrants are not German-born; second generation migrants are German-born, but not German citizens or at least one parent is not German-born.
*** significant at 1%; ** significant at 5%; * significant at 10%.

The decomposition analysis thus reveals that the differences between migrant generations in their reservation wages are related to their self-evaluations of given characteristics. This, in turn, may be related to changing frames of reference over migrant generations. It appears that in comparison to first generation migrants, second generation migrants have for example higher self-evaluations of the returns to

[21] More detailed results of the decomposition analysis are available upon request.

education. We argue that these self-evaluations may reflect a person's frames of reference. For instance, Reeder et al. (1960) find that perceived and actual responses of others influence how persons think of themselves, in particular if persons do not think highly of themselves. Goethals (1986) provides an overview of the social comparison theory in which the comparative function of reference group is described as a reference point in making evaluations of ourselves and others.[22] This justifies our assumption that the differences in the self-evaluated returns to characteristics between the two migrant generations are related to changing frames of reference.

5 Sensitivity Analysis

To assess the robustness of our results, we conduct a threefold sensitivity analysis varying the definitions of first and second generation migrants, respectively. First, we split the potentially heterogeneous group of first generation into two subgroups; second, we include individuals who moved at very young ages to Germany in the group of second generation migrants; and third, we exclude individuals from the second generation who have only one parent with a migration background.

5.1 Heterogeneity of First Generation

One may argue that there exists some heterogeneity within the group of first generation migrants. For instance, the years since those individuals have migrated and the age at which migration took place vary considerably. The assumption that first generation migrants have their reference group still in their country of origin may be questionable for individuals who have lived in Germany for a very long time already or who have arrived at rather young ages. We therefore perform a sensitivity analysis in which we split the first generation into two groups. The first group of first generation migrants consists of individuals who have been in Germany for at least 15 years and who were 13 years or younger when they arrived ('established first generation migrants'). Since these individuals have been in Germany already for a relatively long time and arrived when they were rather young, we expect this group to be closer to the second generation. Their reference group may have shifted towards Germany. The second group of first generation migrants consists of the remaining individuals who either have been in Germany for less than 15 years or were at least 14 years old when they arrived ('recent first generation migrants').

Table A3 (Appendix A2) displays the results. Second generation migrants and established first generation migrants indeed appear rather similar in terms of their reservation wages. The two groups both show similar coefficient estimates when

[22] Goethals (1986) refers to Kelley (1952) in this context.

compared to recent first generation migrants. This again confirms our hypothesis that reservation wages increase over the migrant generations, but also increase with time spent in Germany.

5.2 Definition of Second Generation: Age at Migration

In the second part of the sensitivity analysis, we vary the definition of the second generation. So far, the group of second generation migrants includes *a*) individuals who are German-born but do not have German citizenship, and *b*) individuals who are German-born but at least one of their parents is not German-born. We change this definition and also include individuals who moved themselves to Germany but at very young ages. More specifically, we include individuals who were at most six years old when they arrived.[23] This is the mandatory school entrance age in Germany, and thus those individuals would have gone through the entire school education in Germany (but not necessarily pre-school education). A recent contribution to the migration literature by Aslund et al. (2009) emphasizes the importance of the age at migration for the migrants' integration process. This change affects 166 individuals compared to our baseline definition: the group of second generation migrants increases by this number—at the cost of a corresponding decrease in the number of first generation migrants.

Table A4 (Appendix A2) displays the results of this analysis. The reservation wage gap between the two migrant generations increases both unconditional and conditional. However, we still find that the gap substantially increases once we control for differences in characteristics, and that it decreases when we additionally include German language skills. Therefore, the change in the definition of second generation migrants does not affect our main findings, although the effects increase in magnitude.

5.3 Definition of Second Generation: Exclusion of Generation 1.5

We implement an alternative change of our definition of second generation migrants in the third part of our sensitivity analysis. Our baseline definition of second generation migrants considers individuals who are German-born and have at least one foreign-born parent. In this section we restrict the second generation to individuals who have both parents with a migration background. We thus exclude the so-called 1.5 generation and argue that their family background may entail a rather strong attachment to the German culture as they have one German-born parent. We therefore expect the remaining second generation migrants to be more similar to the first

[23] Gang and Zimmermann (2000) also use this definition.

generation—also in terms of their reservation wages. This narrower definition of the second generation reduces our sample to 1,004 migrants, among those are 228 second generation migrants.

Table A5 (Appendix A2) displays the results. The magnitude of the reservation wage gap between the two generations remains virtually the same compared to the baseline results, both conditional and unconditional. The gap also decreases similarly as before once we additionally include German language skills. However, the precision of our estimates generally decreases and it is therefore not possible to judge whether the results confirm our expectation of a reduced reservation wage gap for this narrower definition of second generation migrants. These finding are in line with the hypothesis that multiethnic marriages are an indicator of integration and, therefore, of changing frames of reference.

6 Conclusions

This paper provides strong empirical evidence on the reservation wages of first and second generation migrants in Germany. Two extensions of the basic of job search model provide theoretical justifications for the hypothesis of increasing reservation wages from one migrant generation to the next. These extensions are: *a*) an unknown wage offer distribution, and *b*) reference standards. In both cases, changing frames of reference are identified as a channel through which the phenomenon of increasing reservation wages may arise. For instance, reservation wages become a function of the job seekers' beliefs if the assumption of a known wage offer distribution is relaxed in the basic job search model. We furthermore argue that such beliefs are formed via reference groups, and that these reference groups shift over migrant generations. While first generation migrants may still be relatively strongly attached to their country of origin, beliefs of second generation migrants should be more strongly based on German experiences.

Our empirical findings confirm the hypothesis of increasing reservation wages from one migrant generation to the next. In fact, we find an unconditional reservation wage gap of 2.3 percent between first and second generation migrants, meaning that the reservation wages of second generation migrants indeed exceed those of the first generation. This gap increases to about 3.5 percent and becomes statistically significant once differences in characteristics are taken into account. In as far as German language skills or self-evaluated returns to characteristics reflect a person's frames of reference, we moreover find empirical support that changing frames of reference explain at least part of this gap. First, if we additionally control for reference groups via German language skills, the reservation wage gap decreases to 2.6 percent and becomes statistically insignificant. Although language skills may be

viewed as part of a person's human capital, these skills are endogenously determined and depend on the individual's social network and his or her social interactions—and they thus reflect, at least in part, frames of reference. Second, a decomposition of the reservation wage gap reveals that the coefficient effect drives the unconditional reservation wage gap between the two migrant generations. This suggests that second generation migrants evaluate the returns to their characteristics, such as the expected returns to their education, higher than first generation migrants do. It is plausible that changing frames of reference are related to these different self-evaluations between the two migrant generations.

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Appendix

A1 Job Search and Reference Standards

We incorporate reference standards into the basic model of job search by assuming that the absolute wage w_i as well as the reference standard $(w_i - r_i)$ contribute in a linear way to the utility of an employed individual i (Falk and Knell, 2004). The discounted expected utility V_e of an employed person can then be expressed as:

$$V_e(w_i) = \frac{1}{1+d}\Big((1-\theta)w_i + \theta(w_i - r_i) + (1-q)V_e(w_i) + qV_u\Big)\ , \tag{A1}$$

where the discount rate is equal to d, the parameter θ determines the extent to which comparisons play a role, jobs are separated exogenously with probability q per period, and V_u is the discounted expected utility of an unemployed person. Rearranging the terms of equation (A1), we arrive at:

$$dV_e(w_i) = (1-\theta)w_i + \theta(w_i - r_i) + q\Big(V_u - V_e(w_i)\Big)\ . \tag{A2}$$

If an unemployed individual receives a job offer, he or she accepts the offer if $V_e(w_i) > V_u$, and thus if:

$$V_e(w_i) - V_u = \frac{\Big((1-\theta)w_i + \theta(w_i - r_i)\Big) - dV_u}{d+q} > 0\ . \tag{A3}$$

The reservation wage, i.e., the crucial wage above which an individual i is willing to accept job offers, is defined as a threshold value ξ_i. Accepting a job offer with wage ξ_i yields the same utility that the unemployed individual gets by remaining unemployed:

$$(1-\theta)\xi_i + \theta(\xi_i - r_i) = dV_u\ . \tag{A4}$$

Note that the reference standard enters this expression. Alternatively, we can express the reservation wage as:

$$\xi_i = dV_u + \theta r_i\ . \tag{A5}$$

The discounted expected income of an unemployed individual does not change compared to the basic model of job search (cf. Cahuc and Zylberberg, 2004):

$$dV_u = z + \lambda \int_{\xi_i}^{\infty} \Big(V_e(w_i) - V_u\Big)\ \mathrm{d}H(w_i)\ , \tag{A6}$$

where z are the net benefits when unemployed (i.e., the difference between unemployment benefits b and search costs c), $H(w)$ is the wage offer distribution and λ the job offer arrival rate.

Hence, inserting equations (A3) and (A5) into the latter expression yields:

$$\xi_i = z + \frac{\lambda}{d+q}\int_{\xi_i}^{\infty} (w_i - \xi_i)\ \mathrm{d}H(w_i) + \theta r_i\ . \tag{A7}$$

A2 Additional Tables

Table A1: Reservation Wage (RW) and Reservation Wage Ratio (RWR) by Migration Status, Ethnic Self-Identification, Region and Gender

	Migrants		**1st generation**		**2nd generation**	
	RW	RWR	RW	RWR	RW	RWR
Men West	7.76	1.13	7.68	1.15	7.89	1.10
Women West	6.77	1.08	6.66	1.06	6.93	1.10
Men East	6.78	1.09	6.73	1.11	6.82	1.08
Women East	6.47	1.16	6.45	1.11	6.47	1.19
# Observations	1,342		776		566	

Source: IZA Evaluation Dataset, wave 1, own calculations.
Notes: Net hourly reservation wage (RW, in €). The reservation wage ratio (RWR) is defined as the reservation wage divided by the previous hourly wage from (self-)employment before entering unemployment. First generation migrants are not German-born; second generation migrants are German-born, but not German citizens or at least one parent is not German-born.

Table A2: Reservation Earnings (RE) and Reservation Earnings Ratio (RER) by Migration Status and Ethnic Self-Identification

	Migrants		**Migrants (1st gen.)**		**Migrants (2nd gen.)**	
	RE	RER	RE	RER	RE	RER
Total	1123.48	1.08	1120.86	1.08	1127.08	1.08
Assimilation	1108.10	1.06	1084.85	1.08	1142.02	1.04
Integration	1151.10	1.07	1137.77	1.04	1170.40	1.13
Marginalization	1098.61	1.10	1146.87	1.11	1060.10	1.10
Separation	1098.46	1.18	1161.89	1.25	968.06	1.03
# Observations	1,342		776		566	

Source: IZA Evaluation Dataset, wave 1, own calculations.
Notes: Net monthly reservation earnings (RE, in €). The reservation earnings ratio (RER) is defined as net monthly reservation earnings divided by the net monthly earnings from previous (self-)employment, i.e., before entering unemployment. First generation migrants are not German-born; second generation migrants are German-born, but not German citizens or at least one parent is not German-born.

Table A3: Sensitivity Analysis I: Heterogeneity of First Generation

	(1)	(2)	(3)	(4)	(5)
Migration Background					
Recent 1st generation migrants[a]	reference (reference)	reference (reference)	reference (reference)	reference (reference)	reference (reference)
2nd generation migrants	0.037 (0.018)**	0.063 (0.019)***	0.062 (0.019)***	0.064 (0.02)***	0.055 (0.02)***
Established 1st generation migrants[b]	0.040 (0.023)*	0.062 (0.018)***	0.060 (0.019)***	0.062 (0.019)***	0.053 (0.02)***
Ethnic Identity					
Assimilation			reference (reference)		
Integration			–.003 (0.015)		
Marginalization			–.001 (0.021)		
Separation			–.019 (0.026)		
Ethnosizer					
Assimilation				reference (reference)	
Integration				0.005 (0.009)	
Marginalization				–.005 (0.010)	
Separation				0.001 (0.014)	
Language Skills					
German Language Skills					0.051 (0.046)
Additional Control Variables	No	Yes	Yes	Yes	Yes
R^2	0.004	0.387	0.387	0.387	0.387
# Observations	1,342	1,342	1,342	1,342	1,342

Source: IZA Evaluation Dataset, wave 1, own calculations.
Notes: Robust standard errors in parentheses. Dependent variable: (logarithm of) net hourly reservation wages. Additional control variables are male, age and age squared, married, partner's employment status, educational and vocational variables, duration of previous employment, logarithm of unemployment benefits, children in household, logarithm of previous earnings, dummies for country of origin, German federal states, month of entry into unemployment and time between unemployment entry and interview (7-14 weeks). Full estimation results are available upon request.
[a] First generation migrants who have been in Germany for less than 15 years and arrived in Germany at age 14 or older.
[b] First generation migrants who have been in Germany for at least 15 years or arrived in Germany at age 13 or younger.
*** significant at 1%; ** significant at 5%; * significant at 10%.

Table A4: Sensitivity Analysis II: Age at Migration

	(1)	(2)	(3)	(4)	(5)
Migration Background					
1st generation migrants	reference (reference)	reference (reference)	reference (reference)	reference (reference)	reference (reference)
2nd generation migrants[a]	0.034 (0.016)**	0.062 (0.016)***	0.060 (0.016)***	0.062 (0.017)***	0.053 (0.016)***
Ethnic Identity					
Assimilation			reference (reference)		
Integration			–.005 (0.015)		
Marginalization			–.006 (0.02)		
Separation			–.024 (0.025)		
Ethnosizer					
Assimilation				reference (reference)	
Integration				0.006 (0.009)	
Marginalization				–.008 (0.01)	
Separation				–.002 (0.013)	
Language Skills					
German Language Skills					0.063 (0.043)
Additional Control Variables	No	Yes	Yes	Yes	Yes
R^2	0.003	0.387	0.387	0.387	0.388
# Observations	1,342	1,342	1,342	1,342	1,342

Source: IZA Evaluation Dataset, wave 1, own calculations.
Notes: Robust standard errors in parentheses. Dependent variable: (logarithm of) net hourly reservation wages. Additional control variables are male, age and age squared, married, partner's employment status, educational and vocational variables, duration of previous employment, logarithm of unemployment benefits, children in household, logarithm of previous earnings, dummies for country of origin, German federal states, month of entry into unemployment and time between unemployment entry and interview (7-14 weeks). Full estimation results are available upon request.
[a] Second generation migrants include individuals who arrived in Germany at age six or younger.
*** significant at 1%; ** significant at 5%; * significant at 10%.

Table A5: Sensitivity Analysis III: Generation 1.5

	(1)	(2)	(3)	(4)	(5)
Migration Background					
1st generation migrants	reference (reference)	reference (reference)	reference (reference)	reference (reference)	reference (reference)
2nd generation migrants[a]	0.03 (0.021)	0.037 (0.023)*	0.037 (0.023)	0.038 (0.023)*	0.027 (0.023)
Ethnic Identity					
Assimilation			reference (reference)		
Integration			–.010 (0.017)		
Marginalization			–.010 (0.026)		
Separation			–.004 (0.027)		
Ethnosizer					
Assimilation				reference (reference)	
Integration				0.004 (0.01)	
Marginalization				–.016 (0.011)	
Separation				–.0005 (0.014)	
Language Skills					
German Language Skills					0.133 (0.045)***
Additional Control Variables	No	Yes	Yes	Yes	Yes
R^2	0.002	0.397	0.397	0.399	0.402
# Observations	1,004	1,004	1,004	1,004	1,004

Source: IZA Evaluation Dataset, wave 1, own calculations.
Notes: Robust standard errors in parentheses. Dependent variable: (logarithm of) net hourly reservation wages. Additional control variables are male, age and age squared, married, partner's employment status, educational and vocational variables, duration of previous employment, logarithm of unemployment benefits, children in household, logarithm of previous earnings, dummies for country of origin, German federal states, month of entry into unemployment and time between unemployment entry and interview (7-14 weeks). Full estimation results are available upon request.
[a] Second generation migrants exclude individuals who have only one parent with a migration background ("generation 1.5").
*** significant at 1%; ** significant at 5%; * significant at 10%.