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## Working Paper

# The causal effect of liberalizing legal requirements on naturalization intentions

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# IAB-DISCUSSION PAPER

Articles on labour market issues

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## **4|2024** The causal effect of liberalizing legal requirements on naturalization intentions

Yuliya Kosyakova, Andreas Damelang

# The causal effect of liberalizing legal requirements on naturalization intentions

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Mit der Reihe „IAB-Discussion Paper“ will das Forschungsinstitut der Bundesagentur für Arbeit den Dialog mit der externen Wissenschaft intensivieren. Durch die rasche Verbreitung von Forschungsergebnissen über das Internet soll noch vor Drucklegung Kritik angeregt und Qualität gesichert werden.

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# Contents

<b>1</b>	<b>Introduction .....</b>	<b>6</b>
<b>2</b>	<b>Naturalization trends and requirements in Germany .....</b>	<b>8</b>
2.1	Naturalization trends and migration history .....	8
2.2	Naturalization requirements and regulation .....	9
<b>3</b>	<b>Naturalization intentions in context .....</b>	<b>10</b>
3.1	The institutional context .....	10
3.2	The social context .....	11
<b>4</b>	<b>Data and method .....</b>	<b>12</b>
4.1	Data .....	12
4.2	Construction of the vignette experiment .....	13
4.3	Variables and statistical method .....	15
<b>5</b>	<b>Results.....</b>	<b>18</b>
5.1	Average probability of naturalization intentions across immigrant groups.....	18
5.2	The role of liberalized requirements and more inclusive naturalization procedures for naturalization intentions.....	18
5.3	Change in factual naturalization preferences.....	20
5.4	Robustness checks.....	21
<b>6</b>	<b>Discussion .....</b>	<b>23</b>
<b>7</b>	<b>Conclusion.....</b>	<b>25</b>
	<b>References.....</b>	<b>26</b>
	<b>Appendix .....</b>	<b>31</b>
	Section A: Sample characteristics.....	31
	Section B: Further analyses and robustness checks .....	34

## Abstract

This study investigates the multifaceted factors influencing immigrants' naturalization intentions, with a primary focus on legal requirements and the implementation of naturalization laws. It distinguishes between different immigrant groups, such as refugees, European Union (EU) citizens, and non-EU citizens. Employing a vignette experiment among immigrants in a large-scale representative data in Germany, the research empirically analyzes the effects of liberalizing legal requirements and the effects of more inclusive naturalization procedure on intentions to acquire German citizenship. This comparison, both for current versus liberalized requirements and less versus more inclusive naturalization procedures, offers a realistic scenario of how liberalization and inclusiveness impact naturalization intentions. The results reveal that liberalizing legal requirements, specifically dual citizenship availability and reduced waiting period, has a positive effect on naturalization intentions. Simultaneously, these effects differ between the three immigrant groups, particularly due to differences in the perceived benefits of naturalization. In contrast, a more inclusive naturalization procedure does not affect immigrants' naturalization intentions. These results underline the importance of citizenship policy for the naturalization intentions of immigrants. However, the results also show nuanced reactions to liberalized requirements stressing the importance of group-specific cost-benefit considerations.

## Zusammenfassung

Diese Studie untersucht die vielfältigen Faktoren, die die Einbürgerungsabsichten von Geflüchteten beeinflussen, wobei der Schwerpunkt auf den rechtlichen Anforderungen und der Umsetzung von Einbürgerungsgesetzen liegt. Es wird zwischen verschiedenen Einwanderergruppen unterschieden, insbesondere Geflüchteten, Bürgern der Europäischen Union (EU) und Nicht-EU-Bürgern. Mit Hilfe eines Vignettenexperiments unter Eingewanderten in einer umfangreichen repräsentativen Studie in Deutschland werden die Auswirkungen der Liberalisierung der rechtlichen Anforderungen und einem inklusiveren Einbürgerungsprozess auf die Absichten, die deutsche Staatsbürgerschaft zu erwerben, empirisch analysiert. Dieser Vergleich, sowohl zwischen aktuellen und liberalisierten Anforderungen als auch zwischen weniger und mehr inklusiven Einbürgerungsverfahren, bietet ein realistisches Szenario, wie Liberalisierung und Inklusivität die Einbürgerungsabsichten beeinflussen. Die Ergebnisse zeigen, dass eine Liberalisierung der rechtlichen Anforderungen, insbesondere die Möglichkeit der doppelten Staatsbürgerschaft und eine verkürzte Wartezeit, einen positiven Effekt auf die Einbürgerungsabsichten hat. Gleichzeitig unterscheiden sich diese Effekte zwischen den drei Einwanderergruppen, insbesondere aufgrund von Unterschieden in den empfundenen Vorteilen der Einbürgerung. Im Gegensatz dazu hat ein inklusiverer Einbürgerungsprozess keinen Einfluss auf die Einbürgerungsabsichten der Eingewanderten. Diese Ergebnisse unterstreichen die Bedeutung der Staatsbürgerschaftspolitik für die Einbürgerungsabsichten von Eingewanderten.

Allerdings zeigen die Ergebnisse auch differenzierte Reaktionen auf liberalisierte Anforderungen und betonen die Bedeutung von gruppenspezifischen Kosten-Nutzen-Überlegungen.

## JEL classification

C99, F22, J15, K37

## Keywords

Immigrants, naturalization intentions, refugees, vignette experiment

# 1 Introduction

Naturalization is an essential benchmark of the political, civic, and social integration of immigrants (Hainmueller, Hangartner, and Pietrantuono 2017; Hainmueller, Hangartner, and Ward 2019). In this study, we delve into the impact of destination country conditions on immigrants' naturalization intentions, recognizing that these conditions significantly influence immigrants' daily lives, societal integration, and ultimately their naturalization. In particular, institutional and policy factors of the destination country are crucial for naturalization intentions (e.g., Bloemraad 2002, 2006; Jones-Correa 2001). The legal requirements for naturalization vary considerably between destination countries and contribute to cross-country differences in naturalization rates (e.g., González-Ferrer and Morales 2013; Reichel 2011). Upon this background, we ask which legal requirements mostly deter immigrants from naturalizing and whether liberalizing legal requirements increases naturalization intentions.

Empirically, we consider liberalizing legal requirements by taking advantage of a vignette experiment. Vignette experiments allow us to vary different dimensions of legal requirements simultaneously and to make causal inference about their influence on the intention to naturalize. In a vignette experiment, respondents are shown short descriptions of situations, which respondents are then asked to evaluate (Auspurg and Hinz 2015). In this study, we present respondents a set of more liberal and stricter legal requirements and ask about their naturalization intention. This comparison between more liberal and stricter requirements offers a realistic scenario of how liberalization affect naturalization intentions. Specifically, we vary the dimensions of dual citizenship, length of the waiting period, language test, naturalization test, duration of the bureaucratic procedure, bureaucratic fees, family application, and delivery of the certificate.

When analyzing naturalization intentions, it is important to consider immigrants' social context. The social context manifests itself in different conditions of immigrants in the destination country, which are incorporated into the naturalization decision (Peters and Vink 2016). As Yang (1994, 451) puts it, the social context influences immigrants "[...] naturalization decisions by shaping their perceptions of the costs, benefits and meaning of naturalization, which are probably the most direct determinants of naturalization decisions". To understand the relevance of legal requirements and their liberalization in the destination country, we consider the social context by studying different groups of immigrants. In detail, we focus on refugees, citizens from European Union countries (EU citizens) and non-EU citizens, all are groups of immigrants with fundamentally different characteristics. Accordingly, the importance of naturalization varies considerably by migrant status. For refugees, for example, the relative benefits of naturalization are particularly high because of their limited prospects of return migration (DeVoretz 2013). On the other hand, restrictive requirements refugees and other immigrants face can be too high an obstacle, especially for those from less developed countries.

To consider the social context for differences in naturalization intentions, we integrated a harmonized vignette experiment among immigrants in a large-scale representative data in Germany, the German Socioeconomic Panel (in 2022), the IAB-SOEP Migration Sample (in 2022), and the IAB-BAMF-SOEP Sample of Refugees in Germany (in 2021). We focus on Germany because

it is one of the major destinations of immigrants and Germany hosts many refugees. At the same time, even though Germany has the largest total and relative number of naturalizations in the EU-27, Germany reports relatively poor naturalization rates at 1.3 percent (Eurostat 2021).

While the literature on naturalization is manifold, we still know little how the conditions in the destination country affect naturalization decisions. Overall, studies that address the conditions in the destination country find a negative association between restrictive legal requirements and naturalization rates (e.g., Dronkers and Vink 2012). This negative association is even stronger for immigrants from less developed countries (Jensen et al. 2021; Vink, Prokic-Breuer, and Dronkers 2013). While these studies prove the importance of the conditions in the destination country for naturalization rates, they can only assume the underlying mechanisms because their empirical design undermines possibilities for causal conclusions. In turn, our study advances the field by causally analyzing the influence of the destination country's legal requirements relying on an experimental design. We build on the few studies that causally analyze the influence of institutional context on immigrants' naturalization behavior, such as dual citizenship acceptance (Peters and Vink 2023; Vink et al. 2021), fee waivers (Yasenov et al. 2019), information nudges (Hotard et al. 2019), discretionary decision procedures (Hainmueller, Hangartner, and Ward 2019), and access to voting rights (Slotwinski, Stutzer, and Bevelander 2020). These studies use natural experiments, i.e., changes in legal requirements, to draw causal conclusions. By their nature, these studies focus on changes in one individual legal requirement and consider their influence in isolation.

Our contribution to this research strand is a comprehensive examination of the influence of the design of legal requirements in the destination country on immigrants' naturalization intentions. In this way, we combine research on naturalization that focuses on citizenship laws and legal requirements (e.g., Giugni and Grasso 2021; Shachar et al. 2017) with research that considers individual decision-making (Peters, Vink, and Schmeets 2016; Sredanovic 2022). We provide a causal interpretation of the extent to which liberalizing legal requirements affects naturalization intentions. In this causal framework, we consider the most important legal requirements simultaneously and are able to relate their importance to each other. In addition, we compare different immigrant groups, particularly refugees and citizens from European Union (EU) member states and non-EU countries, to consider that the relative benefits and the relative costs of naturalization differ across immigrant groups. Comparing different immigrant groups gives us a deep understanding of context-dependent effects of liberalizing legal requirements on naturalization intentions.



## 2 Naturalization trends and requirements in Germany

### 2.1 Naturalization trends and migration history

With 130,000 foreign citizens becoming German in 2021, Germany granted one of the highest number of citizenships in the EU-27 in absolute and relative terms (16 percent of the EU-27 total number of new citizenships), followed by Italy (15 percent), and Sweden (11 percent). Only Spain and France naturalized a higher number of foreign citizens (Spain: 17 percent; France: 16 percent) (Eurostat 2021). In contrast, Germany seems to perform rather moderate on naturalization rates: with 1.2 acquisitions of citizenship per 1000 persons in 2021, Germany fell well behind the EU-27 average of 2.2 (Eurostat 2021). Among OECD countries, Germany's naturalization rates are also relatively low and make one fifth of that of Canada, or half of the level of the US or the UK (OECD 2021, 41).

Low naturalization rates in Germany are puzzling given Germany's long migration history. During the post-war economic boom accompanied by expanding labor recruitment from foreign countries, Germany witnessed an influx of 'guest workers' primarily from economically poor areas of southern European countries and by low levels of human capital (Kogan 2011). While the 1970s saw a decline in economic immigrants due to recession, family reunification sustained immigration. Demographic shifts led to reduced labor market integration and rising unemployment among immigrants. By the late 1970s, the foreign population in Germany reached 4 million. From the 1980s to the 1990s, immigration surged again, driven by asylum-seekers, refugees, ethnic Germans, and Jewish immigrants with higher human capital (especially among the two latter groups; Kalter and Granato 2002). Since the mid-1990s, Germany maintained a foreign population of 7–8 million, around 9 percent of the total. The EU enlargement in the 2000s brought skilled labor immigrants, students, and family arrivals. Family reunification dominated arrivals in 2014, constituting 39 percent, followed by ethnic repatriates (17%) and asylum seekers and refugees (15%). A significant surge occurred in 2015-2016, with 1.2 million refugees (Brücker, Kosyakova, and Vallizadeh 2020). The Skilled Immigration Act in 2020 aimed to attract skilled workers, but COVID-19 restrictions dampened its impact. Immigration, reduced in 2020, rebounded in 2021 for education and employment (DESTATIS 2023).

As of 2022, 17 percent of Germany's population has direct immigration experience, totaling around 14 million. The current demographic composition of immigrants in Germany is primarily driven by arrivals from the EU Member Unions (6%; particularly Poland, Romania, and Italy) and from other European countries (5%; particularly Turkey and Russia), followed by arrivals from Near and Middle East (3%; particularly Syria and Kazakhstan), Rest of Asia (1%; particularly Afghanistan), and Africa and America (each below 1%; own calculated based on DESTATIS 2022). As labor immigration from highly developed countries holds a secondary position in Germany, economic criteria are often less prominent in the selection of immigrants. This dynamic could lead to an unfavorable and disadvantageous pattern in the process of acquiring citizenship (DeVoretz 2013). In line with that, Diehl and Blohm (2003, 159) have argued that naturalized

Germans with a migration background did so to “abandon the status of being a ‘foreigner’ – at least legally”, but not because naturalization offered significant legal benefits.

The lower share of economically oriented immigrants – for whom citizenship premium would be an important aspect of a citizenship ascension decision – contributes to the lower naturalization rates in Germany. This is compounded by Germany’s medium openness and inclusiveness of naturalization policies (Huddleston and Falcke 2020), which we briefly describe below. The literature has revealed that the openness and inclusiveness of naturalization policies represent a significant factor for immigrants’ naturalization propensity (Vink, Prokic-Breuer, and Dronkers 2013; Dronkers and Vink 2012; Reichel 2011; Stadlmair 2017).

## 2.2 Naturalization requirements and regulations

In order to obtain the German citizenship, the completion of formalities set by German law (*Staatsangehörigkeitsgesetz, StAG*) is necessary (BMI 2021). Candidates are qualified for naturalization if they (1) have attained age of 16; (2) have an appropriate residence permit and a legal duration of stay of at least eight years; (3) are willing to pledge allegiance to the German constitution; (4) have attained sufficient knowledge of German language (certified B1 level of the Common European Framework of Reference); (4) have passed a so-called naturalization test on the knowledge of the German legal system, society and living conditions; (5) have no convictions on account of a criminal offence; (6) have self-sufficient income without resorting to state benefits; and (6) they are willing to give up or have lost their citizenship.

While generally all aforementioned criteria should be met to obtain the German citizenship, certain exceptions from the rules exist (BMI 2021). Requirement of legal duration of stay may be reduced to seven years in case of successful completion of an integration course. Applicants can be exempted from the naturalization test if they obtained a school education in Germany or are disabled to take part in the test due to physical, psychological or mental health issues. The derivative naturalization further allows family members of eligible applicants to acquire German citizenship. Dual citizenship is possible only under certain conditions: for applicants with a citizenship from another EU member state, Switzerland or of certain states such as Iran and Algeria, or ethnic German repatriates and their family members. The cost for regular naturalization amount to EUR 255 per person and an additional fee of EUR 51 for each dependent child. The fee can be reduced in case of financial hardship. The process takes between two and three years.

## 3 Naturalization intentions in context

### 3.1 The institutional context

As has been introduced in the previous section, the institutional context is important for naturalization decisions because it creates an opportunity structure that can either enhance or diminish the attractiveness of naturalization (Peters and Vink 2016). The study of naturalization laws have long been a longstanding focus in academia (e.g., Howard 2009; Janoski 2010), with these laws delineating the requirements immigrants must meet to be eligible for naturalization. Typically, immigrants need to fulfill several criteria before they can get the new citizenship. In our vignette experiment, we vary the naturalization criteria with regard to dual citizenship, length of the waiting period, language test, naturalization test, duration of the bureaucratic procedure, bureaucratic fees, family application, and delivery of the certificate. All criteria reflect legal requirements. For theoretical reasons, which we discuss below, we categorize the naturalization criteria into two dimensions, legal requirements and implementation of naturalization laws. We assign the first four naturalization criteria to the dimension legal requirements, the other four to the dimension implementation of naturalization laws.

An intuitive assumption is that stringent legal requirements impede naturalization intentions. Building on a cost-benefit framework on immigrant naturalization (Yang 1994), rigorous legal requirements represent high costs that, *ceteris paribus*, reduce naturalization intentions (Vink, Prokic-Breuer, and Dronkers 2013; Dronkers and Vink 2012; Reichel 2011; Stadlmair 2017). In contrast, less demanding requirements reduce the effort required for naturalization and should elevate naturalization intentions. Within this framework, the requirement to renounce prior citizenship upon naturalization is an apparent cost factor. This requirement restricts immigrants' ability to travel back to their country of origin without a visa, maintain or inherit property, and to retain the right to vote in their home country. Moreover, dual citizenship allows immigrants to continue identifying as citizens of their country of origin (Mazzolari 2009). Consequently, numerous studies demonstrate a positive correlation between naturalization and the option to retain the prior citizenship (e.g., Labussière and Vink 2020; Peters, Vink, and Schmeets 2016; Peters and Vink 2023).

Another substantial cost factor pertains to the minimum waiting period, which determines how long an immigrant must reside in the destination country before becoming eligible for naturalization. Countries with shorter waiting periods generally experience higher naturalization rates (Reichel 2011; though, see Stadlmair 2017). Further requirements such as language and civic skills should also affect naturalization intentions (Reichel 2011; Stadlmair 2017). Demonstrating language and civic skills incurs costs and effort, involving certification and, if necessary, attending courses. If the cost or effort required to demonstrate these skills is reduced – e.g., by lowering the required language level, – naturalization intentions are likely to increase.

Besides legal requirements, the implementation of naturalization laws also creates opportunities and obstacles (Huddleston 2020). Naturalization laws provide the basic framework, but the way political actors apply these laws in practice can vary greatly. In other words, the naturalization process can be more or less inclusive depending on the law interpretation by the political actors.

As Bloemraad (2006, 677) puts it, “institutions and policies affect understandings of citizenship and the ability to participate”. The government creates a distinct ‘context of reception’ by the way it implements naturalization procedures.

In a more inclusive context, for example, the length of the bureaucratic procedure and the associated fees are lower. In addition, some countries offer simultaneous naturalization of other family members and without limitation of naturalization to the applicant. Children of naturalized persons thus automatically become citizens as well (Street 2013). Furthermore, the way the state welcomes new citizens also symbolizes its inclusiveness. In a living culture of welcome, for example, the certificate is handed over in a citizenship ceremony. Citizenship ceremonies reflect the importance of belonging and integration, in particular if they are emotional and memorable (e.g., Damsholt 2018).<sup>1</sup> The implementation of naturalization procedures are likely to affect both, immigrants’ ability and interest to naturalize.

From these considerations, we derive the following hypotheses:

*H1:* Liberalizing legal requirements and more inclusive naturalization procedure should increase immigrants’ naturalization intentions.

*H2:* When comparing the importance of the different requirements with each other, liberalizing requirements that are associated with higher costs, such as dual citizenship, waiting period, and language and naturalization test, should have a greater impact on immigrants’ naturalization intentions.

## 3.2 The social context

The significance of naturalization is likely to vary among immigrant groups, and the cost-benefit framework underscores the pivotal role of relative benefits between destination and home country citizenship. Immigrants from less developed and politically unstable nations are more inclined to pursue naturalization (Vink, Prokic-Breuer, and Dronkers 2013). This choice is driven by factors such as a lack of political freedom, high risks of conflicts and wars, destroyed infrastructure, and low living standards in their home countries, which make returning home a less appealing option for refugees. For refugees, naturalization offers unrestricted access to the national territory and the same rights as for native citizens. In line with that, Mossaad et al. (2018) found that in the U.S., refugees exhibit a swifter and higher rate of naturalization compared to non-refugees within the same cohort. Bloemraad (2004) underscores political motives as a key driver of naturalization intentions, with refugees, in particular, expressing heightened intentions due to the additional rights conferred through naturalization and limited prospects of returning to their home country.

In contrast, citizens from EU member states may have less motivation to pursue citizenship in another EU country, as they already enjoy the rights and freedoms associated with EU citizenship (but see Peters and Vink 2023; and Vink et al. 2021; Dronkers and Vink 2012; Peters, Vink, and Schmeets 2016). Non-EU citizens occupy a middle ground between these two groups. Many of

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<sup>1</sup> In some countries, citizenship ceremonies are mandatory (e.g., Australia, Canada, and U.K.) while in other countries they are voluntarily (e.g., Scandinavian countries). Overall, in Europe, only few countries provide citizenship ceremonies (Denmark, Finland, Ireland, Norway, Sweden, the Netherlands, and U.K.) (Damsholt 2018). Germany does not (yet) offer a mandatory ceremony to his new citizens.

them hail from less developed countries, making the potential benefits of acquiring citizenship more significant for them in comparison to EU citizens.

Anticipating greater naturalization intentions among non-EU citizens and refugees, the impact of relaxing requirements is nuanced. Liberalizing requirements generally benefits individuals coming from less developed countries. For example, lower language proficiency standards facilitate the naturalization process for a broader spectrum of immigrants, especially those from less developed countries. However, strict language requirements are a significant obstacle, especially for low-skilled refugees, hindering their path to naturalization (Jensen et al. 2021). In contrast, we do not expect any significant differences between the immigrant groups with regard to the dimensions that reflect a more inclusive naturalization procedure. All groups should benefit from a more pronounced living culture of welcome, regardless of their status.

From these considerations, we derive the following hypotheses:

*H3:* Naturalization intentions should be most pronounced among refugees followed by non-EU citizens.

*H4:* Liberalizing legal requirements that are associated with higher costs, such as dual citizenship, waiting period, and language and naturalization test, should disproportionately amplify intentions for refugees compared to the other two immigrant groups.

## 4 Data and method

### 4.1 Data

To analyze the effect of the institutional context on immigrants' intentions to naturalize, we conduct a harmonized vignette study introduced in the German Socioeconomic Panel (henceforth, SOEP-CORE) and the IAB-SOEP Migration Sample (henceforth, IAB-SOEP-MIG), and wave six of the IAB-BAMF-SOEP Sample of Refugees in Germany (henceforth, IAB-BAMF-SOEP-REF).

SOEP-CORE is an ongoing representative yearly panel survey of private households in Germany launched in 1984 in West Germany and enlarged to include East Germany after 1990 (SOEP Group 2024). The SOEP-CORE oversampled immigrants of Turkish, Greek, Italian, Spanish, and ex-Yugoslavian origin (in 1984; Sample B) and immigrants who arrived in Germany after 1984 mainly from Eastern Europe and from other developing countries (in 1994–1995; Sample D) (SOEP Group 2023).

The IAB-SOEP-MIG is a joint project of the Institute for Employment Research (IAB) and the SOEP, which was launched in 2013 and is conducted annually. Register data of the Federal Employment Agency (BA), the so-called Integrated Employment Biographies, were used as sampling frames. The data are representative of population immigrated to Germany between 1995 and 2013, and of second-generation immigrants born after 1976, and their household members (Brücker et al. 2014; Kroh et al. 2015). The refreshment samples in 2020 and 2021 cover more recent migration

from the EU arrived in 2016-2018 and third-country nationals arrived before and after the skilled worker migration law implementation (between 2019-2020) (SOEP Group 2023).

The IAB-BAMF-SOEP-REF is a joint project of the IAB, research center of the Federal Office for Migration and Refugee (BAMF) and the SOEP, which was launched in 2016 and is conducted annually. The anchor persons in the survey were drawn from the Central Register of Foreigners (Ausländerzentralregister, AZR), the national registry of all foreign citizens in Germany. The data are representative of asylum-seekers and refugees arriving in Germany since 2013, and their household members (Brücker, Rother, and Schupp 2017; Kroh et al. 2017).

The vignette experiment was introduced in the survey years 2021 and 2022. In the survey year 2021, only panel respondents of the IAB-BAMF-SOEP-REF without German citizenship were subject to the vignette experiment (80.1 percent of the sample; own calculation). The corresponding field period covers the second half of the year 2021. In the survey year 2022, non-German citizens of the SOEP-CORE and the IAB-SOEP-MIG were eligible to participate in the vignette experiment (4.5 percent of the SOEP-CORE and 82.4 percent of the IAB-SOEP-MIG; own calculation). The corresponding field period covers the first half of the year 2022. To meet the challenges associated with a potential lack of German language proficiency, the survey instruments and other materials are regularly provided in the foreign languages of the major immigrant groups in addition to German (SOEP Group 2023).

Among the respondents eligible to the vignette experiment, we excluded those who refused to participate in the vignette experiment or did not provide any response on their intentions to apply for German citizenship (2.9 percent). In the IAB-SOEP-MIG, we further excluded respondents with missing information about their citizenship (1.5 percent). After these exclusions, we had a sample of 2,110 respondents from the IAB-BAMF-SOEP-REF and sample of 4,046 respondents from the SOEP-CORE and IAB-SOEP-MIG.

## 4.2 Construction of the vignette experiment

In a vignette experiment, respondents evaluate short descriptions of situations. The situation descriptions vary with regard to a defined number of dimensions, which are randomly presented to the respondents. The randomization allows us to make causal statements about the influence of the dimensions on the evaluation of the situation (Auspurg and Hinz 2015).

In this vignette experiment, we describe the institutional context for naturalization in Germany. Table 1 provides an overview of the dimensions that vary experimentally across the vignettes, which are (1) dual citizenship, (2) length of the waiting period, (3) language test, (4) citizenship test, (5) duration of the bureaucratic procedure, (6) bureaucratic fees, (7) family application, and (8) delivery of the certificate. Following our theoretical considerations, dimensions (1) to (4) address legal requirements and dimensions (5) to (8) address implementation of naturalization laws. For each dimension, we have defined the current legal requirement and naturalization procedures as the base level, while the second level incorporates liberalized requirements and more inclusive naturalization procedures. The comparison between current and liberalized requirements as well as the comparison between less and more inclusive naturalization procedures provides a realistic scenario of how liberalization and inclusiveness affect naturalization intentions.

**Table 1: Dimensions and levels of the institutional context in the vignette experiment**

Dimensions	Levels
Dual citizenship	Old citizenship must be renounced Old citizenship does not have to be renounced
Length of the waiting period	Eight years living in Germany Four years living in Germany
Language test	Formal language test that one can express him-/herself orally and in writing in coherent sentences. No formal language test necessary, one must only be able to express him/herself orally and in writing in simple sentences.
Naturalization test	Formal naturalization test to prove knowledge of the German legal and social system. No formal naturalization test to prove knowledge of the German legal and social system.
Duration of the bureaucratic procedure	Twelve months Three months
Bureaucratic fees	255 Euro No costs
Family application	Individual application Family application
Delivery of the certificate	At the citizenship office, without an official naturalization ceremony Handed over in person, as part of an official naturalization ceremony

First, regarding the dimension dual citizenship, one must either renounce the old citizenship or be allowed to keep it. Second, we distinguish whether the length of the waiting period is eight or four years. Third, the applicant must be able to express and communicate himself/herself very well linguistically both orally and in writing (corresponds to language level B1) and a formal language test proves applicants' skills. In the liberalized level, a formal language test is not necessary, and the applicant only need to be able to express himself/herself orally and in writing in simple sentences. Fourth, we vary whether or not a successful naturalization test is required that proves the knowledge of the German legal and social system. Fifth, we distinguish whether the duration of the bureaucratic procedure is twelve or three months. Sixth, we describe the cost of the procedure as 255 euros or that no costs are incurred. Seven, naturalization applications apply only to the applicant, not to the entire family. We formulate the possibility that family members are automatically entitled to naturalize as well if the applicant has successfully completed the naturalization procedure. Eighth, we vary a procedural dimension that expresses the welcoming culture of the destination country. The government delivers the naturalization certificate either with or without an official naturalization ceremony.

In total, we have a vignette universe of 256 (28). In both samples, we randomly assign one vignette description to one respondent. The vignette description is followed by the question whether they would apply for naturalization under the described conditions. We show respondents only one vignette description due to the complex and challenging decision-making situation. With this approach, we deviate from other vignette experiments, which usually present the respondents with several different descriptions to rate. The large number of cases in the samples ensures statistical power. Auspurg and Hinz (2015) recommend that each vignette description be answered by at least five respondents.<sup>2</sup>

<sup>2</sup> In the IAB-BAMF-SOEP-REF, we identified 20 vignette combinations for which less than five person observations were available; exclusion of which (66 observations) did not alter our conclusions (see Table B1 in the supplementary material).



Table 2 shows an example of the vignette description. The introduction to the vignette experiment provides some general information on the naturalization process in Germany to ensure that respondents have a comparable level of information. First, it explains the benefits that accompany successful naturalization such as voting rights, free access to the labor market, and freedom of movement and freedom to travel. Second, the introduction sketches necessary and non-negotiable requirements, such as the commitment to the free democratic fundamental order of the Constitution. It also informs that it is necessary to be able to secure one's livelihood and that of the dependents, and that one must not have been convicted of a criminal offense. Following the introduction, each respondent is presented with one vignette describing a hypothetical institutional context, followed by a question on the respondents' intention to apply for German citizenship under these conditions (yes, definitely; yes, probably; rather unlikely; definitely not). In case of a decision against application for German citizenship (i.e., answers "rather unlikely" and "definitely not"), respondents respond on reasons (list of reasons is provided in Table 6) to refrain from application, and the order of importance for each reason marked.

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**Table 2: Example of a vignette (best-case)**

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**Introduction**

In the following part of the survey, we would like to learn more about your naturalization intentions. Naturalization in Germany offers you a number of advantages, such as the general right to vote, legal equality and protection, as well as other opportunities to participate in society. You can choose your profession freely and have access to civil servant status. In addition, you benefit from freedom of movement and travel in Europe and can also travel outside Europe to many countries without a visa to many countries.

However, naturalization is subject to conditions. You need an unlimited or permanent right of residence at the time of naturalization, and you must be committed to the free democratic basic order of the Basic Law. In addition, you must be able to support yourself dependents and must not have been convicted of a criminal offense. must not have been convicted of a criminal offense.

In addition, there are further requirements, but also exceptions and exemptions. In the following, we will show you a hypothetical situation, i.e., that is, one way in which naturalization could be legally structured. This does not mean that the naturalization requirements in Germany are actually as described here and we cannot offer you naturalization in the context of this interview.

Please consider whether you would apply for naturalization under these conditions.

**Vignette description**

To become a naturalized citizen, you must have lived in Germany for at least four years.

No formal language test is required, you just need to be able to express yourself orally and in writing in simple sentences.

You do not have to take a naturalization test to prove your knowledge of the German legal and social system.

You do not have to give up your previous citizenship.

After you submit all the documents, the procedure takes an average of three months and there are no costs.

You will receive the naturalization certificate in person, at an official naturalization ceremony.

If you have successfully completed the naturalization procedure, your family members are automatically entitled to naturalize as well. Your family members then do not have to complete any further naturalization procedures.

**Decision**

Would you apply for German citizenship under these conditions?

Yes, definitely

Yes, probably

Rather unlikely

Definitely not

---

### 4.3 Variables and statistical method

Our dependent variable was constructed based on respondents' answer concerning their intention to apply for German citizenship under the experimentally varied circumstances in the vignette. Our dependent variable has four ordinal categories: "yes, definitely", "yes, probably",



“rather unlikely”, “definitely not”. Due to the ordinal scaling, we applied an ordered logit model with robust standard errors in the multivariate analyses.

The variables used to proxy for legal requirements (giving-up old citizenship, length of the waiting period, requirements of language and naturalization test) and the inclusiveness of the naturalization procedure (duration of bureaucratic procedure, bureaucratic fee, entitlement of family application, and official naturalization ceremony) were derived from the vignette experiment (see Section 4.2). All corresponding variables are coded to reflect the liberalization of legal requirements and a more inclusive naturalization procedure.

Dual citizenship is a dummy indicator for a possibility to retain respondents’ old citizenship. 4 vs. 8 years length of the waiting period is a dummy indicator for a four-year versus eight-year duration of stay that is required before being eligible for naturalization. No formal language test and no formal naturalization test are dummy indicators that reflect the requirements for formal language and naturalization tests. 3 vs. 12 months duration of bureaucratic procedure is a dummy indicator for an average waiting time of three versus eight months, which the procedure takes after all documents have been submitted. No bureaucratic fees is a dummy indicator signifying that no fees are payable after document submission, as opposed to the standard fee of 255 Euro. Naturalization ceremony is a dummy indicator reflecting whether or not a naturalization certificate is delivered in person at an official naturalization ceremony. Family entitlement is a dummy indicator for the family being automatically entitled to naturalize after successful completion of the respondent’s naturalization procedure.

To address the immigrant group belonging, we consider respondents’ citizenship, sample belonging and legal status at arrival and construct a variable with the following three categories: EU citizens, non-EU citizens, and refugees. All respondents of the IAB-BAMF-SOEP are classified as refugees. All other respondents are classified as non-refugee immigrants. Within this group, we differentiate between EU and non-EU citizens, with EU citizens covering 26 European Member States without Germany. Table A1 in the supplementary material provides an overview of countries of origin covered by our data. Overall, 11.3 percent of our sample are EU citizens, 54.5 percent are non-EU citizens, and 34.2 percent are refugees.

We control for commonly observed predictors of citizenship that may confound the relationship between our predictor variables, particularly, immigrant group, and the dependent outcome. In particular, we control for current age (measured as a difference between the survey year and birth year), duration of stay (measured as a difference between the survey year and arrival year), being female, size of the household, professional degree (collapsed into no degree, vocational degree, university degree), and an indicator for being gainfully employed. All of these factors have been demonstrated to impact the likelihood of obtaining citizenship in different countries (Peters, Vink, and Schmeets 2016; Dronkers and Vink 2012; Diehl and Blohm 2003). Importantly, all of these factors are unevenly distributed across immigrant groups, with refugees being more male, younger, lower-educated and having larger household sizes compared to non-refugee immigrants (Brücker, Kosyakova, and Vallizadeh 2020).

Table 3 provides the distribution of the independent and control variables among the different immigrant groups in the data. In our sample, EU citizens have an average age of 45 years, which is eleven years older than non-EU citizens and six years older than refugees. Additionally, EU citizens indicate a significantly longer duration of stay in Germany compared to non-EU citizens

and refugees, with an average of 17 years versus 6 and 8 years. Slightly more than half of EU citizens are women, while women make up only 39 percent of the refugee population. Furthermore, EU citizen households typically consist of an average of three persons, non-EU citizens tend to live in two-person households, and refugee households, on average, have four members. This household distribution is partly due to the age structure of the immigrant groups. In terms of education, both EU and non-EU citizens tend to have professional degrees more often compared to refugees (EU citizens have more often vocational degrees; non-EU citizens have more often university degrees), and they are also more likely to be gainfully employed.

**Table 3: Descriptive statistics**

	EU citizens			Non-EU citizens		Refugees		
	N	Mean	SD	Mean	SD	Mean	SD	Min-Max
<b>Vignette dimensions</b>								
Dual citizenship	6156	0.50	Leere Zelle	0.51	Leere Zelle	0.50	Leere Zelle	0/1
4 vs. 8 years length of the waiting period	6156	0.46	Leere Zelle	0.49	Leere Zelle	0.49	Leere Zelle	0/1
No formal language test	6156	0.53	Leere Zelle	0.51	Leere Zelle	0.48	Leere Zelle	0/1
No formal naturalization test required	6156	0.51	Leere Zelle	0.49	Leere Zelle	0.48	Leere Zelle	0/1
3 vs.123 months duration of bureaucratic procedure	6156	0.49	Leere Zelle	0.48	Leere Zelle	0.50	Leere Zelle	0/1
No bureaucratic fees	6156	0.50	Leere Zelle	0.49	Leere Zelle	0.49	Leere Zelle	0/1
Naturalization ceremony	6156	0.50	Leere Zelle	0.49	Leere Zelle	0.48	Leere Zelle	0/1
Family entitlement	6156	0.49	Leere Zelle	0.51	Leere Zelle	0.50	Leere Zelle	0/1
<b>Controls</b>								
Age	6156	44.76	14.36	33.52	8.90	38.37	11.12	18–87
Duration of stay	5319	17.05	15.25	5.51	7.78	5.89	1.13	0–68
Female	6156	0.54	Leere Zelle	0.48	Leere Zelle	0.39	Leere Zelle	0/1
Size of the household	6156	2.77	1.26	2.18	1.26	4.05	2.08	1–12
Professional degree	3119	Leere Zelle	Leere Zelle	Leere Zelle	Leere Zelle	Leere Zelle	Leere Zelle	
No professional degree	Leere Zelle	0.39	Leere Zelle	0.30	Leere Zelle	0.84	Leere Zelle	0/1
Vocational degree	Leere Zelle	0.27	Leere Zelle	0.09	Leere Zelle	0.03	Leere Zelle	0/1
University degree	Leere Zelle	0.33	Leere Zelle	0.61	Leere Zelle	0.13	Leere Zelle	0/1
Gainfully employed	6156	0.77	Leere Zelle	0.86	Leere Zelle	0.43	Leere Zelle	0/1

Note: Variation in the sample size (column 1) is owing to differences in missing data across variables. In the multivariate model, missing values are controlled for by including a dummy variable for a corresponding variable. SD, Standard deviation.

Data source: IAB-BAMF-SOEP Survey of Refugees 2021 (v38.1), IAB-SOEP Migration Sample 2022 (v39), SOEP-CORE 2022 (v39).

## 5 Results

### 5.1 Average probability of naturalization intentions across immigrant groups

We begin with a descriptive examination of the average likelihood of favoring a citizenship decision among the three immigrant groups. Table 4 displays the responses of participants regarding their intention to apply for naturalization under the conditions presented in the vignette experiment. The average probability of favoring a citizenship decision varies significantly among the three immigrant groups.

**Table 4: Descriptive evidence for the average probability of opting for naturalization, in percent**

Naturalization intentions	EU citizens	Non-EU citizens	Refugees
Definitely no	27.81	8.23	1.00
Rather no	23.92	13.63	1.04
Yes, maybe	26.51	33.62	10.28
Yes, sure	21.76	44.51	87.68

Data source: IAB-BAMF-SOEP Survey of Refugees 2021 (v38.1), IAB-SOEP Migration Sample 2022 (v39), SOEP-CORE 2022 (v39).

Among EU citizens, the decision is rather evenly distributed across response categories, although only 22 percent would definitely opt for naturalization. Non-EU citizens show a greater inclination towards naturalization, with 45 percent indicating a definite preference and 34 percent considering it. In contrast, the majority of refugees are more likely to opt for naturalization.

### 5.2 The role of liberalized requirements and more inclusive naturalization procedures for naturalization intentions

The results from our multivariate regressions on naturalization intentions are presented in Table 5. We begin by examining pooled data and modeling the decision to naturalize as a function of cost-benefit analyses (from the vignette experiment) and the social context (immigrant group), both without and with additional model controls. We then replicate our model for each immigrant group separately to explore the significance of the different cost-benefit considerations in these groups.

The findings from our pooled models corroborate our descriptive results and indicate a lower probability of opting for naturalization among non-EU citizens and, particularly, EU citizens when compared to refugees. Specifically, as shown in Model 2, the odds of EU citizens opting for naturalization under the provided circumstances are 25 times lower than those of refugees (= 1/.04). Similarly, the odds for non-EU citizens are 10 times lower than those of refugees (=1/.10).

**Table 5: Ordered logistic regression of the probability of opting for naturalization, in odds ratios (OR). Pooled and separate across immigrant groups.**

	Pooled		EU citizens	Non-EU citizens	Refugees
	Model 1 OR (SE)	Model 2 OR (SE)	Model 3 OR (SE)	Model 4 OR (SE)	Model 5 OR (SE)
<b>Immigrant group (ref. refugees)</b>					
EU citizens	0.03** (0.00)	0.04** (0.00)			
Non-EU citizens	0.11** (0.01)	0.10** (0.01)			
Dual citizenship	1.71 (0.09)	1.71 (0.09)	1.31+ (0.19)	1.90** (0.13)	1.30* (0.17)
4 vs.8 years length of the waiting Period	1.16** (0.06)	1.16** (0.06)	1.08 (0.15)	1.24** (0.08)	0.95 (0.12)
No formal language test	0.99 (0.05)	0.99 (0.05)	1.12 (0.16)	0.98 (0.06)	0.91 (0.12)
No formal naturalization test required	0.99 (0.05)	0.99 (0.05)	0.88 (0.12)	0.98 (0.06)	1.10 (0.15)
3 vs. 12 months duration of bureaucratic procedure	0.92+ (0.05)	0.94 (0.05)	0.82 (0.11)	0.95 (0.06)	1.07 (0.14)
No bureaucratic fees	1.02 (0.05)	1.04 (0.06)	1.06 (0.15)	1.03 (0.07)	1.06 (0.14)
Naturalization ceremony	1.01 (0.05)	1.00 (0.05)	1.07 (0.15)	0.98 (0.06)	1.00 (0.13)
Family entitlement	1.07 (0.06)	1.06 (0.06)	0.92 (0.13)	1.10 (0.07)	1.00 (0.13)
Age		0.98** (0.00)	0.98** (0.01)	0.97** (0.00)	1.01 (0.01)
Duration of stay		0.98** (0.00)	0.97** (0.01)	0.98** (0.01)	1.04 (0.06)
Female		0.82** (0.05)	0.94 (0.13)	0.77** (0.05)	0.93 (0.14)
Size of the household		1.07** (0.02)	0.97 (0.06)	1.11** (0.03)	1.03 (0.04)
<b>Professional degree (ref. no degree)</b>					
Vocational degree		1.30* (0.15)	1.42+ (0.29)	1.34* (0.20)	0.99 (0.39)
University degree		1.11 (0.08)	1.48* (0.28)	1.07 (0.09)	1.04 (0.23)
Gainfully employed		1.08 (0.08)	1.18 (0.22)	0.99 (0.10)	1.25 (0.19)
Observations	6156	6156	694	3352	2110

Notes: + p<0.1, p<0.05, \*\* p<0.01 (two-sided tests). Robust standard errors. Control variables include indicators for missing values.

Data source: IAB-BAMF-SOEP Survey of Refugees 2021 (v38.1), IAB-SOEP Migration Sample 2022 (v39), SOEP-CORE 2022 (v39).

When examining the dimensions of the vignette experiment in the pooled model, our results suggest that only a few dimensions, namely dual citizenship and the waiting period, significantly influence naturalization intentions. Notably, the possibility of retaining one's previous citizenship is associated with a 71 percent increase in naturalization intentions. However, stratified analyses reveal that this effect appears to be stronger for non-EU citizens. Non-EU citizens are 90 percent more likely to opt for naturalization if they are not required to renounce their old citizenship, while the effect is three times weaker for refugees and EU citizens (marginally significant). Reducing the waiting period from eight to four years for eligibility for naturalization increases the odds of naturalization intentions by 17 percent. Again, the waiting period only significantly affects non-EU citizens' naturalization intentions, while it has no impact on EU citizens or refugees' decision outcomes.

As for our model controls, we observe negative correlations between age and the duration of stay and naturalization intentions (Model 2). Additionally, women are less likely to opt for naturalization, while larger household sizes have a positive impact. Professional degrees correlate positively with naturalization intentions of EU and non-EU citizens, whereas gainful employment has no significant impact. It is worth noting that neither of the considered controls displayed a significant correlation with the refugees' naturalization intentions.

In the final step of the vignette experiment, respondents who opted against naturalization under the presented conditions were asked to report on their reasons for this decision with an option of a multiple choice. The results in Table 6 align with our benchmark analyses, as we observed that the majority of respondents did so primarily because they were unable to retain their original citizenship (62%). This was followed by those who did not perceive any advantages in obtaining German citizenship under the given conditions (30%), and those who cited the procedural complexities (15%) as their reasons.

**Table 6: Reasons for deciding against naturalization in the vignette experiment, in percent (multiple choice possible)**

Reasons	Pooled	EU citizens	Non-EU citizens	Refugees
Giving-up old citizenship	61.64	55.33	66.29	34.15
No benefit	30.00	49.57	21.63	9.76
Complex	15.18	15.85	14.89	14.63
Long	11.00	9.51	11.38	17.07
Return home	10.73	6.63	13.20	2.44
Other	10.36	9.22	10.67	14.63
Non eligible	9.45	2.31	10.67	48.78
Costly	7.91	10.95	6.32	9.76
Feel not connected to Germany	7.73	6.05	8.85	2.44

Data source: IAB-BAMF-SOEP Survey of Refugees 2021 (v38.1), IAB-SOEP Migration Sample 2022 (v39), SOEP-CORE 2022 (v39).

Notably, the reasons behind this decision varied among the three different immigrant groups. While the need to renounce their existing citizenship was a significant factor for all three groups in our study, refugees appeared to be particularly deterred due to their self-reported ineligibility (49%), as well as the perceived length and complexity of the process (17% and 15%). Among the EU citizens who opted against naturalization in the described vignette conditions, approximately half made this decision because they did not perceive any benefits in acquiring it. In the case of non-EU citizens, factors such as a perceived lack of benefits associated with German citizenship (22%), the complexity of the process (15%), and intentions to return to their home country (13%) played a significant role.

### 5.3 Change in factual naturalization preferences

Due to the longitudinal nature of our data, we have a rare possibility to juxtapose respondents' factual naturalization preferences with those reported in the vignette experiments. For these purposes, we confined our data to panel respondents and compared their responses in the

vignette experiment with their last observed naturalization intentions, both surveyed using the same scale (“yes, definitely”, “yes, probably”, “rather unlikely”, and “definitely not”). Based on this comparison, we created a variable that captures shifts in respondents’ inclination to naturalize under the specified conditions. The variable encompasses three distinct categories: (1) no change (serving as our baseline), (2) heightened positive preferences, and (3) heightened negative preferences for naturalization under the given conditions.

Our findings, gleaned through the lens of multinomial logistic regression with robust standard errors and elucidated in Table 7, reveal compelling insights. In contrast to refugees, both EU and non-EU citizens exhibited a greater propensity to respond to the vignette experiment, prompting discernible changes in their preferences, both in a more positive and a more negative direction. As we delve into the various dimensions and requirements for citizenship, our results unveil a tapestry of nuances. For example, our results corroborate the findings from our benchmark analyses emphasizing its particular significance for non-EU citizens. Dual citizenship’s availability was associated with a shift in initial naturalization preferences toward a more positive stance, specifically among non-EU citizens. Simultaneously, its absence had adverse implications for refugees and EU citizens (though marginally significant), potentially influencing their initial preferences in a negative direction.

Furthermore, a shorter waiting period appeared to have only a marginally statistically significant influence – possibly due to the limited sample size – on a more positive orientation towards naturalization. Conversely, a lengthier waiting period seemed to act as a deterrent for non-EU citizens. The absence of formal naturalization tests and formal language test requirements bore a positive influence on non-EU citizens’ naturalization intentions, with the formal language test effects also reducing the negative preferences for naturalization. Furthermore, the elimination of bureaucratic fees also appeared to be linked with heightened positive citizenship intentions, an effect that reached statistical significance in the pooled model.

## 5.4 Robustness checks

Following the pooled model in Table 5, women are less likely to opt for naturalization. This aligns well with the study by Money et al (2023), who found gender-specific paths to citizenship. Women and men may have distinct migration motives that influence their subsequent integration paths in host societies (e.g., Herrera 2013). Consequently, we separately examined the probability of opting for naturalization by gender (results in Table B2 in the supplementary material). Overall, men and women exhibit very similar patterns, with the duration of bureaucratic procedures being a notable exception, where shorter processes reduce men’s incentives for naturalization.

Next, in our dataset, EU and Non-EU citizens could have entered Germany through different legal pathways, with approximately 6 percent entering as humanitarian immigrants. Consequently, we refined our immigrant group definition and replicated our benchmark analyses in Table 5. The results from this replication exercise reaffirmed our major conclusion (results in Table B3 in the supplementary material).

**Table 7: Multinomial logistic regression of the probability of opting for naturalization, in odds ratios (OR). Pooled data.**

	More positive preferences in vignette experiment vs. no change					More negative preferences in vignette experiment vs. no change				
	Pooled		EU citizens	Non-EU citizens	Refugees	Pooled		EU citizens	Non-EU citizens	Refugees
	OR (SE)	OR (SE)	OR (SE)	OR (SE)	OR (SE)	Leere Zelle	Leere Zelle	Leere Zelle	Leere Zelle	Leere Zelle
Immigrant group (ref. refugees)										
EU citizens	9.99** (1.53)	15.12** (3.56)				2.68** (0.51)	3.54** (1.06)			
Non-EU citizens	10.75** (1.73)	15.98** (3.64)				2.55** (0.53)	3.14** (0.88)			
Dual citizenship	0.97 (0.12)	0.97 (0.12)	0.73 (0.20)	1.83* (0.53)	0.81 (0.14)	0.74* (0.09)	0.74* (0.09)	0.52+ (0.19)	1.02 (0.42)	0.75* (0.11)
4 vs. 8 years length of the waiting Period	1.26+ (0.15)	1.25+ (0.15)	1.55 (0.43)	0.79 (0.23)	1.26 (0.21)	1.05 (0.13)	1.05 (0.13)	1.21 (0.46)	0.37* (0.16)	1.17 (0.17)
No formal language test	1.05 (0.13)	1.08 (0.13)	0.89 (0.25)	1.78* (0.52)	1.02 (0.179)	0.94 (0.12)	0.94 (0.12)	0.47* (0.18)	1.38 (0.58)	1.03 (0.15)
No formal naturalization test required	1.11 (0.14)	1.10 (0.14)	0.81 (0.22)	1.83* (0.54)	1.04 (0.17)	0.95 (0.12)	0.95 (0.12)	1.06 (0.39)	0.96 (0.40)	0.94 (0.14)
3 vs. 12 months duration of bureaucratic procedure	0.99 (0.12)	1.00 (0.12)	0.80 (0.23)	1.06 (0.31)	1.15 (0.19)	0.96 (0.12)	0.97 (0.12)	0.86 (0.33)	1.79 (0.76)	0.91 (0.13)
No bureaucratic fees	1.28* (0.16)	1.31* (0.16)	1.67+ (0.46)	1.25 (0.36)	1.24 (0.21)	1.03 (0.13)	1.04 (0.13)	1.27 (0.48)	0.93 (0.39)	1.03 (0.15)
Naturalization ceremony	0.87 (0.11)	0.87 (0.11)	0.81 (0.22)	0.90 (0.26)	0.86 (0.15)	0.92 (0.11)	0.92 (0.11)	1.40 (0.51)	0.58 (0.24)	0.95 (0.14)
Family entitlement	1.00 (0.12)	0.99 (0.12)	0.72 (0.20)	1.42 (0.42)	0.96 (0.16)	1.02 (0.13)	1.02 (0.13)	0.85 (0.31)	1.26 (0.53)	1.03 (0.15)
Observations	2728	2728	290	253	2185	2728	2728	290	253	2185

Notes: + p<0.1, p<0.05, \*\* p<0.01 (two-sided tests). Robust standard errors. Control variables include age, duration of stay, indicator for being female, size of the household, education level, indicator for being gainfully employed, and indicators for missing values.

Data source: IAB-BAMF-SOEP Survey of Refugees 2021 (v38.1), IAB-SOEP Migration Sample 2022 (v39), SOEP-CORE 2022 (v39).

## 6 Discussion

This study examined the influence of destination country conditions on immigrants' naturalization intentions, focusing on legal requirements and the implementation of naturalization laws. Recognizing naturalization as a key marker for integration (Hainmueller, Hangartner, and Pietrantuono 2017), our research delved into how institutional and policy factors in the destination country

shape immigrants' views on naturalization. Our study encompassed diverse immigrant groups, including refugees, European Union (EU) citizens, and non-EU citizens, acknowledging the varying significance of naturalization due to distinct characteristics. These include limited return prospects for refugees, potential obstacles for those from less developed countries, and potentially fewer benefits for those already enjoying rights and freedoms associated with EU citizenship.

To empirically analyze the effects of liberalizing legal requirements and introducing of more inclusive naturalization procedure on naturalization intentions of EU and non-EU citizens, and refugees, we employed an experimental approach – a vignette experiment, integrated into a large scale-representative data in Germany. By presenting respondents with scenarios featuring varying dimensions of the legal requirements and the implementation of the naturalization laws, our research aimed to make causal statements about their impact. Several conclusions emerged from this study.

First, the liberalization of legal requirements significantly influenced immigrants' naturalization intentions. Dimensions highlighted in the vignette experiment, such as dual citizenship and the waiting period, emerged as significant factors shaping naturalization intentions. The possibility of retaining previous citizenship was associated with a 71 percent increase in naturalization intentions, while reducing the waiting period from eight to four years increased intentions by 16 percent. These conclusions were also supported by an additional test in which we considered respondents' actual naturalization preferences from previous survey waves alongside the preferences reported in the vignette experiments. However, neither the elimination of a language test nor a formal naturalization test, additional dimensions measuring the liberalization of legal requirements, had an impact on naturalization intentions.

Second, a more inclusive naturalization procedure did not significantly impact the immigrants' naturalization intentions. This was measured by vignette dimensions such as a shorter duration of the bureaucratic procedure, elimination of bureaucratic fees, the possibility that family members are automatically entitled to naturalize, and the introduction of a naturalization ceremony. Nevertheless, comparing actual naturalization preferences with those reported in the vignette experiment suggested that a shorter bureaucratic procedure may positively shape initial naturalization preferences. From this perspective, our hypothesis *H1*, emphasizing the importance of liberalizing legal requirements and a more inclusive naturalization procedure for immigrants' naturalization intentions, was only partially supported. Conversely, hypothesis *H2*, acknowledging the greater impact of liberalizing legal requirements compared to a more inclusive naturalization procedure, found more robust support in our results.



Third, our results underscored the role of social context by revealing distinct cost-benefit considerations among the three immigrant groups, with EU and non-EU citizens showing a reduced likelihood of opting for naturalization compared to refugees. Specifically, EU citizens were 25 times less likely and non-EU citizens were 10 times less likely to opt for naturalization under the specified conditions. These results align with our theoretical expectations formulated in hypothesis *H3* that naturalization intentions should be most pronounced among refugees followed by non-EU citizens. Refugees predominantly stem from economically disadvantaged or politically unstable countries, finding greater value in obtaining destination country citizenship for security and access. In contrast, EU citizens may not seek additional EU citizenship as they already benefit from EU rights in their destination country (Dronkers and Vink 2012; Peters, Vink, and Schmeets 2016).

Fourth, not all naturalization criteria were equally important across immigrant groups. Specifically, we found that the possibility to retain previous citizenship is three times more important for non-EU citizens compared to refugees and EU citizens. Likewise, the positive effect of a reduced waiting time on naturalization intentions was driven by non-EU citizens only. Furthermore, a comparison of respondents' actual naturalization preferences alongside those reported in vignette experiments supported greater responsiveness of non-EU citizens: dual citizenship availability was linked to their more positive stance; a shorter waiting period induced a more positive orientation toward naturalization, while a lengthier waiting period deterred non-EU citizens. Moreover, we observed that the absence of formal naturalization tests and language tests positively influenced non-EU citizens' intentions, and the elimination of bureaucratic fees was associated with heightened positive intentions. These findings highlight nuanced influences of liberalizing legal requirements on immigrants' naturalization intentions, particularly emphasizing their significance for non-EU citizens. Note that these results contradict our hypothesis *H4*, which anticipated a greater effect of liberalizing legal requirements for refugees compared to other immigrant groups. The impact of liberalization was comparatively minor for refugees, who already demonstrated high naturalization intentions.

These results may be better understood through our explorative analyses of the self-reported reasons given by the respondents themselves for not naturalizing. The primary factor was the impossibility of retaining their original citizenship, cited by the majority. Other significant reasons included a perceived lack of benefits associated with German citizenship and concerns about procedural complexities. Importantly, motivations varied across the different immigrant groups, with refugees expressing particular concerns about self-reported ineligibility and procedural complexities. EU citizens often based their decision on a perceived lack of benefits, while non-EU citizens cited factors such as perceived benefits, procedural complexity, and intentions to return to their home country. This nuanced understanding of the diverse reasons underlying naturalization intentions among different immigrant groups contributes valuable insights to the broader discourse on integration and naturalization, shedding light on the diverse motivations and barriers influencing immigrants' naturalization decisions.

## 7 Conclusion

The availability of dual citizenship emerged as the most relevant factor influencing immigrants' naturalization intentions. Nevertheless, there were differences between immigrant groups, which partly contradicts the studies by Vink et al. (2021) and Peters and Vink (2023). Both studies revealed higher naturalization rates among EU citizens in European countries after dual citizenship reforms. Our study showed that EU citizens experienced only limited benefits of dual citizenship, especially compared to non-EU citizens. It is worth noting that the aforementioned studies concentrated on naturalization reforms more than two decades ago, a period in which EU citizens enjoyed even greater benefits from naturalization.

Furthermore, the factors representing a more inclusive naturalization process do not significantly affect naturalization intentions in our study. Our experimental design, which focused on cost-benefit considerations, appears to be limited in its ability to fully capture favorable contexts of reception. Favorable contexts of reception, as emphasized by van Hook et al. (2006, 644f), also holds importance: “[...] just as destination contexts of reception that offer greater tangible economic benefits may increase the possibility of naturalization, so too may social contexts of reception that consist of more positive and supportive attitudes toward immigrants influence the pursuit of naturalization.” Accordingly, government integration efforts and a genuine welcoming culture play a decisive role as highlighted by Bloemraad's (2002) international comparison of Canada and the USA. This comparison illustrates that states' normative attitudes towards immigrant integration shape institutional configurations involving government, ethnic organizations, and individuals. These attitudes explain why Canada is so successful in naturalizing its immigrants. Our findings therefore suggest that the significance lies not only in individual measures, as shown in the vignette, but in the overall context.

Our research provides valuable insights for policymakers and scholars, shedding light on the complex interplay between legal requirements, inclusiveness of the naturalization procedure, social context, and immigrant decision-making processes. However, we acknowledge certain limitations that may influence the interpretation of results. First, the research is context-specific, focusing on Germany as the destination country. A country's citizenship policy reflects its overall approach to immigrant integration (Huddleston and Vink 2015), meaning that different countries may have unique socio-political contexts that could affect the generalizability of findings.

Second, the vignette experiment, while a powerful tool, operates under the assumption that respondents accurately project their real-world decisions based on hypothetical scenarios (Auspurg and Liebe 2011). However, there may be a divergence between stated preferences and actual behavior, as naturalization decisions could be “contingent, tentative and uncertain tactics, rather than well-calculated and foreseeable strategies” (Sredanovic 2022, 3095). However, research on the external validity of choice and vignette experiments show that hypothetical and actual decisions largely coincide (e.g., Hainmueller, Hangartner, and Yamamoto 2015; Telser and Zweifel 2007). In this context, our vignette experiment stands as a unique opportunity to analyze the factors influencing immigrants' naturalization intentions.

Finally, in August 2023, the German government passed an amendment to the Citizenship Act (Deutscher Bundestag 2023), easing the naturalization requirements. For example, multiple

nationality is to be permitted. The period of residence before naturalization will be reduced from eight to five years, or to three years in the case of particularly good integration. Children born in Germany to foreign parents will automatically receive German citizenship if one parent has lived legally in Germany for more than five years and has an unlimited right of residence. For former guest workers, oral language skills will suffice in the future. A naturalization test is no longer required. Given that our vignette experiment predates these amendments (for refugees, in 2021; for non-refugee citizens, in 2022), future research may link the importance of various vignette dimensions and factual naturalization behavior in the future waves of the *German Socioeconomic Panel*, the IAB-BAMF-SOEP Survey of Refugees in Germany and the IAB-SOEP Migration Sample.

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# Appendix

## Section A: Sample characteristics

**Table A1: Country of origin**

ISO code. Country of origin	N	Percent
<b>Refugees</b>		
760. Syrian Arab Republic	1,303	61.75
368. Iraq	257	12.18
4. Afghanistan	159	7.54
Missing information.	94	4.45
232. Eritrea	71	3.36
364. Iran (Islamic Republic of)	43	2.04
275. Palestine, State of	26	1.23
706. Somalia	25	1.18
566. Nigeria	21	1
586. Pakistan	13	0.62
324. Guinea	12	0.57
422. Lebanon	10	0.47
270. Gambia (the)	7	0.33
8. Albania	6	0.28
231. Ethiopia	6	0.28
688. Serbia	6	0.28
31. Azerbaijan	5	0.24
51. Armenia	4	0.19
268. Georgia	4	0.19
50. Bangladesh	3	0.14
90. Solomon Islands	3	0.14
504. Morocco	3	0.14
643. Russian Federation (the)	3	0.14
729. Sudan (the)	3	0.14
887. Yemen	3	0.14
148. Chad	2	0.09
356. India	2	0.09
562. Niger (the)	2	0.09
728. South Sudan	2	0.09
762. Tajikistan	2	0.09
12. Algeria	1	0.05
178. Congo (the)	1	0.05
328. Guyana	1	0.05
400. Jordan	1	0.05
788. Tunisia	1	0.05
792. Turkey	1	0.05
800. Uganda	1	0.05
804. Ukraine	1	0.05
818. Egypt	1	0.05
999. Kosovo	1	0.05
<b>Total</b>	<b>2110</b>	<b>100</b>
<b>EU citizens</b>		
616. Poland	138	19.88
642. Romania	96	13.83
380. Italy	72	10.37
100. Bulgaria	68	9.8
40. Austria	47	6.77
528. Netherlands (the)	37	5.33
724. Spain	34	4.9
191. Croatia	31	4.47
300. Greece	31	4.47
250. France	30	4.32
348. Hungary	26	3.75
620. Portugal	14	2.02
276. Germany	11	1.59
56. Belgium	10	1.44



ISO code. Country of origin	N	Percent
208. Denmark	9	1.3
203. Czechia	7	1.01
703. Slovakia	7	1.01
428. Latvia	6	0.86
442. Luxembourg	5	0.72
752. Sweden	5	0.72
246. Finland	3	0.43
372. Ireland	3	0.43
705. Slovenia	3	0.43
233. Estonia	1	0.14
<b>Total</b>	<b>694</b>	<b>100</b>
<b>Non-EU citizens</b>		
356. India	377	11.25
792. Turkey	241	7.19
643. Russian Federation (the)	189	5.64
70. Bosnia and Herzegovina	151	4.5
156. China	135	4.03
688. Serbia	131	3.91
804. Ukraine	130	3.88
840. United States of America (the)	120	3.58
8. Albania	116	3.46
364. Iran (Islamic Republic of)	110	3.28
76. Brazil	105	3.13
608. Philippines (the)	82	2.45
170. Colombia	77	2.3
760. Syrian Arab Republic	76	2.27
999. Kosovo	68	2.03
484. Mexico	62	1.85
788. Tunisia	62	1.85
704. Viet Nam	56	1.67
504. Morocco	52	1.55
586. Pakistan	52	1.55
807. Macedonia (the former Yugoslav Rep	46	1.37
826. United Kingdom of Great Britain an	39	1.16
410. Korea (the Republic of)	37	1.1
4. Afghanistan	35	1.04
392. Japan	34	1.01
818. Egypt	34	1.01
124. Canada	33	0.98
566. Nigeria	29	0.87
112. Belarus	25	0.75
32. Argentina	24	0.72
31. Azerbaijan	22	0.66
152. Chile	21	0.63
360. Indonesia	21	0.63
36. Australia	20	0.6
368. Iraq	20	0.6
862. Venezuela (Bolivarian Republic of)	20	0.6
120. Cameroon	19	0.57
268. Georgia	19	0.57
398. Kazakhstan	19	0.57
422. Lebanon	19	0.57
51. Armenia	18	0.54
50. Bangladesh	17	0.51
417. Kyrgyzstan	17	0.51
524. Nepal	17	0.51
288. Ghana	16	0.48
604. Peru	16	0.48
764. Thailand	14	0.42
12. Algeria	13	0.39
218. Ecuador	13	0.39
275. Palestine, State of	13	0.39
158. Taiwan (Province of China)	12	0.36
188. Costa Rica	12	0.36
400. Jordan	12	0.36
710. South Africa	12	0.36
860. Uzbekistan	12	0.36
458. Malaysia	11	0.33
768. Togo	11	0.33

ISO code. Country of origin	N	Percent
344. Hong Kong	10	0.3
376. Israel	10	0.3
450. Madagascar	10	0.3
756. Switzerland	10	0.3
192. Cuba	9	0.27
716. Zimbabwe	9	0.27
404. Kenya	7	0.21
499. Montenegro	7	0.21
68. Bolivia (Plurinational State of)	6	0.18
440. Lithuania	6	0.18
496. Mongolia	6	0.18
554. New Zealand	6	0.18
270. Gambia (the)	5	0.15
340. Honduras	5	0.15
762. Tajikistan	5	0.15
222. El Salvador	4	0.12
498. Moldova (the Republic of)	4	0.12
795. Turkmenistan	4	0.12
854. Burkina Faso	4	0.12
24. Angola	3	0.09
214. Dominican Republic (the)	3	0.09
324. Guinea	3	0.09
646. Rwanda	3	0.09
702. Singapore	3	0.09
858. Uruguay	3	0.09
887. Yemen	3	0.09
894. Zambia	3	0.09
48. Bahrain	2	0.06
144. Sri Lanka	2	0.06
204. Benin	2	0.06
231. Ethiopia	2	0.06
320. Guatemala	2	0.06
446. Macao	2	0.06
562. Niger (the)	2	0.06
686. Senegal	2	0.06
694. Sierra Leone	2	0.06
706. Somalia	2	0.06
729. Sudan (the)	2	0.06
800. Uganda	2	0.06
108. Burundi	1	0.03
148. Chad	1	0.03
226. Equatorial Guinea	1	0.03
232. Eritrea	1	0.03
266. Gabon	1	0.03
418. Lao People's Democratic Republic (	1	0.03
434. Libya	1	0.03
466. Mali	1	0.03
558. Nicaragua	1	0.03
591. Panama	1	0.03
659. Saint Kitts and Nevis	1	0.03
682. Saudi Arabia	1	0.03
834. Tanzania, United Republic of	1	0.03
<b>Total</b>	<b>3,352</b>	<b>100</b>

Data source: IAB-BAMF-SOEP Survey of Refugees 2021 (v38.1), IAB-SOEP Migration Sample 2022 (v39), SOEP-CORE 2022 (v39).

## Section B: Further analyses and robustness checks

**Table B1: Ordered logistic regression of the probability favoring German citizenship decision, in odds ratios (OR). Excluding vignette combinations for which less than five person observations were available in the IAB-BAMF-SOEP-REF.**

Leere Zelle	Pooled		Refugees
	Model 1	Model 2	Model 5
	OR (SE)	OR (SE)	OR (SE)
Immigrant group (ref. refugees)	0.03** (0.00)	0.04** (0.00)	
EU citizens			
Non-EU citizens	0.11** (0.01)	0.10** (0.01)	
Dual citizenship	1.73** (0.09)	1.73** (0.09)	1.37* (0.19)
4 vs. 8 years length of the waiting period	1.16** (0.06)	1.17** (0.06)	0.95 (0.13)
No formal language test	1.00 (0.05)	0.99 (0.05)	0.93 (0.13)
No formal naturalization test required	0.99 (0.05)	0.99 (0.05)	1.16 (0.16)
3 vs. 12 months duration of bureaucratic procedure	0.92 (0.05)	0.95 (0.05)	1.13 (0.15)
No bureaucratic fees	1.01 (0.05)	1.04 (0.06)	1.05 (0.14)
Naturalization ceremony	1.01 (0.05)	1.00 (0.05)	1.00 (0.13)
Family entitlement	1.07 (0.06)	1.06 (0.06)	1.04 (0.14)
Age		0.98** (0.00)	1.01 (0.01)
Duration of stay		0.98** (0.00)	1.02 (0.06)
Female		0.82** (0.05)	0.94 (0.14)
Size of the household		1.08** (0.02)	1.03 (0.04)
Professional degree (ref. no degree)		1.00 (.)	1.00 (.)
Vocational degree		1.30* (0.15)	0.95 (0.37)
University degree		1.11 (0.08)	1.03 (0.23)
Gainfully employed		1.07 (0.08)	1.25 (0.20)
Observations	6090	6090	2044

Notes: + p<0.1, p<0.05, \*\* p<0.01 (two-sided tests). Robust standard errors. Control variables include indicators for missing values.

Data source: IAB-BAMF-SOEP Survey of Refugees 2021 (v38.1), IAB-SOEP Migration Sample 2022 (v39), SOEP-CORE 2022 (v39).

**Table B2: Ordered logistic regression of the probability favoring German citizenship decision, in odds ratios (OR). Gendered analyses.**

	<b>Women</b>	<b>Men</b>
	<b>OR</b> <b>(SE)</b>	<b>OR</b> <b>(SE)</b>
Immigrant group (ref. refugees)		
EU citizens	0.04** (0.01)	0.03** (0.01)
Non-EU citizens	0.10** (0.02)	0.09** (0.01)
Dual citizenship	1.64** (0.13)	1.78** (0.14)
4 vs. 8 years length of the waiting Period	1.14+ (0.09)	1.19* (0.09)
No formal language test	0.92 (0.07)	1.05 (0.08)
No formal naturalization test required	0.97 (0.08)	1.02 (0.08)
3 vs. 12 months duration of bureaucratic procedure	1.09 (0.09)	0.83* (0.06)
No bureaucratic fees	1.13 (0.09)	0.97 (0.07)
Naturalization ceremony	1.05 (0.08)	0.97 (0.07)
Family entitlement	1.10 (0.09)	1.02 (0.08)
Age	0.98** (0.00)	0.98** (0.00)
Duration of stay	0.98** (0.01)	0.97** (0.01)
Size of the household	1.07* (0.03)	1.08** (0.03)
Professional degree (ref. no degree)		
..Vocational degree	1.19 (0.20)	1.45* (0.23)
University degree	0.99 (0.10)	1.24* (0.12)
Gainfully employed	1.02 (0.10)	1.19 (0.14)
Observations	2816	3340

Notes: + p<0.1, p<0.05, \*\* p<0.01 (two-sided tests). Robust standard errors. Control variables include indicators for missing values.

Data source: IAB-BAMF-SOEP Survey of Refugees 2021 (v38.1), IAB-SOEP Migration Sample 2022 (v39), SOEP-CORE 2022 (v39).

**Table B3: Ordered logistic regression of the probability favoring German citizenship decision, in odds ratios (OR). Alternative immigrant group definition.**

	Pooled		EU citizens	Non-EU citizens	Refugees
	Model 1	Model 2	Model 3	Model 4	Model 5
	OR (SE)	OR (SE)	OR (SE)	OR (SE)	OR (SE)
Immigrant group (ref. refugees)					
EU citizens	0.04** (0.00)	0.05** (0.01)			
Non-EU citizens	0.13** (0.01)	0.12** (0.01)			
Dual citizenship	1.67** (0.09)	1.68** (0.09)	1.30+ (0.19)	1.94** (0.13)	1.22 (0.15)
4 vs. 8 years length of the waiting Period	1.17** (0.06)	1.18** (0.06)	1.08 (0.15)	1.29** (0.09)	0.94 (0.11)
No formal language test	0.99 (0.05)	1.00 (0.05)	1.11 (0.16)	1.00 (0.07)	0.88 (0.10)
No formal naturalization test required	0.98 (0.05)	0.98 (0.05)	0.88 (0.12)	0.99 (0.07)	1.08 (0.13)
3 vs. 12 months duration of bureaucratic procedure	0.92 (0.05)	0.95 (0.05)	0.81 (0.12)	0.95 (0.06)	1.08 (0.13)
No bureaucratic fees	1.01 (0.05)	1.03 (0.06)	1.02 (0.14)	1.03 (0.07)	1.06 (0.13)
Naturalization ceremony	1.02 (0.05)	1.02 (0.05)	1.03 (0.14)	1.01 (0.07)	1.02 (0.12)
Family entitlement	1.06 (0.06)	1.05 (0.06)	0.93 (0.13)	1.11 (0.07)	0.95 (0.11)
Age		0.98** (0.00)	0.98** (0.01)	0.97** (0.00)	1.00 (0.01)
Duration of stay		0.97** (0.00)	0.97** (0.01)	0.98** (0.01)	0.91** (0.01)
Female		0.82** (0.05)	0.93 (0.13)	0.78** (0.05)	0.86 (0.12)
Size of the household		1.08** (0.02)	0.95 (0.05)	1.13** (0.03)	1.07* (0.03)
Professional degree (ref. no degree)		1.16 (0.14)	1.40 (0.29)	1.33+ (0.22)	0.72 (0.18)
Vocational degree		1.12 (0.08)	1.47* (0.28)	1.13 (0.10)	0.97 (0.19)
University degree		1.04 (0.08)	1.21 (0.23)	1.06 (0.11)	1.10 (0.15)
Gainfully employed					
Observations	6156	6156	687	3182	2287

Notes: + p<0.1, p<0.05, \*\* p<0.01 (two-sided tests). Robust standard errors. Control variables include indicators for missing values.

Data source: IAB-BAMF-SOEP Survey of Refugees 2021 (v38.1), IAB-SOEP Migration Sample 2022 (v39), SOEP-CORE 2022 (v39).

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