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## “Wissenschaft weltoffen 2023”

Since 2001, the DAAD has been analysing data on the internationalisation of studies, research and higher education from Germany as well as from particularly relevant countries and regions such as the USA, the United Kingdom or Asia. The current edition presents the most important results and graphics.

These include figures on international students in Germany, data on mobility behaviour, an overview of students' countries of origin and host countries as well as developments in the field of doctorates. Special data analyses shed light on the status quo and trends at universities and research institutes during the Covid-19 pandemic.

The study integrates international data from OECD and UNESCO as well as national data from the Federal Statistical Office in Germany. In combination with other indicators, it provides a valid basis for long-term analyses.

### IMPRINT

#### Publisher

Deutscher Akademischer Austauschdienst  
German Academic Exchange Service  
Kennedyallee 50, D-53175 Bonn



The DAAD is an association of German universities and their student bodies. It is institutionally funded by the German Federal Foreign Office.

Strategic Planning – S1

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wbv Publikation  
A division of wbv Media GmbH & Co. KG,  
Postfach 10 06 33, D-33506 Bielefeld

ISBN: 978-3-7639-76492

DOI: 10.3278/7004002view

Order no. 7004002view

#### Photo credits

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#### Bibliographical information of the German National Library

The German National Library catalogues this publication in the German National Bibliography; detailed bibliographical data are available online at [https://www.dnb.de/EN/Home/home\\_node.html](https://www.dnb.de/EN/Home/home_node.html).

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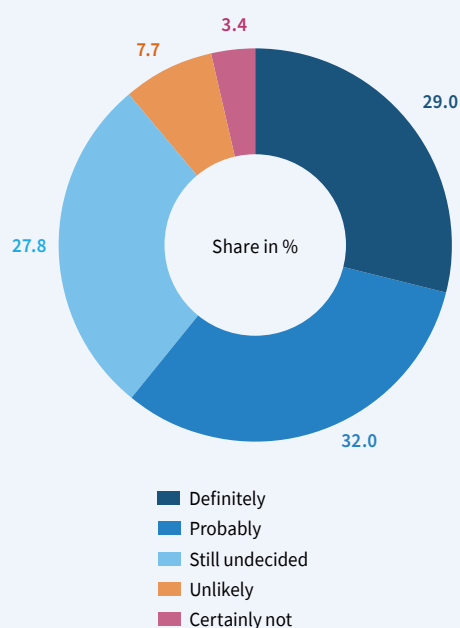


Federal Foreign Office

The project on which this brochure is based and the publication thereof were funded by the Federal Ministry of Education and Research and the Federal Foreign Office.

How many international students stay in Germany for longer periods? In recent years, this question has increasingly come to the fore, particularly in light of the growing demand for skilled labour. Two main data sources, both with different strengths and weaknesses, will help answer this question (see also the info box on the database and method of calculation). The first source, the DAAD's BinHo (International University Benchmark) study, is a survey of students all over Germany. The advantage of these student surveys is that they include all groups of international students and their *intent* to remain, with the result that the findings can be differentiated according to various attributes of the respondents. Nonetheless, only data referring to students' intent to remain (while studying) can be retrieved and not their actual decision (after graduating). The second important source are data on residence permits, which are recorded in the Central Register of Foreigners (Ausländerzentralregister, AZR).<sup>1</sup> They provide insight into students' actual decision to stay in the country after completing their course, with one major caveat, however: only students from non-EU countries are included, as EU students do not require a residence permit in Germany due to the freedom of movement prevailing within the EU. As a result, around 20% of international students seeking a degree in Germany are not recorded in these statistics.<sup>2</sup> Accordingly, to take full advantage of these data sources and compensate, to some extent at least, for their respective disadvantages, a useful approach is to carry out a combined analysis of both sources.

BS1.1 International students' intent to remain in Germany in the 2020/21 winter semester<sup>3</sup>



Source: DAAD, BinHo survey

### Database and method of calculation

In the 2020/21 winter semester, under the BinHo project, the DAAD surveyed a total of some 115,000 students at 74 participating universities in 14 federal states throughout Germany, including approximately 14,000 international students (for further information, refer to the project website, in German only, at [www.daad.de/bintho](http://www.daad.de/bintho)). The Federal Statistical Office and OECD analyses presented here on the retention of international students in Germany are based on data from the Central Register of Foreigners (AZR) regarding study-related residence permits issued to students.<sup>5</sup> These data reveal in what year a certain person was first granted a residence permit for the purpose of studying in a federal state. To calculate the retention rates, all students who were first issued a study-related residence permit in a specific year (OECD analysis) or over several years (Federal Statistical Office analysis) were defined as the initial group. The second step was to check how many members of this initial group were still resident in Germany after five or ten years and what their residence status was. Consequently, the retention rates refer to first-year students, not to graduates, as the AZR data do not document whether a course of study was successfully completed.

The DAAD's BinHo survey in the 2020/21 winter semester asked roughly 14,000 international students about their intent to remain in the country after graduating. 61% indicated that they would "definitely" or "probably" stay in Germany. Only about 11% were unlikely to stay or certainly did not plan to do so. The other respondents, approximately 28%, were undecided on the matter.

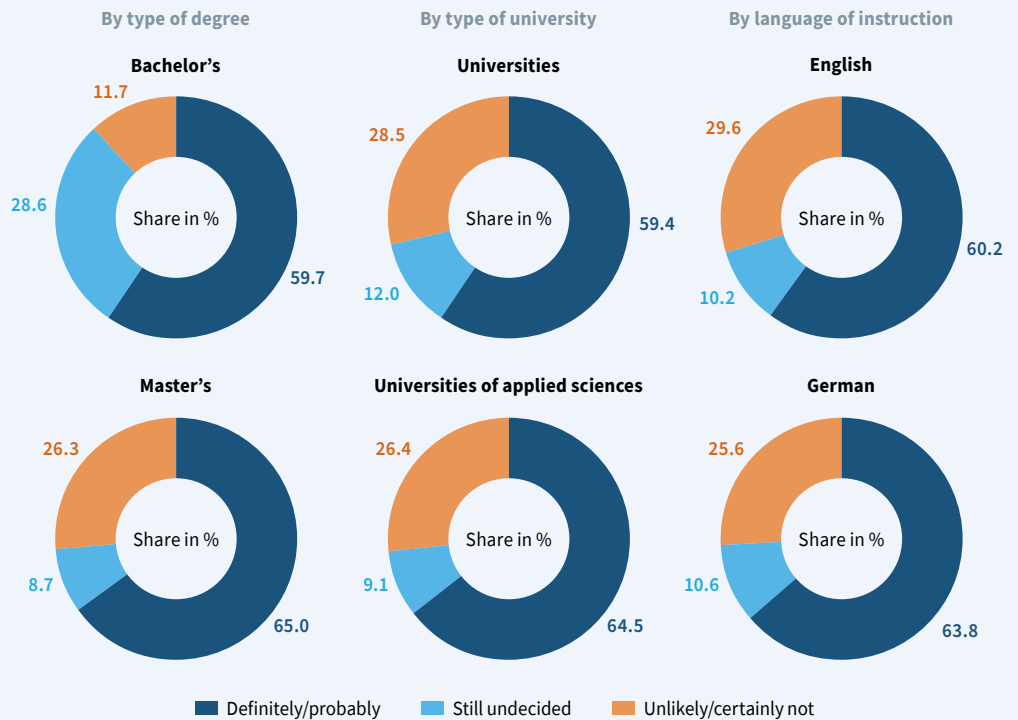
The findings of the BinHo survey also differentiate between respondents' intent to remain according to a variety of attributes. However, breaking down the results by type of university, type of degree and language of instruction only leads to minor differences. Master's students are somewhat more inclined than bachelor's students (65% vs. 60%) to declare their (definite or probable) intent to remain after obtaining their degree. By the same token, students at universities of applied sciences (UAS) want to stay more often than university students (65% vs. 59%) and students in German-language degree programmes are more likely to remain than students in English-language programmes (64% vs. 60%).

By contrast, a breakdown by subject groups produces a slightly greater range of answers. In this case, international students of engineering tended most often to indicate that they definitely or probably intended to remain in Germany (67%), followed by students of art and art history (65%). The lowest corresponding share was found among students of medicine and health sciences (53%). Moreover, it was comparatively rare for students of the humanities, agricultural, forestry and food sciences, and veterinary medicine to state that they wished to stay (56% each).

The responses of international students vary considerably between the different regions of origin regarding their intent to remain. Students from the regions of North Africa and Middle East (70%), Eastern Europe and Central Asia (68%), Central and South Eastern Europe, Asia and Pacific (66% each), and Latin America (65%) were most inclined to express a definite or probable intent to remain. Meanwhile, this was less often the case among students from North America (56%), Sub-Saharan Africa (50%) and Western Europe in particular (41%).

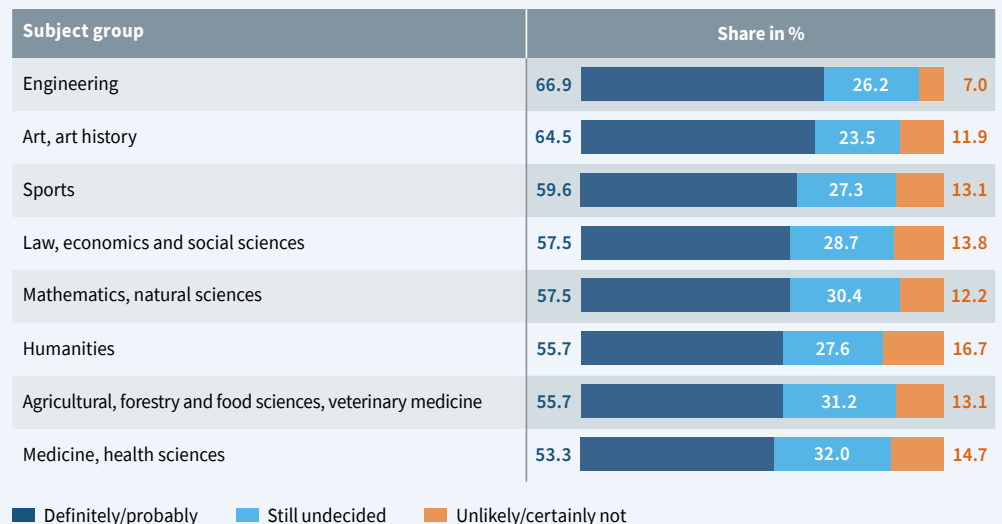
Lastly, a comparison of students' plans to stay by individual countries of origin reveals especially striking differences. More than three quarters of students from Syria (83%), Afghanistan (79%), Albania (78%) and Azerbaijan (76%) indicated that they definitely or probably wish to stay in Germany. Students from Kazakhstan (75%), Tunisia, Jordan (74% each), India (73%), Colombia and Egypt (72% each) also admitted to having a similar intent to remain. Conversely, it was exceptionally rare for students from Luxembourg (19%) and Switzerland (26%) to plan to stay in Germany – definitely or probably – after obtaining their degree. Students from Ghana, France (38% each), Austria (39%) and Spain (45%) were somewhat more likely to indicate their intent to remain but this was still the case for less than half of respondents. In conclusion, a closer look at the composition of those countries with the highest and lowest shares of students indicating definite plans to stay reveals a relatively strong correlation between the economic development and political stability of these countries of origin and the respective students' intent to remain.

BS1.2 International students' intent to remain in Germany, by type of degree, type of university and language of instruction, in winter semester 2020/21<sup>3</sup>



Source: DAAD, BinHo survey

BS1.3 International students' intent to remain in Germany, by subject group, in winter semester 2020/21<sup>3</sup>

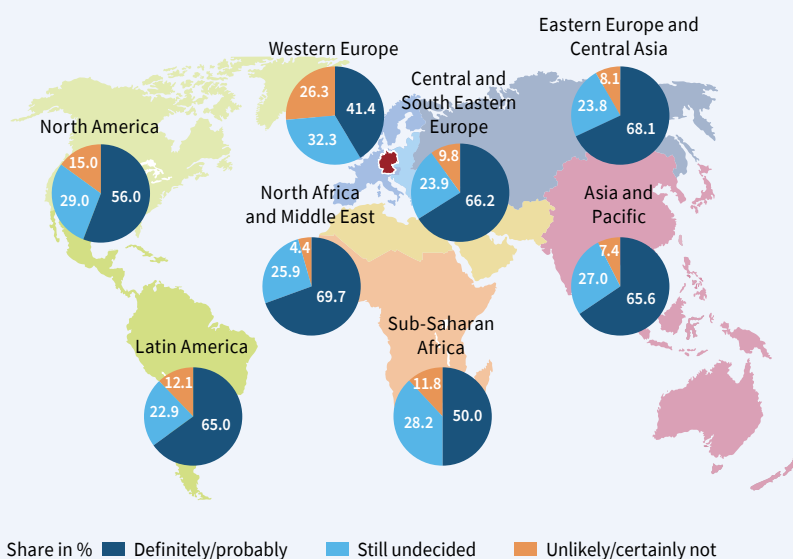


Source: DAAD, BinHo survey

Both the OECD and the Federal Statistical Office analyses recently drew on residence permit data documented in the Central Register of Foreigners as a basis for evaluating the retention of international students in Germany (see also the spotlight in Chapter A on pp. 20–23). However, slightly different calculation methods and varying observation periods were taken into account when calculating the retention rates (see also the info box on the database and method of calculation). The OECD analysis calculated three separate retention rates: the percentage of international students from non-EU countries who were first issued a study-related residence permit in 2010 and were still in Germany in 2015 and 2020 respectively, plus the corresponding share of students who were first granted a residence permit in 2015 for the purpose of studying and were still in Germany in 2020. This established a ten-year retention rate of 45% (first-year cohort 2010, retention in 2020). As expected, the two five-year retention rates are significantly higher by comparison, namely 54% for the first-year cohort of 2010 and 63% for the first-year cohort of 2015, in other words, the retention rate among international students in Germany rose appreciably during the period under review. Nonetheless, it should be noted that, five years after embarking on their studies, almost half of the international students documented had not yet completed their course and/or had been granted a study-related residence permit.

The analysis carried out by the Federal Statistical Office only calculated one retention rate. With reference to the first-year cohorts of 2006 to 2011, it traces their retention ten years after commencing their programmes or first being granted a residence permit for the purpose of studying, producing a retention rate

BS1.4 International students' intent to remain in Germany, by regions of origin and selected countries of origin, in winter semester 2020/21<sup>3</sup>



Countries with the highest shares of students intending to remain	Share in %		
	Definitely/probably	Still undecided	Unlikely/certainly not
Syria	83.4	13.7	2.9
Afghanistan	78.8	21.2	0.0
Albania	77.9	19.4	2.7
Azerbaijan	75.6	19.4	5.0
Kazakhstan	74.8	19.3	5.9
Tunisia	74.1	20.7	5.1
Jordan	73.6	22.1	4.3
India	72.9	23.6	3.5
Colombia	72.0	17.8	10.2
Egypt	71.6	25.0	3.5

Countries with the lowest shares of students intending to remain	Share in %		
	Definitely/probably	Still undecided	Unlikely/certainly not
Luxembourg	18.6	28.1	53.4
Switzerland	25.9	30.3	43.9
Ghana	37.7	46.2	16.1
France	38.1	32.9	29.0
Austria	39.3	33.7	27.0
Spain	45.3	35.3	19.4
Hungary	49.7	41.1	9.2
Italy	50.3	29.1	20.6
Chile	53.9	32.4	13.7
Cameroon	54.1	41.4	4.5

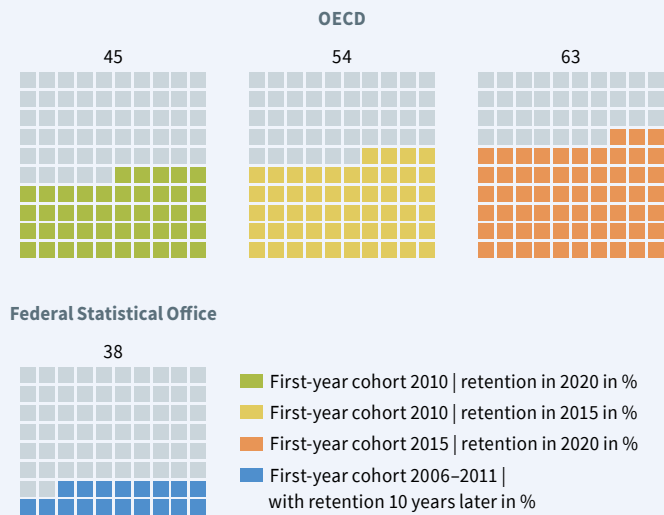
Legend: ■ Definitely/probably ■ Still undecided ■ Unlikely/certainly not

Source: DAAD, BintHo survey

\* Footnotes

- To enter and reside in Germany for longer than 90 days, international students from non-EU and non-EEA countries require a residence permit (for the purpose of studying), issued by the immigration office. Although it entitles the holder to remain in Germany for an extended stay, it is only issued for a limited period.
- In the 2021/22 winter semester, approximately 65,000 international students intending to graduate in Germany were from an EU or EEA country, representing just under 20% of the approximately 328,000 international students in the same semester who were seeking a degree.
- Deviations from 100% are due to rounding.
- Only students from non-EU/EEA countries of origin.
- See OECD (2022), Federal Statistical Office (2022e).

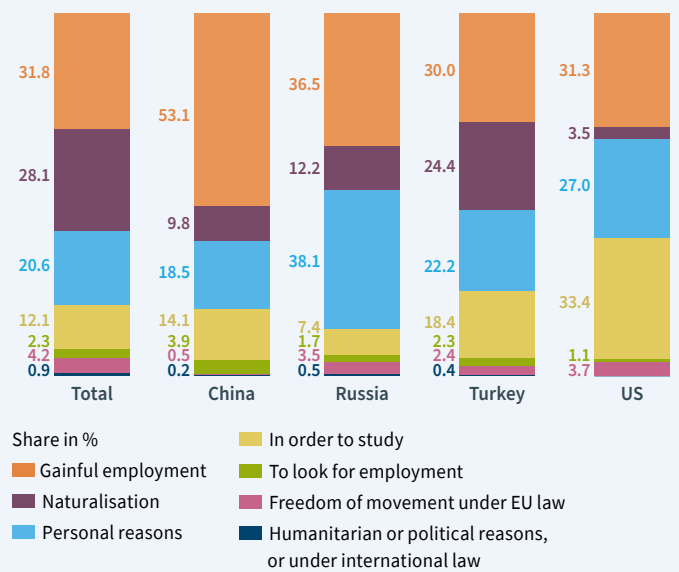
BS1.5 Retention rates for international first-year students in selected cohorts, five and ten years after starting their studies<sup>4</sup>



Sources: Federal Office for Migration and Refugees (BAMF), Central Register of Foreigners (data); OECD, International Migration Outlook 2022 (analysis); Federal Statistical Office (analysis)

of 38%. The fact that this rate is seven percentage points below the quota calculated by the OECD for the first-year cohort of 2010 shows that retention rates may fluctuate considerably from one first-year cohort to another. The retention rates in the cohorts reviewed by the Federal Statistical Office were noticeably lower in some cases than the 2010 cohort, thus the average retention rate across all cohorts under consideration is substantially less than the retention rate for the 2010 cohort. The Federal Statistical Office's analysis also examined the 2020 residence status of the first-year students of the 2010 cohort who were still in Germany in 2020. Residence permits for the purpose of gainful employment accounted for the largest share, roughly 32%, followed by naturalisation (28%), personal reasons (21%) and study purposes (12%). However, these percentages vary considerably from one country of origin to another, as the analysis of the Federal Statistical Office also shows: in 2020, the proportion of persons holding a residence permit for the purpose of gainful employment is much greater among former students from China (53%) than in the three other countries of origin

BS1.6 Reasons for retention for international first-year students in cohorts 2006–2011, ten years after starting their studies, overall and by selected countries of origin<sup>3,4</sup>



Sources: Federal Office for Migration and Refugees (BAMF), Central Register of Foreigners (data); Federal Statistical Office (analysis)

reviewed: Russia (37%), Turkey (30%) and the US (31%). Nonetheless, it is important to bear in mind that these three countries report significantly higher shares of naturalisation and stays for personal reasons, and that, in all likelihood, many people in these categories are also wage earners.

Lastly, the OECD and Federal Statistical Office analyses both corroborate the findings of the BintHo student survey presented at the beginning, namely that general retention rates vary, in some cases considerably, between the countries of origin. The OECD analysis compared the five-year retention rates (first-year cohort 2015, retention in 2020) of the two key countries of origin China (52%) and India (76%), while the analysis of the Federal Statistical Office focused on ten-year retention rates (first-year cohorts 2006–2011, each with retention ten years later) for students from Russia (47%), China (29%), Turkey (28%) and the US (14%).