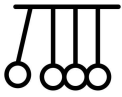


How the Brain Migration from Turkey to Germany Affected Turkey's Policy Making in the Subject of Education

POLITICS

Defne Gündemir



Abstract

Turkey's brightest minds are leaving. Every year, a wave of skilled professionals emigrates, seeking better opportunities and environments to utilize their talents and in today's world, the movement of skilled individuals across countries and nations has become more common than ever. This phenomenon, often referred to as "brain drain" or "brain migration", creates significant challenges for countries such as Turkey, which are audiences to their best and brightest leave for rather developed nations, more often Germany. While these individuals depart seeking better career and academic opportunities abroad, Turkey is left to struggle with the loss of talent, especially in key areas like education and research.

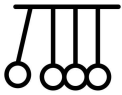
This migration of the Turkish to Germany is not a new trend. It was said to have started back in the 1960s with labor migration agreements, but over time, it has shifted to a more skilled migration of highly educated professionals, or the ones volunteering to be one. Germany, with its strong education system and advanced research opportunities, has become an eye-catching destination, especially for those in the fields like science, technology, engineering and mathematics (STEM).

This research looks at the impact of this brain migration from Turkey's educational systems perspective. How has losing so much talent affected the country's policies? What steps had Turkey taken to respond to the outflow of its educated workforce? And how has the migration of skilled professionals to Germany shaped these policy changes ?

This article will examine the history of movement between Turkey and Germany, as well as modern trends and government reactions, to investigate the more general effects of brain migration for Turkey's education system. Understanding these patterns is essential because they impact not just the country's capacity to keep its people, but also its long-term growth and competitiveness on a global scale.

Historical Overview of Brain Drain from Turkey to Germany

The migration of Turkish professionals to Germany traces its roots back to the early 1960s, with the signing of a labor agreement between Turkey and Germany. This agreement allowed Turkish workers with less education to fill crucial roles in Germany's booming post-war economy. Initially, the migration was centered around low-skilled labor, with Turkish workers taking jobs in factories, construction, and transportation. However, over time, Turkey experienced a series of economic crises and political instability, especially after the 1980 military coup, which began pushing more skilled professionals to seek better opportunities abroad. These trends continued into the 21st century, with major political events



like the 2016 coup attempt further accelerating the brain migration of highly educated Turks to countries like Germany.

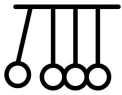
While unskilled workers dominated the early waves of migration from Turkey to Germany, by the 1990s, the character of the movement had shifted. An increasing number of Turkish students and skilled professionals began migrating to Germany, seeking educational opportunities and careers in fields like engineering, medicine, and academia. Student migration has been especially important, with many Turkish nationals being given degrees at Germany's prestigious universities, especially in STEM subjects. In recent years, there has been a notable rise in the migration of academics, researchers, and technical experts, who are drawn to Germany's vibrant research community and the promise of better career possibilities.

Turkey and Germany have established numerous policies and incentives that have affected the flow of migrants between the two countries.. Germany for instance has historically encouraged skilled migration through work visa programs which are aimed at attracting potentially talented individuals from non-EU countries. Another initiative is the Blue Card program, which was introduced back in 2012 as an EU-wide effort to attract highly skilled workers, including from Turkey. This program provides rather easier access to residence and work permits for professionals in fields like engineering, IT, and medicine. In addition Germany's dual vocational education and training (VET) system, a system which combines classroom education with hands-on work experience, has also been appealing towards young Turkish migrants in technical fields. In recent years, Germany has also made it easier for foreign students to remain in the country after graduation and enter the workforce, further promoting skilled migration.

On the other hand, Turkey has struggled to reduce the outflow of skilled labor, but has announced applications aimed at luring the return of highly educated migrants, known as brain gain initiatives. These programs offer advantage for scientists and researchers to come back to Turkey and contribute to its research and development sectors. The Turkish government has also partnered with German universities to promote student exchange programs and research collaborations, hoping that Turkish students and academics will return after completing their studies abroad. However, political and economic instability in Turkey continues to push skilled professionals to leave, suggesting that these policies have had limited success in reversing the migration trend.

Factors Driving Brain Migration from Turkey to Germany

Brain movement from Turkey to Germany has been influenced by a wide range of push and pull forces. Shortly after the 1980 military war and more recent events like the failed coup attempt in 2016, Turkey has seen an increase in political divide and authoritarianism. Many professionals, especially academics, find it difficult to operate freely given the lack of academic freedom, censorship, and political purges of educational institutions. In addition, Turkey's economic challenges, including high inflation, unemployment, and currency devaluation, have made it difficult for skilled professionals to find stable, well paying jobs. Major events like the 2001 economic crisis and the 2018



currency fall drove migration, as many professionals sought better financial security. Brain movement from Turkey to Germany has been influenced by a wide range of push and pull forces. Following the military conflict in 1980 and more recent events such as the abortive coup attempt in 2016, Turkey has experienced a growing trend of authoritarianism and political division. Furthermore, the country's research and development (R&D) industry lacks enough money and infrastructure, making it difficult for scientists and engineers to thrive, while prospects for progress in technical and academic sectors are limited.

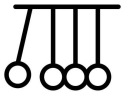
On the other hand, Germany offers several attractive pull factors. Its well-developed higher education system, robust research infrastructure, and focus on STEM fields make it an attractive destination for Turkish academics and researchers. Opportunities such as research funding, state-of-the-art infrastructure, and international collaborations are often absent in Turkey. A friendly job market for Turkish professionals is also created by

Germany's robust economy and need for skilled labor, particularly in the fields of engineering, information technology, and healthcare. Programs like the EU Blue Card, which offers residency and work permits to skilled non-EU professionals, further encourage migration. Germany stands out for its political stability and academic freedom, which provide a sensation of security for those fleeing the dictatorship of politics in Turkey. Skilled migrants are drawn to Germany not only for employment prospects, but also for the high standard of living, which includes outstanding healthcare, education, and social services. Language instruction and cultural support are two examples of integration programs that help immigrants' incorporation and social integration.

Cultural and social factors also come into play. With more than 3 million individuals of Turkish descent, Germany is home to one of the biggest Turkish diasporas in Europe. New immigrants can find a solid support system in this well-established community, which aids in their integration into German society. Turkish schools, businesses, and cultural institutions further reduce cultural barriers, making Germany a more comfortable destination for Turkish professionals. In addition, bilateral agreements and collaborations between Germany and Turkey, including academic partnerships and student exchange programs, have strengthened migration flows, offering Turkish students and professionals access to German education and job opportunities.

Impact of Brain Migration on Turkey's Education System

Brain migration has had a noticeable impact on Turkey's education system, especially due to the loss of skilled educators and researchers. With many academics and experts in fields like STEM, social sciences, and the humanities leaving the country, universities and research institutions are struggling to fill the gap. This brain drain has lowered the overall quality of education, as fewer skilled professors are available to guide students and foster academic collaboration. Without top-tier educators, universities risk losing accreditation and falling in global rankings. The departure of renowned researchers, particularly in high-demand sectors such as AI, engineering, and biological sciences, has harmed Turkey's



ability to produce cutting-edge research, making the country less competitive on a global scale.

The departure of talent has also impeded creativity and technical progress. When skilled professionals leave, the innovation they could have contributed to Turkey benefits other countries like Germany instead. Turkey's research and development production has declined due to a shortage of top researchers, making it more difficult for the country to compete in fields such as information technology, biotechnology, and renewable energy. Furthermore, Turkey's limited pool of professionals has hampered foreign cooperation, which are critical for promoting innovation. Many academics who leave establish new networks abroad, weakening their ties to Turkish institutions and further isolating the country's research scene.

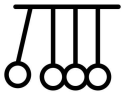
The effects on students have been significant as well. In the absence of experienced educators, students have fewer role models and mentors, which reduces their exposure to sophisticated research and limits academic progress. As a result, the quality of education, particularly in professions such as engineering and medicine, has declined. To cover the voids, Turkish institutions have had to rely on less educated or inexperienced professors, which has reduced teaching standards and prevented students from pursuing advanced degrees in Turkey.

In the years to come, this brain drain jeopardizes Turkey's ability to remain competitive in education and the global workforce. While the government has attempted to attract qualified professionals back with "brain gain" measures, continuing economic and political issues have complicated the viability of these efforts. Without the return of highly educated individuals, Turkey is losing its competitive edge. The country's research ecosystem is declining due to the departure of top scientists, resulting in missed opportunities to encourage innovation, attract investment in technology, and create high-skilled jobs.

To overcome these obstacles, the Turkish government has taken steps to improve the situation. They've increased funding for research and worked to improve the quality of higher education by strengthening STEM programs and offering more research grants. They've also introduced incentives like tax breaks and academic positions to encourage the Turkish diaspora to return home. However, these efforts haven't fully reversed the brain migration trend. In addition, Turkey has been fostering more partnerships with international universities, especially in Germany, to create joint research projects and student exchanges. These collaborations aim to keep Turkish professionals connected to their home country, even if they move abroad, ensuring they still contribute to Turkey's academic landscape.

Turkey's Policy Response to Reduce Brain Drain

In response to the growing brain drain, the Turkish government has developed policies aimed at retaining skilled professionals, encouraging their return, and creating a more favorable environment for talent development. These policies target the education system, research sectors, and the broader economy, though their success has been mixed due to ongoing challenges.



To retain talent, the government has increased investment in research and development (R&D), established innovation zones, and worked to enhance academic freedom and job security. Programs like TÜBİTAK grants promote innovation, while technoparks such as Istanbul Technopark provide tax incentives and research support for both researchers and companies.

Turkey has also launched initiatives to encourage return migration, offering incentives like tax breaks, academic positions, and research funding to Turkish professionals abroad. Programs like the Returning Scientists Program aim to reverse the brain drain by providing financial support and fostering collaboration between the Turkish diaspora networks and domestic institutions. Furthermore, the government has introduced policies to attract foreign talent, including visas for high-demand sectors and partnerships with international universities to bolster Turkey's innovation and educational capabilities.

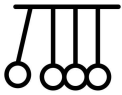
Despite these efforts, several challenges persist. Political instability, censorship, and economic instability—including inflation and unemployment—remain significant barriers, continuing to push professionals abroad. While some return programs have had limited success, many professionals still find that conditions in Turkey have not improved enough to warrant returning.

Looking ahead, Turkey may need to promote stronger public-private collaborations, expand innovation prospects, and stabilize economic conditions to better address brain drain. Ensuring academic freedom and reducing economic uncertainty will be critical to making the country an appealing destination for experienced professionals.

How Germany's Education System Influences Turkey's Policy Making

Germany's education system, known for its success in combining vocational training with academic learning, has significantly influenced Turkey's policy-making, particularly in efforts to combat brain drain. The German model, which highlights practical skills through its dual education system and strong university-industry collaboration, has prompted Turkey to adopt similar reforms. Turkey has been attempting to link vocational training into its educational system, encouraging collaboration between schools and industry to better prepare students for the workforce, especially in engineering and manufacturing. Programs modeled after Germany's system, such as scholarships and internships, are aimed to address Turkey's skills gap and keep talent in the country.

Germany's focus on STEM education has also inspired Turkey to increase its investment in these fields to retain students who might otherwise go abroad. Collaboration with German institutions, specially in engineering and biotechnology, is a key part of this strategy, helping Turkey benefit from expertise while maintaining its ties with Turkish professionals abroad. Moreover, Turkey has prioritized similar partnerships following Germany's extensive linkages between academics and industries. Technoparks and innovation centers have been designed to facilitate collaboration between universities and industries, enabling students and researchers to work on real-world projects that benefit both the academic community and the economy.



Another major influence of Germany's education system on Turkey is the debate around tuition-free higher education. Germany's policy of offering free university education to both domestic and international students has made it a rather appealing destination for Turkish students. This system of tuition-free education in Germany has sparked discussions in Turkey about making higher education more affordable. While Turkey has not yet fully implemented free education, expanding scholarship programs is seen as a way to compete with Germany and reduce the outflow of students. However, there are challenges in adapting the German model. Turkey's institutional and cultural emphasis on traditional academic paths, combined with economic constraints and limited research funding, makes it difficult to fully replicate Germany's success.

Educational Policy Reforms in Turkey Due to Brain Migration

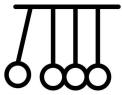
The migration of skilled professionals from Turkey, especially to countries like Germany, has prompted significant concern over the long-term effects of brain drain on the nation's development. Turkey has implemented several educational changes to improve the quality of education and increase the nation's appeal to professionals and students as a response to this developing problem. To retain talent in the nation, the emphasis has been on improving colleges, growing vocational training, and implementing incentives. To raise the standards of higher education, the government has invested in improving research facilities, boosting faculty quality, and increasing R&D funding. Scholarship programs have also been expanded to make education more affordable, helping reduce the financial push factors that often lead students to pursue opportunities abroad.

Turkey has also redesigned its technical and vocational education system, drawing inspiration from Germany's dual education model. The government is attempting to guarantee that graduates have real-world skills that directly correspond with the demands of job opportunities by encouraging closer collaborations between educational institutions and business sectors. This is especially important in sectors like technology and engineering, where there's a critical need for skilled workers.

Turkey has created a number of programs that encourage innovation and entrepreneurship, such as technoparks and research hubs, in an attempt to retain the professionals who are currently living there. Programs like Erasmus+ and Mevlana are also designed to give students and professionals international exposure, allowing them to benefit from global experiences without permanently leaving Turkey.

Apart from preservation, Turkey is actively trying to reverse brain drain by offering incentives to Turkish professionals abroad. Programs like the Returning Scientists Program provide grants and research funding to encourage skilled workers to come back. Financial perks such as tax breaks and housing allowances further sweeten the deal for those considering a return to Turkey.

However, despite these efforts, challenges remain. Political instability, restrictions on academic freedom, and economic uncertainty continue to drive talent abroad. For Turkey's reforms to be fully effective, the government will need to address these underlying issues,



ensure long-term employment stability, and create a more open and supportive environment for academics and professionals.

Challenges and Criticisms of Turkey's Policy Response

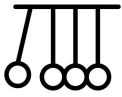
Turkey's efforts to address brain migration have faced several challenges and criticisms. One of the biggest challenges is the lack of academic freedom in universities and research institutions, with increasing political interference and censorship pushing professionals to seek opportunities abroad. Political monitoring of academic appointments and restrictions on sensitive study topics have inhibited creativity and free thought, according to many researchers, impeding intellectual advancement in Turkey. In addition, the country's economic instability, marked by high inflation, currency devaluation, and limited job opportunities, further discourages professionals like the Returning Scientists Program, bureaucratic hurdles and limited funding reduce their effectiveness, making it difficult for returnees to integrate again easily.

Another problem is brain waste, where skilled professionals find themselves in jobs that are way below their actual potentials. The Turkish economy has not fully adapted to absorb this talent, especially in high-tech sectors, which leads to frustration amongst the ones who return. As technoparks and research hubs have been created, they often lack the advanced infrastructure needed for cutting-edge work, pushing the individuals to look further abroad. Social and political instability also played a significant role in driving migration. Ongoing polarization and concerns over civil liberties make many professionals feel either unsafe or restricted in Turkey, even with financial or professional incentives to return.

Critics have also claimed that the government's focus on short-term solutions like scholarships and tax reductions fails to address the underlying reasons for brain drain. In order to develop a stable and appealing environment for qualified workers, a more complete, long-term plan is required, including reforms in education, innovation, and political governance. Without solving these deeper structural issues, short-term incentives are unlikely to make a lasting impact on reducing the brain drain.

Future Directions for Turkey's Education Policy

Turkey's future educational policies must address several key areas to effectively combat brain migration and improve the country's academic and professional landscape. First, increasing academic independence and institutional autonomy is vital. Reducing political interference and giving institutions more freedom in decision-making can encourage innovation and intellectual discussion, making Turkey more appealing to scholars. Strengthening the innovation and research ecosystem is also critical, with better collaboration between the public and commercial sectors and higher funding for R&D, particularly in high-tech fields such as artificial intelligence and biotechnology. This would help retain skilled professionals who currently leave due to inadequate facilities and resources.



Expanding and modernizing vocational training and technical education is another important step. Turkey should be able to adopt models like Germany's dual education system, which combines classroom learning with industry apprenticeships, making sure graduates are well prepared for the job market. Promoting international cooperation and exchange programs will also help to retain talent by providing opportunities for Turkish students and professors to get global experience while remaining linked to Turkey. Programs such as Erasmus+ and partnerships with leading global universities can facilitate this knowledge exchange.

In addition, embracing digital transformation in education can increase both accessibility and quality. Expanding online learning platforms and integrating AI-powered education tools can help reach more students and improve STEM education, which is critical for retaining talent in technology areas. In the meanwhile, Turkey must encourage the return of qualified people from abroad by offering competitive financial and professional incentives, such as expanded grant programs and improved recognition of international qualifications.

Finally, socio-political issues shall be addressed to create a rather attractive environment for professionals. Improving the civil liberties, ensuring academic freedom, and fostering political stability are all necessary steps in making Turkey a more appealing place to live and work. By tackling these broader issues, Turkey can create a climate that not only keeps hold of domestic talent but also encourages skilled professionals from abroad to return and contribute to the country's development.

Conclusion

In summary, Turkey is grappling with the significant issue of losing many of its brightest minds to countries like Germany, where better career and academic opportunities are more readily available. This brain migration has deeply affected Turkey's education system, hampering innovation and weakening its global competitiveness. Despite government efforts to tackle this through increased funding for research, reforms in vocational training, and incentives to bring talent back, these steps haven't fully addressed the root causes. The country's political instability, limits on academic freedom, and ongoing economic struggles continue to push skilled professionals to seek better prospects elsewhere.

To effectively address this challenge, Turkey needs a well-rounded strategy. It must prioritize giving its universities more independence, strengthen partnerships between the public and private sectors, and modernize its approach to education. Building stronger ties with international institutions and improving the social and political landscape will also be crucial. By doing so, Turkey not only retains its homegrown talent, but also creates a more appealing environment for those who have left, to return and contribute to the country's future. Addressing these deeper issues is essential in order for stopping the current path and creating a better future for all.