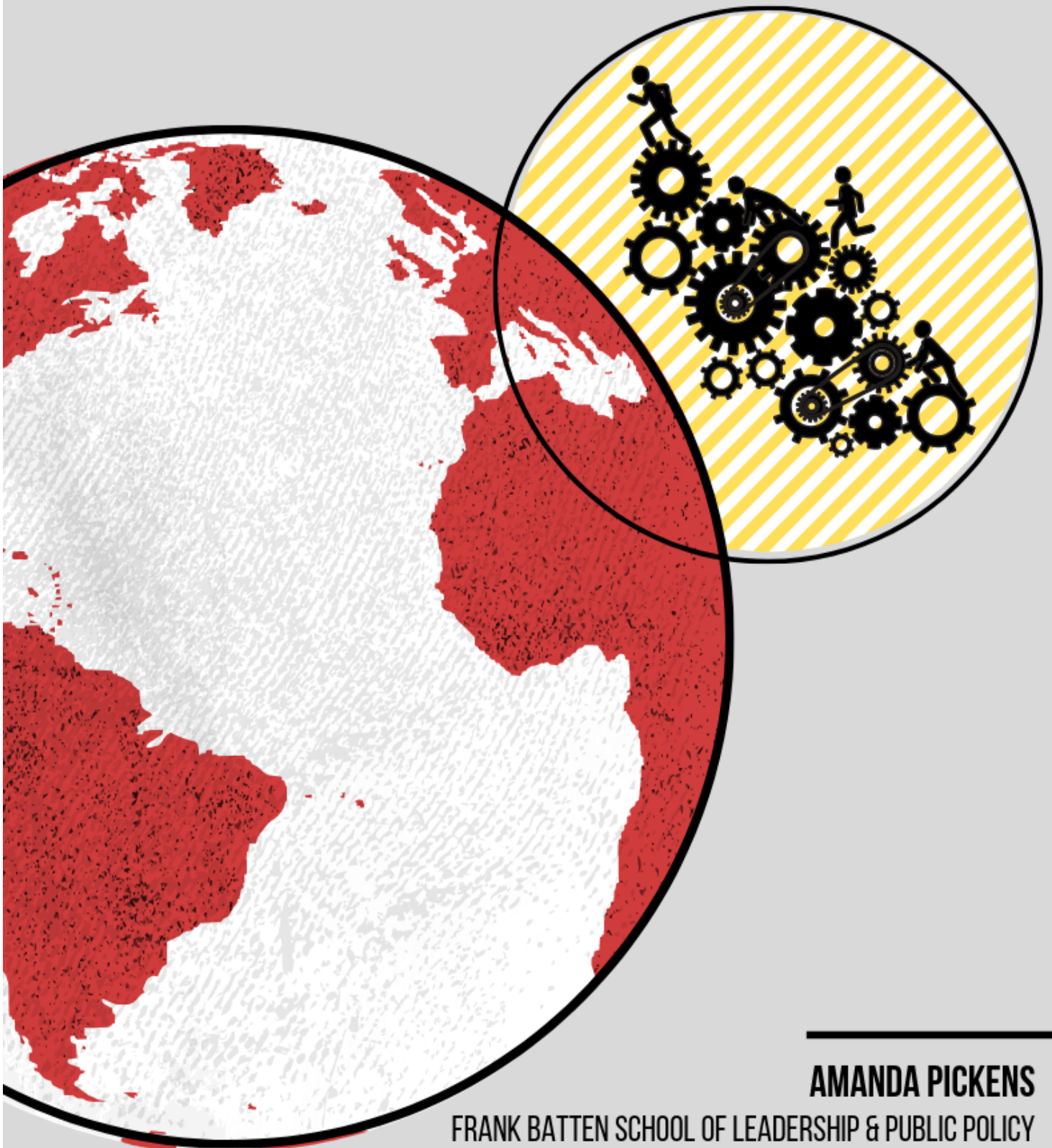# FROM WELCOME, TO WORK:
REDUCING REFUGEE UNEMPLOYMENT IN GERMANY

AMANDA PICKENS

FRANK BATTEN SCHOOL OF LEADERSHIP & PUBLIC POLICY

UNIVERSITY OF VIRGINIA

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Client

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Disclaimer

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy at the University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other entity.

Honor Pledge

On my honor as a student, I have neither given nor received unauthorized aid on this assignment.

Amanda Pickens

UNIVERSITY *of* **VIRGINIA**
FRANK BATTEN SCHOOL *of* LEADERSHIP *and* PUBLIC POLICY

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ACRONYMS

AfD	Alternative für Deutschland	Alternative for Germany
AZR	Ausländerzentralregister	Central Register of Foreign Nationals
BA	Bundesagentur für Arbeit	Federal Employment Agency
BAMF	Bundesamt für Migration und Flüchtlinge	Federal Office for Migration and Refugees
BMI	Bundesministerium des Innern	Federal Ministry of the Interior
EASY	Erstverteilung von Asylbegehrenden	Initial Distribution of Asylum Seekers
ESF	Europäischer Sozialfonds	European Social Fund
EU	Europäische Union	European Union
GCR	Genfer Flüchtlingskonvention	Geneva Convention on Refugees
IPL	Stanford Labor für Einwanderungspolitik	Stanford Immigration Policy Lab
OECD	Organisation für wirtschaftliche Koordinierung und Entwicklung	Organization for Economic Coordination & Development

KEY TERMS

Although the term 'refugee' is often used colloquially to refer to migrants fleeing persecution, war, and other humanitarian crises in their homelands, the legal definition of refugee is quite narrow. Refugees are distinguished from the broader category of 'asylum seekers'.

REFUGEES are individuals who have successfully applied for asylum and have been granted formal refugee status according to the Geneva Convention (GCR). Notably, the GCR definition of refugees is based on *individual* persecution, and does not address the broader issue of civilians fleeing conflicts. Therefore, many humanitarian migrants to Germany do not qualify for formal refugee status (European Parliament, 2018).

ASYLUM SEEKERS are individuals who have applied for, but have not been granted formal refugee status. This includes individuals whose asylum applications have not yet been decided. It also includes individuals who have been denied formal refugee status, but granted subsidiary legal protection. In Germany, asylum seekers are eligible for many of the same integration programs and benefits as refugees, although they receive only temporary residence permits (European Parliament, 2018).

This analysis aims to reduce unemployment among both of these categories of humanitarian migrants in Germany. Therefore, both terms will be used throughout this report.

EXECUTIVE SUMMARY

When it comes to supporting refugees, Germany is typically hailed as a leader in Europe (Hindy, 2018). In 2015, Chancellor Angela Merkel famously declared, *"We can do this!"* as she opened Germany's borders to unprecedented numbers of asylum seekers. In the years since, Germany has accepted 1.2 million refugees—more than all other EU nations combined—and invested 70 billion euros to promote their successful integration into society (Shalal, 2018). Employment is a critical indicator of successful integration, as employed refugees are less reliant on social benefits (European Parliament, 2018).

Yet four years since the peak of the global forced migration crisis in 2015, 75% of refugees in Germany remain unemployed (Federal Employment Agency, 2018). This slow progress is not for lack of effort. Germany has implemented numerous employment support programs for refugees, and maintains the most comprehensive labor market integration system in Europe (EU Parliament, 2018). When it comes to best practices from the literature, Germany appears to be doing everything right.

Nonetheless, such bleak refugee employment outcomes suggest that Germany's 'model system' is far from perfect. My research has identified a major policy gap in the German system: **Germany's employment support programs start <u>too late</u> in the asylum resettlement process.**

All of Germany's existing programs take effect *after* asylum seekers have been randomly and proportionally distributed to different German states. This is problematic, because *which* state an asylum seeker is assigned to significantly impacts her employment probability (Aslund et al., 2007).

This report presents three policy options to increase refugee employment in Germany during the earliest phase of the resettlement process:

1. Modify State Refugee Quotas to Account for Local Labor Market Conditions
2. Integrate AI-Driven Algorithm into Refugee Distribution Decisions
3. Modify MySkills Assessment to Reach All Asylum Seekers upon Arrival

These options are evaluated on four criteria: effectiveness at increasing Germany's refugee employment rate; cost of implementation; administrative feasibility of implementation; and political sustainability.

I recommend Option 2: Integrate AI-Driven Algorithm into Refugee Distribution Decisions. This option makes refugee distribution decisions less random, by introducing a new algorithm designed to maximize individual employment probabilities. The algorithm considers asylum seekers' individual characteristics and determines which state will offer them the greatest likelihood of employment (Bansak et al., 2018). I recommend that the Federal Office for Migration and Refugees (BAMF) launch a pilot program to place 5,000 refugees using the algorithm, and track their employment outcomes. This option is simple, effective, politically palatable, and low-cost. By ensuring that refugee distribution decisions are proactive and intentional, this algorithm will fill a major gap in German policy, and maximize the efficiency of existing programs.

As anti-immigrant sentiment continues to build in Germany today, continued progress on refugee employment is not guaranteed. With the rest of the world's eyes fixed on Germany's integration experiment, improving refugee employment outcomes is a crucial task with global implications.

INTRODUCTION

Between 2015 and 2017, more than three million people fled war and conflict in the Middle East and North Africa; endured a treacherous journey across the Mediterranean; and sought asylum on Europe's shores. Even for the fortunate fraction of asylum seekers who were approved to resettle in Europe, their struggles persist. Language barriers, uncertain terms of asylum, and lack of access to housing, healthcare, education, and employment remain major obstacles for resettled refugees to integrate into their host societies (Woetzel, 2018).

In May 2018, the Center for Strategic and International Studies (CSIS) published *"Confronting the Global Forced Migration Crisis",* a comprehensive report outlining the scale, scope, causes, and consequences of the modern migration crisis on host nations, including the United States and European Union. One year later, my research aims to expand upon the report's conclusion that policy efforts within host countries should seek to facilitate *"quick and effective economic integration"* of refugees. Specifically, this project will analyze the employment of refugees and asylum seekers in Germany, the EU country which has received the largest share of refugees since 2015.

Why employment?

This report will focus on one critical indicator of economic integration: employment. In 2018, the European Parliament asserted that participation in the labor market is the most important factor in assuring long-term integration of refugees (European Parliament, 2018). Efficient employment of refugees also provides economic benefits to the host country. Literature suggests that rapid labor market integration reduces the net financial cost associated with an inflow of asylum seekers (IMF, 2016). Employment also serves as a proxy for other indicators of successful integration, as it empowers refugees to eliminate dependence on social benefits, grow a social network within their host country, and improve their access to health care and economic opportunity (European Parliament, 2018).

Percent of Refugees Employed by 2016, According to Year of Arrival in Germany
Source: IAB, BAMF, SOEP

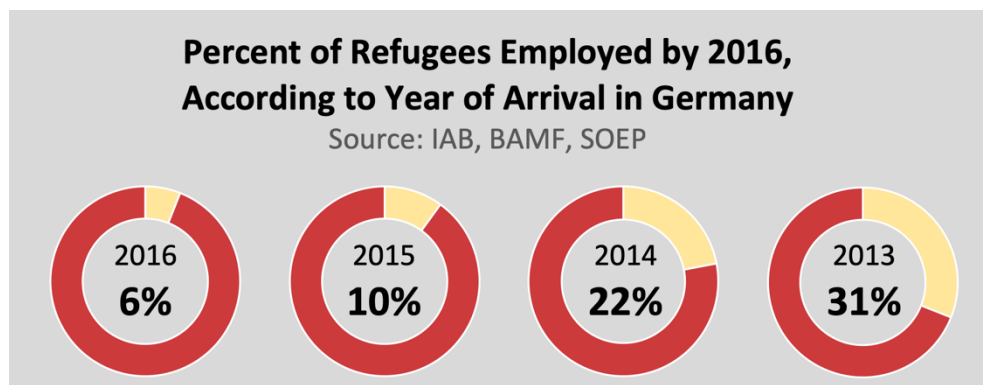2016 **6%**   2015 **10%**   2014 **22%**   2013 **31%**

Figure 1: *31% of refugees were employed within 4 years of living in Germany, compared to only 6% employed within one year*

Why Germany?

Germany is a critical case study in refugee employment for four reasons:

1 **Germany is faced with the challenge of integrating more asylum seekers than any other EU country.**
The German government is tasked with integrating approximately 1.2 million asylum seekers that have been resettled since 2015. This is more than double the number received by any other EU country during this period (Woetzel, 2018). The demand for labor market integration is heightened by the fact that the vast majority of refugees in Germany plan on staying permanently (Woetzel, 2018).

2 **Germany's influx of refugees provides a remarkable opportunity for economic growth.**
Germany currently confronts the dual challenge of an aging population and a massive native labor shortage, with more than 1.6 million job vacancies estimated across several industries (Hockenos, 2018). As more than 85% of recently-resettled refugees in Germany are under the age of 35, refugees may provide a valuable boost to the German demography (Woetzel, 2018).

3 **Fixing Germany's labor market integration system will improve our standard of best practices, which may be replicated in other host nations.**
Since 2015, Germany has opened its borders to more refugees than all other EU member states combined, and implemented numerous programs to facilitate refugee employment (Woetzel, 2018). During the same period, most other EU states closed their borders, and invested mere fractions of Germany's integration spending. These EU states can look to Germany as a model to improve their refugee employment outcomes, in many respects. Yet a *flawed* German model will generate knock-on consequences in nations that seek to emulate it. Improving the German system improves the global standard of 'best practices' to address this issue.

4 **The window for policy change on this issue is closing. Changing political tides and the rise of anti-immigrant sentiment in Germany threaten continued progress on refugee employment.**
After facing severe backlash for her liberal migration policies, German Chancellor Angela Merkel will step down by the end of her term in 2021. German politics is shifting increasingly toward the political right. The extreme-right wing party Alternative for Germany (AfD) continues to gain popularity, receiving an unprecedented 13% of the vote in 2017 elections (Mudde, 2017). A 2017 survey found that merely 30% of Germans believe the country 'responded well' to the migration crisis (Talo, 2017). Policy interventions to facilitate refugee employment, therefore, are constrained by Germany's current political environment. The options presented in this report are considered within these political constraints.

PROBLEM DEFINITION

Four years since the peak of the global forced migration crisis in 2015, 75% of refugees in Germany remain unemployed (Federal Employment Agency, 2018).[1] This means that a refugee in Germany is 15 times more likely to be unemployed than a native-born German, and six times more likely to be unemployed than any other foreign-born immigrant in Germany (Woetzel, 2018).

Such bleak employment outcomes are particularly alarming in the country which has thus far served as Europe's 'model system' for refugee integration. Preliminary data demonstrates that the German system is—at the very least—far from perfect. Moreover, as anti-immigrant sentiment continues to build in Germany today, continued progress toward refugee employment is not guaranteed. This report will analyze additional policy interventions to reduce refugee unemployment in Germany going forward.

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[1] For the purposes of this report, "unemployed" refers to refugees who are officially registered as "unemployed", as well as refugees who are "not employed", and not yet formally registered in the labor force.

BACKGROUND & LITERATURE REVIEW

This section will proceed in three parts. First, it will provide relevant context on the causes and significance of refugee unemployment, and the history of migrant integration in Germany. Second, it will provide an overview of best practices from the literature to promote refugee employment, and an overview of Germany's existing employment support programs. Finally, this section will conclude by discussing the remaining gap in Germany's labor market integration programming.

Causes & Significance of Refugee Unemployment

Refugees and asylum seekers have historically struggled to achieve gainful employment in host countries. The employment rate of migrants who arrive as asylum seekers is significantly lower than other migrant categories (OECD, 2015; Cangiano, 2012). Labor migrants, for example, typically have jobs secured before or shortly after moving to the host country. If labor migrants cannot find employment, they return to their home country. In contrast, most humanitarian migrants fleeing war and conflict do not have pre-arranged jobs, nor the option to return home.

According to the OECD (2015), disproportionately high unemployment rates among refugees can only be partially attributed to a lack of qualifications and skills. Other barriers to entry to host country labor markets include:

1 **Language Barriers**: Proficiency in the host-country language is highly determinant of employment outcomes of asylum seekers. Schuller et al. (2011) found that improvement in the command of German was positively correlated with the probability of being employed.

2 **Uncertainty & Temporary Nature of Asylum Status:** While some asylum seekers are granted full refugee status and long-term residence permits, others receive only subsidiary legal protection and temporary residence permits—some of which must be renewed after only one year. Literature suggests that issuing temporary residence permits has a clear discouraging effect on individuals' incentives to devote time and effort to learning a new language, enrolling in vocational training, or other preparation for employment (Joyce, 2018; European Parliament 2018).

3 **Improper Recognition of Qualifications**: Highly educated asylum seekers often struggle to find employment because their degrees and qualifications are not recognized by the host country. An empirical study found that properly recognizing foreign degrees as equivalent to German degrees led to a 23-percentage point increase in immigrants' employment, and a 28 percent increase in their average wages (BMBF, 2017).

4 **Cultural Alienation & Discrimination**: Discrimination against asylum seekers also negatively impacts their employment prospects. This is particularly problematic in Europe today, where anti-Muslim sentiments are on the rise, as the vast majority of asylum seekers hail from Syria, Afghanistan, and Iraq. In a 2016 survey, 1 in 5 Germans admitted they do not want Muslims as neighbors (European Parliament, 2018). One study found that anonymizing migrants' job applications to hide Arabic-sounding names had a positive effect on their chances of receiving an interview (Krause et al., 2012).

It is important to note that the existing literature on refugee unemployment is relatively limited, though it has grown quickly over the past three years. There is an abundance of literature on refugee integration in general, but little specifically focused on unemployment. However, the global migration crisis renewed focus on this issue. Many international organizations such the OECD and Transatlantic Council on Migration, as well as the European Parliament and European national governments, have sponsored research on refugee labor market participation since 2016. The OECD published a report specifically on labor market integration of refugees in Germany in 2017.

Furthermore, existing literature on Europe's most recent wave of refugees is largely descriptive and lacks a quantitative component, primarily due to a lack of available data (Bertelsmann-Stiftung, 2018). Quantitative analysis on this population is thus difficult and unreliable. Privacy laws governing data protection also make it difficult to track an individual's progress from arrival through full integration and employment.

History of Migrant Integration in Germany

This is not the first time that Germany has faced a major labor shortage, an influx of migrants, or an influx of asylum-seekers. In fact, in the post-WWII period, Germany intentionally recruited hundreds of thousands of foreign migrants to fill empty positions in the German labor market. Between 1955 and 1965, the German government signed contracts with Italy, Turkey, Portugal, Greece, Spain, and other foreign governments to send mass numbers of young men to Germany as labor migrants, in an attempt to quell a growing German labor shortage (DOMID, n.d.).

Turkish Labor Migration, 1960s
Most notable of these contracts was Germany's agreement with Turkey. Beginning in 1961, more than 750,000 Turkish men were recruited to Germany as '*Gastarbeiter*', or 'guest workers'. German officials assumed that the men would return to Turkey as soon as their employment contracts ended, and thus, made no concerted effort to integrate the migrants (Nasr, 2017). Turks were offered no German language or vocational training, and consequently, tended to self-segregate in certain neighborhoods and remain in low-skilled

jobs. Lack of German-specific training, non-recognition of foreign certifications, and language barriers limited the 'guest workers' to the lowest wage categories.

To the surprise of German officials, hundreds of thousands of Turks stayed in Germany permanently, and eventually brought their wives and children to join them. Today, nearly 60 years after the original Turkish 'guest workers' arrived, Germany's 2.5 million ethnic Turkish residents remain the country's least-integrated minority. Unemployment among people of Turkish descent in Germany is 16 percent—triple the national average (DOMID, n.d.).
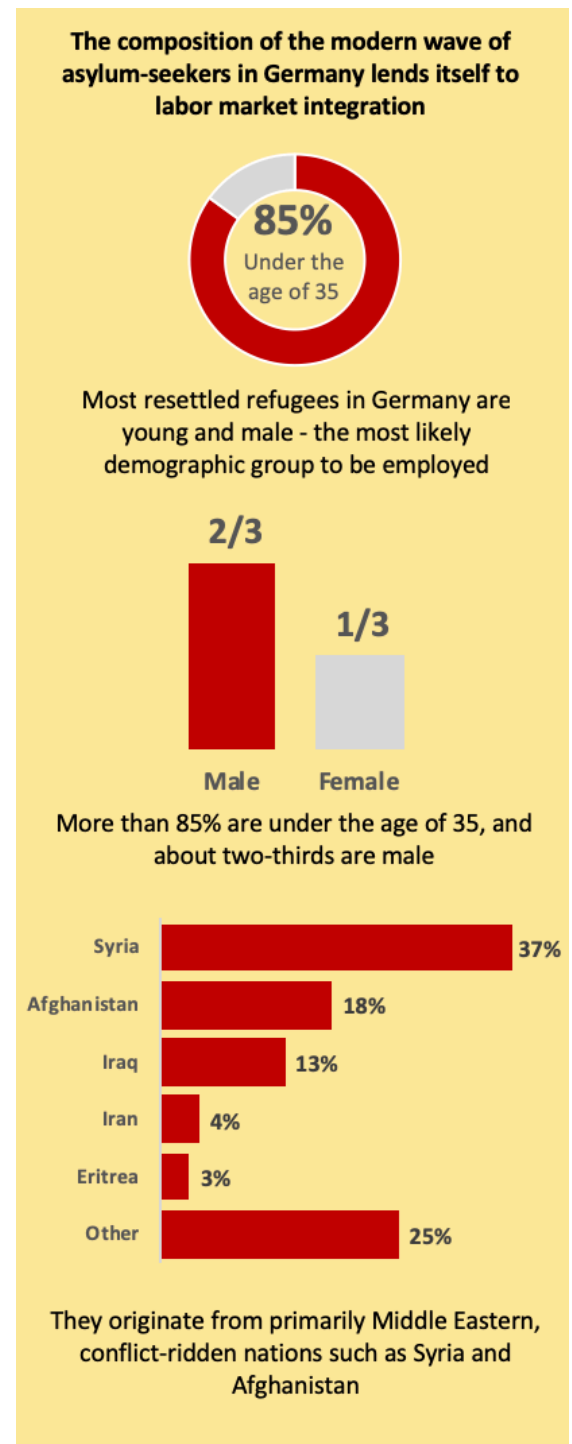
Influx of Asylum Seekers, 1990s
Distinct from the labor migrants of the 1960s, Germany received an influx of asylum-seekers in the early 1990s. Individuals fled to Germany to escape the Yugoslav Wars and economic turmoil in the former Soviet bloc. In 1992 alone, Germany received 440,000 asylum applications (MPI, 2016). This influx of asylum-seekers brought with it political backlash.

The German government significantly tightened its immigration laws in 1993, when it passed the "Asylum Compromise". This law stated that individuals who fled from a list of countries deemed "safe states" by the German government, or who traveled *through* "safe states" on their way to Germany, could no longer qualify for asylum. Because all of the countries bordering Germany were considered 'safe states', the Asylum Compromise made it effectively impossible for refugees to legally enter Germany by land. Notably, Germany also saw an increase in xenophobia and violence against immigrants during this period (DOMID, n.d.).

Lessons Learned
These historical parallels provide important lessons for officials tasked with integrating Germany's most recent wave of refugees. The experience of Turkish labor migrants in the 1960s

The composition of the modern wave of asylum-seekers in Germany lends itself to labor market integration

85% Under the age of 35

Most resettled refugees in Germany are young and male - the most likely demographic group to be employed

2/3 Male
1/3 Female

More than 85% are under the age of 35, and about two-thirds are male

Syria 37%
Afghanistan 18%
Iraq 13%
Iran 4%
Eritrea 3%
Other 25%

They originate from primarily Middle Eastern, conflict-ridden nations such as Syria and Afghanistan

demonstrates that migrants can fill critical labor shortages in the German economy. However, the German government must make a concerted effort at integration in order to avoid long-term societal consequences. Moreover, current political tides in Germany are not unprecedented. The call for closed borders and increased anti-immigrant sentiments in the 1990s are similarly occurring today.

However, it is important to note that these prior waves of migrants differ in scale and scope from the 1.2 million asylum seekers that have arrived in Germany since 2015. Unlike the labor migrants of the 1960s, the modern migrants to Germany are predominantly refugees fleeing war and conflict. Unlike the refugee population of the 1990s, the vast majority of recent asylum applicants to Germany plan on settling permanently (OECD, 2017). A 2016 survey revealed that 95% of refugees planned to stay in Germany long-term (Woetzel, 2018). Therefore, the demand for long-term labor market integration in Germany today is indeed unprecedented.

What Germany is Doing Well
Review of Existing German Programs & Best Practices to Reduce Refugee Unemployment
The German government appears to recognize this unprecedented need for integration. The federal government has instituted three major legal changes to promote refugee integration since 2015. First, Germany more than **doubled annual federal spending** on integration from $244 million in 2015, to $610 million in 2017 (Romei, et al., 2017). Second, Germany passed the **Integration Act in August 2016,** which provided federal funding for language, civics, and vocational training, among other provisions (*Integrationsgesetz*, 2016). Third, Germany introduced the **"3+2" Rule** in order to minimize concerns among asylum seekers that their efforts to learn a new language and skills would be wasted, should their asylum application be declined. The rule guarantees that asylum seekers who are enrolled in a traditional 3-year apprenticeship program will not be deported, and instead will receive a two-year residence permit upon completion of the apprenticeship (European Parliament, 2018).

These legal changes made way for the introduction of a multitude of federal programs designed to promote refugee employment. These programs are based on a limited but important literature on previous attempts to promote refugee employment in other regional and historical contexts. It is important to note that data on this topic is limited, and many studies on prior interventions lack strong, empirical evaluations. Nonetheless, widespread consensus has emerged on five 'best practices' to reduce refugee unemployment. Germany already abides by all five of these best practices. This section will summarize Germany's existing employment support programs in the context of this literature.

Best Practice #1: Offer a Mandatory & Comprehensive Introduction Program

Comphrensive introduction programs help to promote refugee employment and other integration outcomes. These programs vary by country in the scope of their requirements. Generally, they are designed to teach host-country specific language, civic, and cultural skills. In some cases, they also include vocational training.

Different countries implement these programs through different methods. In Sweden, the federal Public Employment Agency is responsible for overseeing the entire introduction program. In Denmark, the program is implemented locally by municipal governments. In Germany and the Netherlands, the federal government funds and sets standards for introduction programs, but entrusts private NGOs to implement them across municipalities (Joyce, 2018). This method offers refugees greater freedom of choice; however, critics argue that new migrants lack sufficient knowledge of their host country to make informed choices between providers (Joyce, 2018). Further empirical research is necessary to evaluate the effectiveness of these varying modes of implementation.

Introduction programs are mandatory and public-funded in most EU countries that have implemented them, such as Germany, Austria, Sweden, and Norway, among others. Making these programs mandatory and free of charge for asylum seekers is intended to maximize participation rates. However, further empirical research is necessary to determine if mandatory introduction programs are actually more *effective* than non-mandatory programs at promoting language proficiency, civic education, and other outcomes among refugees.

German Programming: Integration Course

Germany's Integration Course is a mandatory, comprehensive introduction program for all refugees and asylum seekers. The course includes 600 hours of German language instruction, and 100 hours on German values, culture, and law. At the end of the course, participants must pass an exam. Failure to complete the course or pass the exam precludes refugees from receiving social benefits, and prevents them from receiving a permanent German residence permit (Oltermann, 2016). The German Integration Course is widely considered among the most comprehensive in Europe, but long waitlists in some areas hinder its effectiveness.

Source: Hindy, 2018

Best Practice #2: Prioritize Early Intervention

Literature suggests that offering integration services *before* a decision on an asylum application is made has a positive impact on employment prospects (OECD, 2016). Asylum applications typically take at least five months to reach a decision (Bertelsmann-Stiftung, 2018). Offering individuals access to language and vocational training during this waiting period enables them to achieve proficiency much faster once their asylum is granted. Furthermore, refugees who are unable to access integration services or employment during this waiting period often become frustrated and discouraged, and are less likely to invest in language training and other programs later (RISE, 2013). Currently, only Germany and Austria follow this 'early intervention' strategy.

German Programming: Early Access to Integration Course

Since 2016, Germany has prioritized early intervention by allowing asylum seekers from countries with historically high recognition rates (i.e. majority of asylum applications from that country are typically approved), such as Syrians, to access the Integration Course *before* their asylum cases are decided. Germany was the first country in Europe to adopt an early intervention strategy, although Sweden and Austria recently followed suit (European Parliament, 2018).

Best Practice #3: Combine Language and Vocational Training

Language and vocational training offer critical skills for asylum seekers as they prepare to enter the workforce. However, learning a language and a skilled trade are slow, time-intensive processes. An abundance of research has found that when language and vocational training are offered *together,* in a combined setting, individuals achieve proficiency and find employment faster (Lemaître, 2007; Carrera, 2006; Åslund & Johansson, 2011; Andersson & Nekby, 2012). Several European countries have implemented combined language-vocational training for asylum seekers. Refugees enrolled in Norway's Introduction Program spend two days per week in an internship/workplace setting, and the rest of the week in a traditional classroom setting for language instruction (UNHCR, 2013). Language training programs in Finland require that part of each workday is spent in language classes (UNHCR, 2013).

Policy interventions to facilitate refugee employment fall into two categories:

Supply-side interventions aim to improve the skills and human capital of refugee populations in order to make individuals more "employable" in the host country labor market. Such interventions include language and vocational training programs.

Demand-side interventions aim to address systemic barriers to entry in the host country labor market that disproportionately affect refugees, such as discrimination or improper recognition of foreign qualifications.

German Programming: ESF–BAMF and Vocational Language Training

Since 2008, the German government has offered vocational language courses (ESF-BAMF Courses) funded by the EU Social Fund. These courses include work-specific language instruction and modules such as "how to write emails". They often include an internship component. ESF-BAMF courses last up to six months and comprise up to 730 lessons, depending on the provider. In 2014, around 26,000 migrants participated in an ESF-BAMF course. 12% of these participants were asylums seekers and 2% were tolerated persons. Numbers of participants remained similar in 2015 and 2016, and the share of asylum-seekers enrolled increased slightly to 14% per year (OECD, 2017).

In July 2016, the government also introduced *"Berufsbezogene Deutschsprachförderung"* (Vocational Language Training) as a supplementary option to the mandatory Integration Course. Unlike existing ESF-BAMF courses, this new Vocational Language Training is funded entirely by the German federal budget. In 2016, 179 million euros financed the participation of about 100,000 asylum seekers in these programs (OECD, 2017).

Best Practice #4: Invest in Quality Skills Assessments and Qualification Recognition Systems

Identifying highly skilled asylum seekers and recognizing their credentials (i.e. foreign degrees, transcripts, etc.) helps to prevent unemployment and underemployment (European Parliament, 2018). Aptitude tests and job-specific exams can efficiently verify that asylum seekers are qualified for professional positions. In a field study of over 80,000 immigrants and refugees in Germany, Aldashev et al. (2010) found that offering aptitude tests to evaluate skills had positive effects on the employment rates of immigrants.

German Programming: MySkills Assessment

Germany has tried a variety of foreign qualification recognition programs in the past, including aptitude tests and in-person interviews. Most recently in October 2018, Germany implemented the MySkills Assessment at Federal Employment Agency (BA) offices and some local Jobcenters. MySkills is an online, interactive exam that evaluates individuals' skills in a variety of professions. Upon completion of the exam, refugees receive a detailed report of their capabilities across several, industry-relevant skills areas (MacGregor, 2018). Applicants can include their results along with a job application to give prospective employers a better understanding of their skills. If their existing skills are lacking, employers can then request subsidized training from the BA. The test is currently offered for eight occupations including car mechanics, sales persons, metal technologists, chefs, and agricultural workers. This number is expected to grow to 30 occupations by the end of 2019. MySkills is available in six languages (MacGregor, 2018).
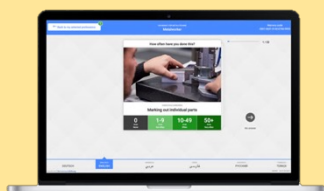
Best Practice #5: Implement Wage and Employment Subsidies

To incentivize employers to hire refugees, governments may offer wage and salary subsidies. A pilot program of this strategy was conducted with over 2,000 refugees resettled in the United States between 1998-2003. Results demonstrated that subsidies were extremely effective. Two thirds of participating refugees were promoted into unsubsidized positions by the end of the program; 60 percent had employer-covered health insurance; and there was a 42-percentage point decrease in the number of participants who fell below the poverty line (Else et al., 2003). Sweden subsidizes half the salary of hired refugees for two years, a policy which has helped many refugees find permanent work (Joyce, 2018). Despite their demonstrated effectiveness, employment subsidies have not yet been widely used by other EU governments, likely due in part to political unpopularity (Joyce, 2018).

German Programming: "One Euro Jobs"

In 2016, Germany began the "One Euro Jobs" program for refugees and asylum seekers. The program subsidized up to 100,000 government-subsidized jobs for refugees. Refugees in these jobs receive a wage of one euro per hour in addition to their monthly social benefits. The program was designed to provide German employers with cheap labor, while simultaneously allowing refugees to gain work experience, improve language skills, and grow a social network. However, only about 4,000 of the 100,000 jobs were filled by the end of 2016 (Deutsche Welle, 2016). Critics of the program argue that the subsidized jobs do not compensate refugees appropriately, do not lead to long-term employment, and replace time that refugees could be spending searching for regular work (Kasinof, 2017).

Zaid, a 23-year-old refugee from Iraq, begins his shift at a restaurant as part of Germany's One-Euro Jobs program.
*Source: French Press Agency*

What Germany Isn't Doing Yet:
The Gap in Existing German Programming

Germany has no shortage of employment support programs for refugees. In fact, when it comes to best practices from the literature, Germany appears to be doing everything right. Yet refugee employment progress remains slow. My research has identified a significant policy gap in Germany's existing programming, which likely contributes to this inefficiency: **Germany's existing employment support programs start <u>too late</u> in the resettlement process.**

Stages of the Asylum Resettlement Process

In order to understand this gap, it is important to understand the three distinct stages of the asylum resettlement process in Germany.

Figure 2: Stages of the Asylum Resettlement Process
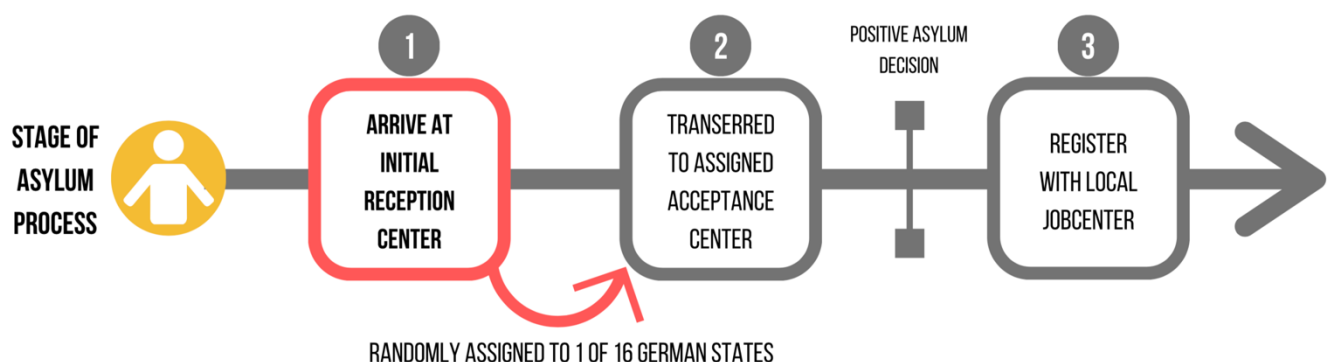
- **Stage 1:** When an asylum seeker arrives at the German border, she is taken to the nearest Initial Reception Center. Initial Reception Centers are large, dormitory-style buildings in each state. The asylum seeker will file her official asylum application and also receive a medical exam. She will stay in the Initial Reception Center for a few days, up to a few weeks, until she is registered in a federal database and randomly assigned to one of Germany's 16 states (Kopp, 2003).

- **Stage 2:** Once the asylum seeker is randomly assigned to a state, she will be transferred to that state and resettled in a local center, called a Central Accommodation Facility. Central Accommodation Facilities are smaller than Initial Reception Centers, and designed to accommodate asylum seekers for longer periods (NRW Refugee Council, 2018). The asylum seeker will stay in the Central Accommodation Facility for six weeks to six months, depending on how long her case takes to be decided. During Stage 2, she will have access to several employment support programs, including Germany's Integration Course (See Figure 3).

- **Stage 3:** The asylum seeker will be granted either full refugee status, subsidiary protection, or forced to leave Germany. If she is allowed to stay, she will enter Stage 3 of the resettlement process. During Stage 3, she will likely be moved out of the acceptance center and looking for an apartment. She also has access to even more employment support programs. She can register with her municipal Jobcenter and file for unemployment benefits, apply for mentorship programs, and access skills assessments, among other opportunities.

Figure 3: Employment Programs Available at Each Stage of Asylum Resettlement Process
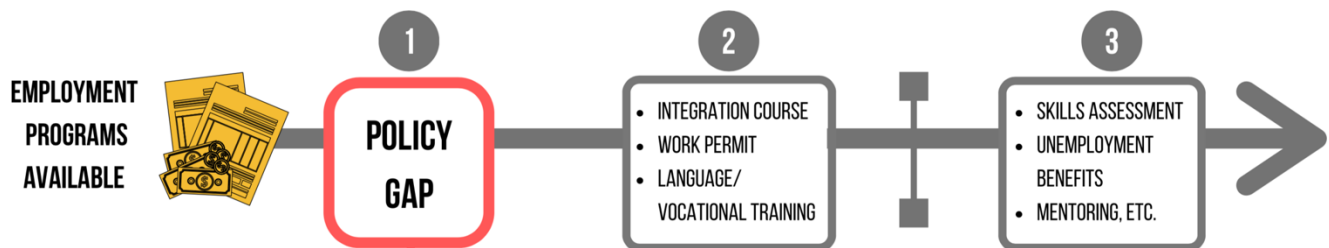
Stage 1: A Policy Gap

All of Germany's existing programming can be categorized into Stage 2 and Stage 3, *after* refugees are assigned and distributed to different German states, using what's essentially a random quota system. Employment outcomes are not considered during Stage 1. This is a major gap in German policy, because *which* German state an asylum seeker is assigned to has a significant impact on her employment probability, for two reasons.

First, certain refugees may have a greater likelihood of finding a job in one German state over another, due to their own individual characteristics. For example, a refugee who worked as a car mechanic in Syria for years before arriving in Germany will be most likely to find employment in a German state with a shortage of native car mechanics. Alternatively, a refugee who has family already resettled in Bavaria will likely have an easier time finding a job in Bavaria, where they could leverage their existing social and professional network.

Second, certain German states have fewer available jobs for refugees than others. There are significant disparities across states in metrics of labor market conditions, such as local unemployment rates and total number of registered job vacancies. In Bavaria, for example, there are over 76,000 registered job vacancies. At least 11,000 of these are "assistantship positions", a category which even low-skilled refugees are likely qualified to fill. In Bremen, by contrast, there are fewer than 5,000 total job vacancies, less than 800 of which are assistantship positions (Geis & Orth, 2016). Local unemployment rates also vary significantly across states. As of March 2019, Baden-Württemberg has a local unemployment rate of only

3.0%, less than half of the 7.3% local unemployment rate in Mecklenburg-Vorpommern. This disparity suggests that there will likely be greater competition for jobs between refugees and native Germans in states like Mecklenburg-Vorpommern, with high existing unemployment rates, than in states like Baden-Württemberg (Federal Statistical Office, 2019).

Literature confirms that local labor market conditions have a significant, long-term impact on refugees' employment outcomes. A study conducted in Sweden found that refugees living in areas with high native unemployment rates were employed at significantly lower rates, and received significantly lower earnings for at least ten years relative to refugees living in areas with lower native unemployment rates (Aslund & Rooth, 2007).

Problematic Distribution Quotas: The EASY System
The current German system does not consider these factors affecting employment outcomes when deciding where each asylum seeker is allocated within Germany. Instead, refugees are assigned randomly and proportionally across states, and employment support programs take effect *after* allocation. **As a result, all current German employment support programs are hindered by an inefficient distribution mechanism that fails to consider refugees' employment probabilities.**

Germany currently bases refugee distribution decisions on the Initial Distribution for Asylum Seekers quota system, more commonly known by its German acronym, the EASY System. As its acronym suggests, this system employs a very simple formula. The EASY System evaluates each state's population and tax contributions and assigns it a quota of asylum applicants, which the state is then obliged to accept (GMDAC, 2016). The EASY system is designed to distribute refugees proportionally across states, to avoid overburdening certain regions or segregating asylum seekers within Germany. In practice, however, the quotas almost exactly mirror state population. For example, North Rhine-Westphalia, which houses 21.2 percent of the German population, receives 21.7 percent of asylum applicants (See Figure 3). Quotas are recalculated each year to adjust for changes in state population and tax contributions, but these adjustments are typically minimal, and limited to less than half a percentage point (Katz et al., 2016).

These quotas are then filled randomly, based on where asylum seekers arrive. If an asylum seeker arrives in North Rhine-Westphalia, for example, and North Rhine-Westphalia has not yet filled their annual quota, then the asylum seeker will be assigned to stay there. If North Rhine-Westphalia *has* already filled their annual quota, then the asylum seeker will be randomly assigned to a different German state with available capacity.

Interestingly, the formula used to determine these quotas, called the Konigstëiner Key, was originally created by the German government as a method of distributing research funding for

public universities across states. The Konigstëiner Key has since been used in other public projects for determining each state's share of benefits, and subsequently became the key for determining refugee distribution (Katz, et al., 2016).

Figure 4: Distribution of Asylum Applicants Across German States

State	Share of Asylum Seekers Allocated (%)	Share of Total German Population (%)	Average Total Unemployment Rate (%)
North Rhine-Westphalia	21.2	21.7	6.4
Bavaria	15.5	15.6	2.7
Baden-Württemberg	12.9	13.2	3.0
Lower Saxony	9.3	9.7	4.9
Hesse	7.4	7.5	4.3
Saxony	5.1	5.0	5.4
Berlin	5.1	4.3	7.6
Rhineland-Palatinate	4.8	5.0	4.1
Schleswig-Holstein	3.4	3.5	5.0
Brandenberg	3.1	3.0	5.8
Saxony-Anhalt	2.8	2.7	7.0
Thuringia	2.7	2.6	5.0
Hamburg	2.5	2.2	6.0
Mecklenburg-Vorpommem	2.0	2.0	7.3
Saarland	1.2	1.2	5.7
Bremen	1.0	0.8	9.3

Source: Katz, et al. (2016); Federal Statistical Office (2019)

The formula is simple, predictable, and efficient. By nature of its simplicity, however, it fails to account for population densities within states, local unemployment rates, and other relevant factors. Therefore, while the EASY System is theoretically designed to ensure that responsibility for accepting refugees is divided equally across states, by failing to account for local labor market conditions, it actually distributes an unequal burden. In practice, the EASY System allocates *too many* refugees to states like North Rhine-Westphalia, who, with already-high rates of native unemployment, lack the economic capacity to provide adequate employment prospects for refugees. At the same time, the EASY System allocates *too few* refugees to states like Hesse and Rhineland-Palatinate, who have unemployment rates below the national average, and greater economic capacity to provide for an influx of migrants.

Recent freedom of movement restrictions further exacerbate the problem. A provision of the 2016 Integration Act that stipulates that refugees cannot relocate outside of their assigned federal state for at least three years (European Parliament, 2018). Therefore, refugees who are assigned to states with weak local economies, housing shortages, or other disadvantages are forced to stay in those states, or sacrifice their welfare benefits upon moving.

TAKEAWAY: Germany must consider refugees' employment probabilities upon arrival.

When an asylum seeker is assigned to a state whose local labor market poorly aligns with their own individual experience, or to a state with few available job vacancies and high native unemployment, they begin their labor market integration at a disadvantage. No matter how much language instruction, vocational training, mentorship, or other support they receive, their employment probability is not maximized because it was not considered early in the integration process.

By proactively considering refugees' employment probabilities earlier in the asylum resettlement process, *before* **they are allocated to different German states, Germany could maximize the efficiency and effectiveness of all existing employment support programs that come afterward.** This report outlines three policy options that enable Germany to improve employment opportunities for refugees early.
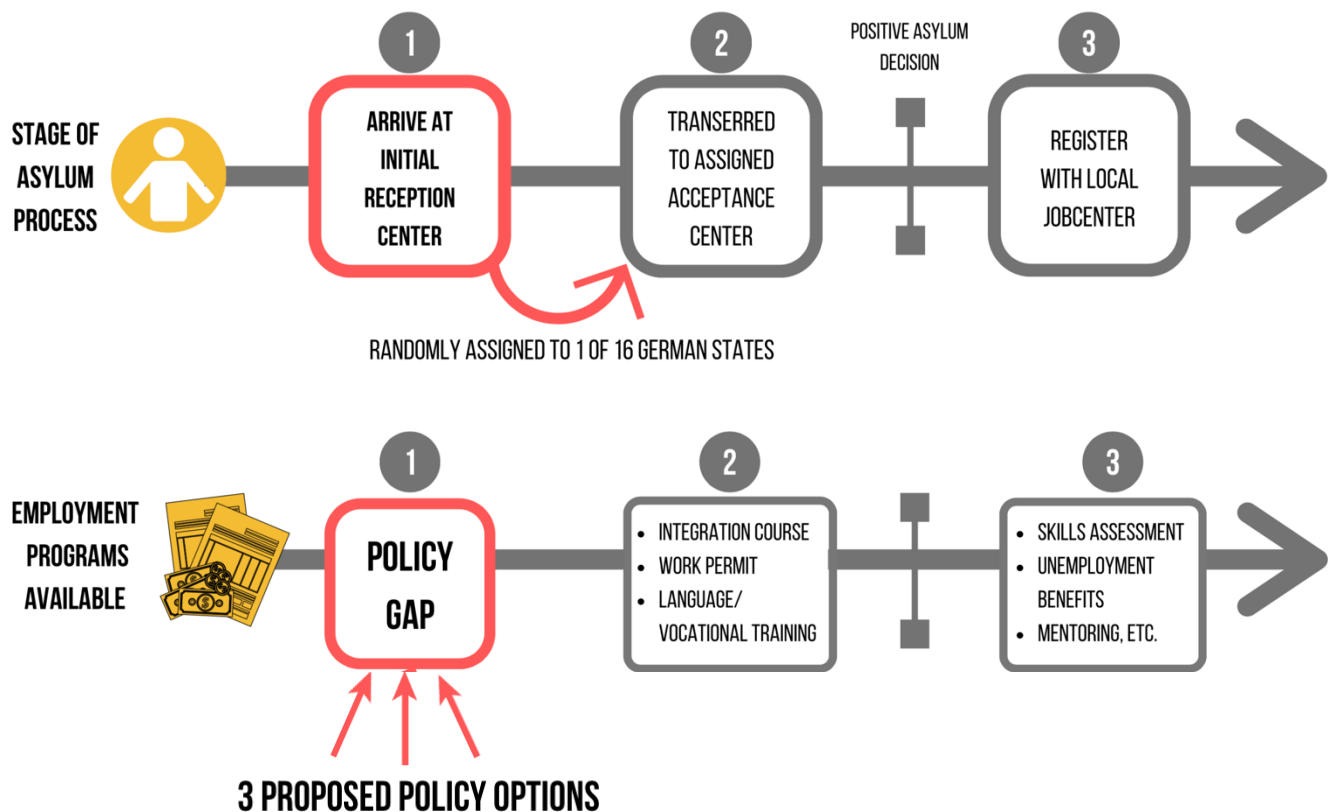
EVALUATIVE CRITERIA

This report presents three policy options to reduce refugee unemployment in Germany during the earliest phase of the resettlement process. Each policy option is evaluated on four evaluative criteria:

I.   **Effectiveness**
Effectiveness refers to each policy option's ability to increase the number of refugees employed in Germany. Effectiveness is quantitatively measured as the projected impact on Germany's refugee employment rate, as an estimated percentage point increase. Highly effective policy options will achieve a greater percentage point increase in the refugee employment rate.

II.   **Cost**
Cost refers to the monetary investment required to implement and maintain the policy option over an initial 2-year period. Costs are discounted at a 4.3 percent discount rate, and presented in present value (Evans & Sezer, 2005). Low-cost options are preferable to high-cost options, all else held constant.

III. **Administrative Feasibility**
Administrative feasibility refers to the likelihood that each policy option is implemented and enforced by all relevant stakeholders in a timely manner. Administrative feasibility is measured qualitatively on a scale of 'Low', 'Medium', or 'High'. Highly administratively feasible options will entail a quick and simple implementation process.

IV.   **Political Sustainability**
Political sustainability refers to each policy option's ability to withstand changes in the German political climate. Political sustainability will be measured qualitatively on a scale of 'Low', 'Medium', or 'High'. With Angela Merkel's forthcoming transition out of the Chancellorship by 2021, and anti-immigrant sentiment on the rise in Germany, highly politically sustainable options will be insulated from political pressures and provide durable, long-term impact.

POLICY OPTIONS

Option 1: Modify State Refugee Quotas to Account for Local Labor Market Conditions

This option seeks to replace the EASY System with a more comprehensive allocation mechanism. Rather than merely relying on population size to determine the quotas of asylum seekers that states must accept, this option seeks to employ a new formula that also considers local labor market conditions. This option aims to reduce refugee unemployment by ensuring that asylum seekers are allocated to regions with adequate employment opportunities.

Specifically, this option involves the Federal Office for Migration and Refugees (BAMF) appointing a committee of experts to design a new allocation formula. The committee will need to determine which factors should be included in the formula, as well as how each factor should be weighted in order to ensure that state quotas accurately reflect local labor market conditions. Factors that the committee should consider include total number of registered job vacancies within each state—particularly assistantship position vacancies—and state unemployment rate, as both of these factors are correlated with an asylum seeker's likelihood of finding employment (Geis & Orth, 2016). Figure 5 illustrates how a new allocation mechanism that considers both of these factors would likely change the distribution of asylum seekers across Germany, compared to the current distribution under the EASY System. The new mechanism would likely distribute more refugees per capita to states like Baden-Wuerttemberg and Bavaria than the current quota system, and fewer refugees per capita to states to states like Mecklenburg-Vorpommern and Sachsen-Anhalt, which generally have weaker local labor market conditions.

A study by the Institute for German Economy recommended that additional factors be considered in a new refugee allocation mechanism, such as housing availability, educational opportunities, and percentage of registered employed persons aged 55 or older (Geis & Orth, 2016). Refugees may be more likely to achieve gainful employment if they have access to ample, adequate housing and opportunities to continue their education. A high percentage of employed persons over 55 may be indicative of an increased demand for young refugee labor in the near future, as a large percentage of the workforce retires (Geis & Orth, 2016).

One German state recently implemented a similar policy change to allocate refugees on the municipal level. In December 2016, North Rhine-Westphalia developed an allocation formula that accounts for population size (80%), territory size (10%) and the municipality's unemployment rate (10%). Municipalities also receive a 10% "reduction" in the number of refugees they are mandated to accept if they are already hosting disproportionately high shares of EU migrants from Central and Eastern Europe that rely on social benefits (OECD, 2018). In

contrast to North Rhine-Westphalia, the large majority of German states still base municipal quotas on population size, mirroring the EASY System (OECD, 2018).
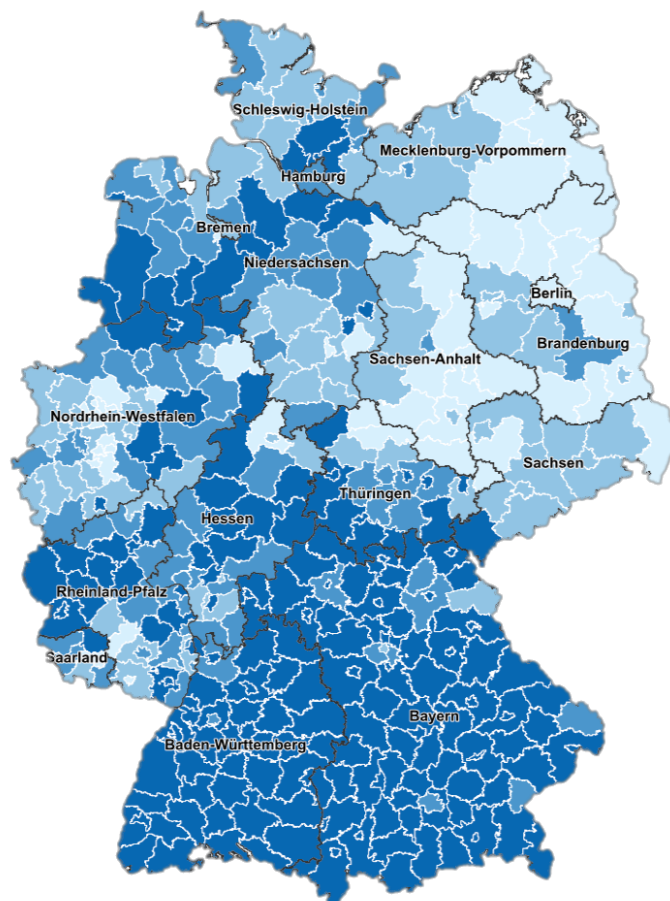
Figure 5A:
EASY System Distribution

Figure 5B:
Projected Distribution with New Mechanism
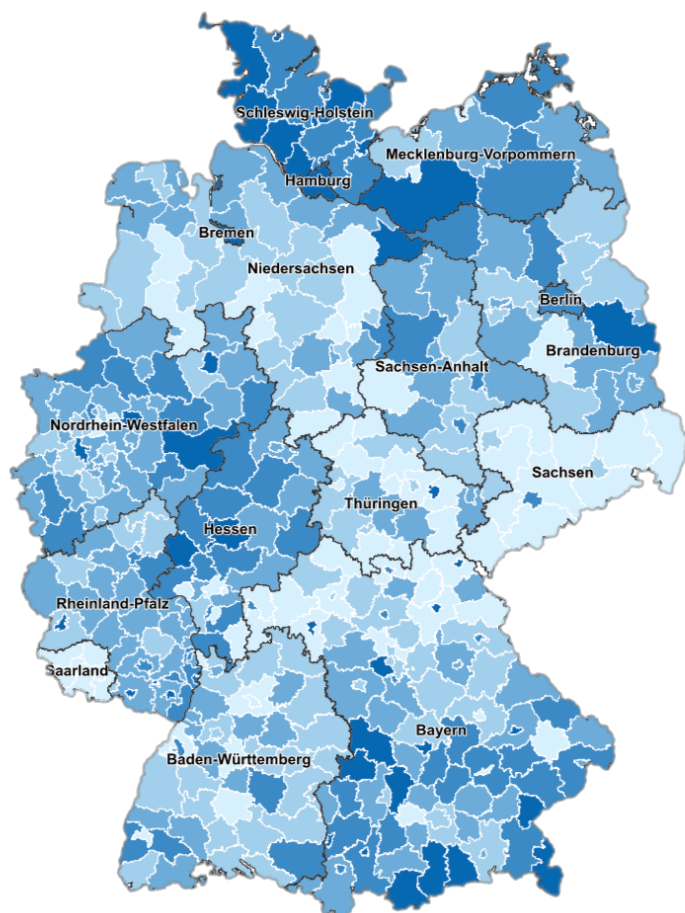
Number of Asylum Seekers per 1,000 Persons

> 0 - ≤ 1.5		> 2,5 - ≤ 3.0	
> 1,5 - ≤ 2.0		> 3,0 - ≤ 20.0	
> 2,0 - ≤ 2.5			

Number of Assistantship Position Vacancies per 100 Unemployed Persons

> 0,0 - ≤ 10.0		> 15.0 - ≤ 20.0	
> 10.0 - ≤ 15.0		> 20.0 - ≤ 80.0	

Source: Geis & Orth (2016); Note: Maps display 2014 data

While it is still early to evaluate the impact of North Rhine Westphalia's new allocation system on refugee employment outcomes, Sweden also implemented a similar change in its federal allocation system in the early 1990s. The change to consider local labor market conditions in allocation decisions was associated with a six percentage-point increase in the refugee employment rate, a 25% increase in annual refugee income, and a 40% decrease in welfare dependency among refugees after eight years (Edin et al., 2004).

Option 1 Evaluation:

Effectiveness: +1 percentage point per year

Based on estimates from the literature, this option is projected to increase the refugee employment rate in Germany by approximately 1 percentage point per year (Edin et al., 2004). See Appendix A for details on this projection.

Cost: €1,487,221

Implementing this option will require that BAMF hire a committee of seven experts to design the new refugee allocation mechanism, and allocate funding to finance the committee's research. This option will cost an estimated 1,487,221 euros over two years. See Appendix B for details on this projection.

Administrative Feasibility: Low

This option scores low on administrative feasibility because it requires the coordination of multiple stakeholders and entails a relatively long implementation process. It will likely take the committee of experts at least two years to gather data and conduct relevant studies to determine which factors should be included in the new refugee distribution formula. Once these factors are determined and the committee drafts a proposal, BAMF will need to lobby the German Parliament to legally implement the new distribution mechanism. Specifically, Parliament will need to amend the Asylum Act, which currently mandates that the EASY System be used to allocate asylum seekers across states ("Freedom of Movement in Germany", n.d.).

Political Sustainability: Low

This option scores low on political sustainability because changing state refugee quotas has historically been highly politically contentious in Germany. Politicians in states whose quotas would be increased would likely argue that their states receive an unfair share of refugees relative to other states. Some politicians have even made this argument about existing, proportional quotas. In 2016, a Bavarian mayor infamously sent a busload of Syrian migrants back to Berlin, claiming that Bavaria had already accepted more than its share of refugees (Bellon, 2016). Making any changes to quotas is politically contentious, even if those changes are evidence-based and intended to reduce labor competition with native Germans.

PROS: Effective at increasing refugee employment rate by at least 1 percentage point per year


CONS: Politically contentious; complex and time-intensive implementation; relatively high-cost compared to other options

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Option 2: Integrate AI-Driven Algorithm into Refugee Distribution Decisions

This option seeks to make refugee distribution decisions less random, by introducing a new algorithm designed to maximize individual employment outcomes. The algorithm will consider each asylum seeker's individual characteristics and experience, and provide a recommendation to the BAMF official charged with assigning the individual to a German state. This option aims to reduce refugee unemployment by ensuring that asylum seekers' skills and experience are considered in distribution decisions.

Unlike Option 1, this option will not change the quotas assigned to each state; the minimum number of asylum seekers each state must accept will remain the same. Individual distribution decisions made within the confines of those quotas will simply be better-informed.

Researchers at Stanford University's Immigration Policy Lab (IPL) designed an algorithm that recommends which locality an individual refugee should be assigned to, based on their unique characteristics (Bansak et al., 2018). The algorithm uses artificial intelligence and machine learning to instantly scan tens of thousands of historical migrant profiles from different countries, and detect patterns. First, the algorithm considers unique characteristics of an individual, such as country of origin, age, ethnic background, and general skill levels. Then, it recommends that the individual be sent to a location comparable to where earlier refugees of a similar profile prospered (Stanford Immigration Policy Lab, 2018a).
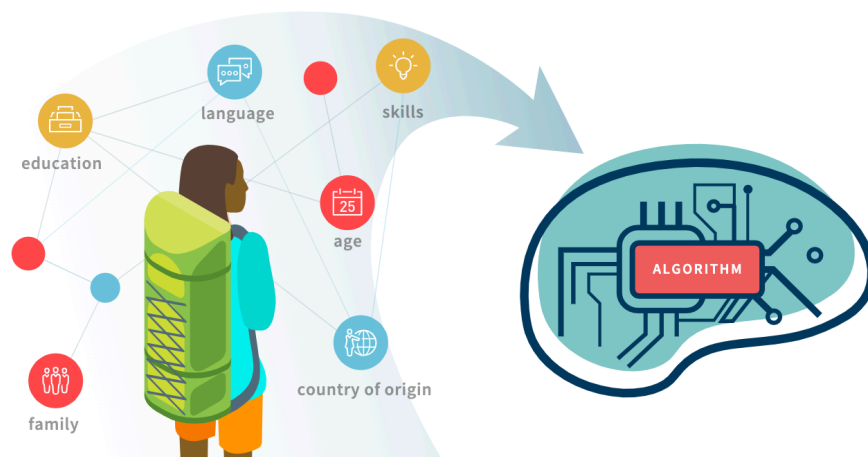

Source: Stanford Immigration Policy Lab, 2018b

Specifically, this option involves the Federal Office for Migration and Refugees (BAMF) launching a pilot program of the IPL distribution algorithm. As the algorithm is still quite new, a pilot program is preferable to immediate, full-scale implementation. This pilot will likely improve the employment outcomes of those participating refugees who are assigned through this mechanism. It will also provide valuable information to Stanford researchers on the

algorithm's effectiveness, and potential areas for improvement. Switzerland recently began a pilot program to gradually integrate the IPL algorithm into their refugee assignment process. Beginning in fall 2018, 1,000 refugees entering Switzerland will be assigned to a state using the algorithm, and 1,000 refugees will be assigned randomly, using the traditional system (Stanford Immigration Policy Lab, 2018b). The employment outcomes of these refugees will be tracked over time.

Although tests of the algorithm's effectiveness have thus far been limited to simulations, the results appear promising. IPL researchers conducted separate tests of the algorithm on historical data from the U.S. and Switzerland. In the U.S., 34% of refugees who arrived in 2013 were employed by 2016. Researchers estimate that if the algorithm had been used to designate their placement in 2013, the employment rate would likely have reached 48% by 2016 (Bansak et al., 2018). In Switzerland, 15% of refugees who arrived in 2013 were employed by 2016. Researchers found that if the algorithm had been used in Switzerland in 2013, the refugee employment rate would likely have reached 26% by 2016 (Bansak et al., 2018).

Figure 6:
Simulated Effectiveness of IPL Algorithm on Refugee Employment Rates in U.S. and Switzerland; Projected Effectiveness of IPL Algorithm in Germany
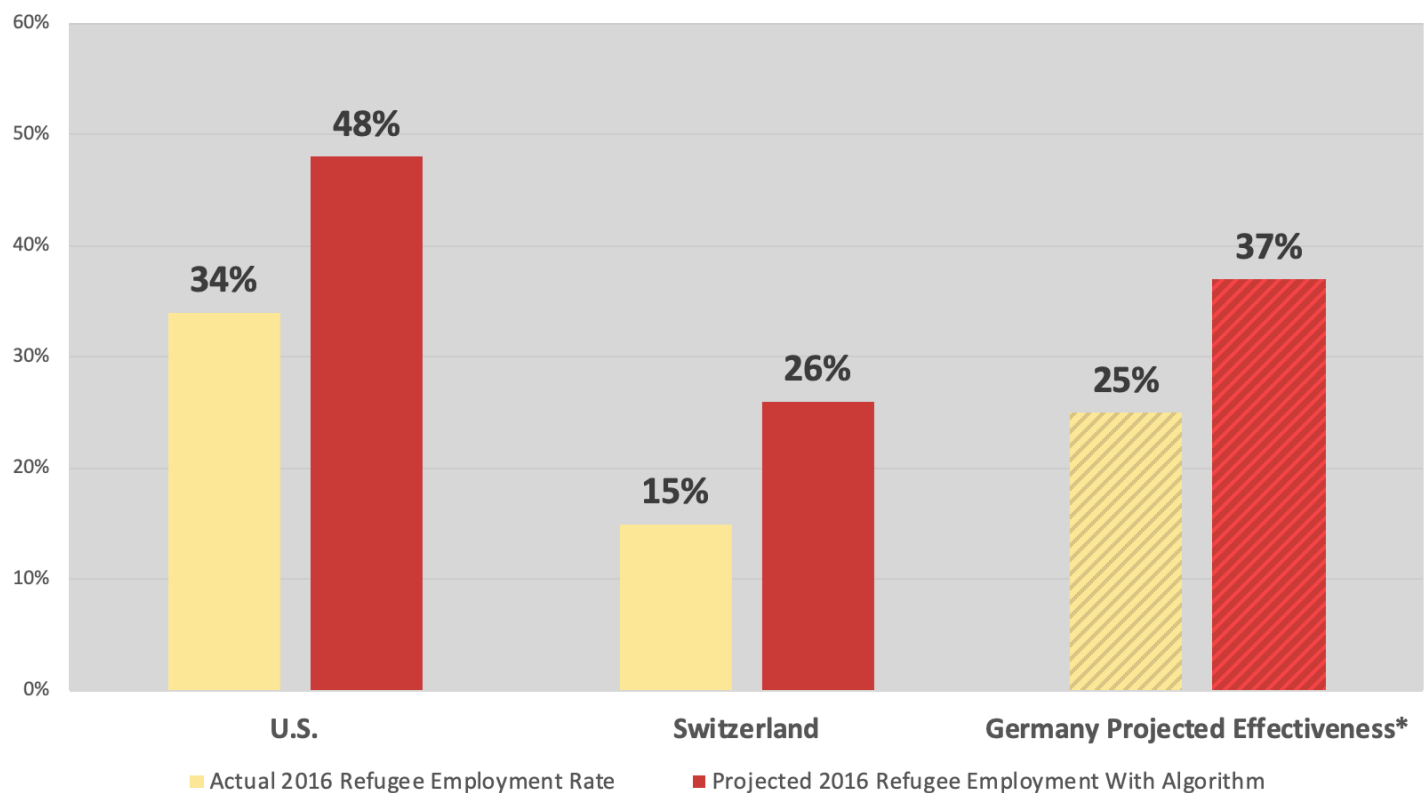
Note: Germany projection is based on author's calculations. See Appendix A for details.

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Option 2 Evaluation:

Effectiveness: +4 percentage points per year

Based on estimates from the literature, this option is projected to increase the refugee employment rate in Germany by approximately 4 percentage points per year (Bansak et al., 2018). See Appendix A for details on this projection. The algorithm will also likely become more effective over time, due to its dynamic nature. The algorithm constantly mines new, updated data on refugee outcomes. It responds to changing conditions within each state, and adjusts assignments accordingly. The more frequently the algorithm is used, the more data points it will possess to guide refugee assignment decisions.

Cost: €303,115

Implementing this option will require that two IPL researchers are stationed in Germany to oversee the pilot program. Initial Reception Center employees will also need to be trained to use the algorithm, for an estimated total cost of 303,115 euros over two years. IPL researchers will likely provide the algorithm software free of charge, as they did in the Switzerland pilot (Graham, 2018). Administrative and training costs for the Switzerland pilot were funded by private donors such as the Rockefeller Foundation and the Stanford Institute for Human-Centered Artificial Intelligence (Graham, 2018). It is likely that similar private funders would be willing to finance the pilot program in Germany as well. See Appendix B for details on this projection.

Administrative Feasibility: High

This option scores high on administrative feasibility, as its implementation is relatively simple. The algorithm, which is accessed as a desktop application, will need to be downloaded onto computers in participating Initial Reception Centers. Initial Reception Center employees will then need to be trained to use the algorithm. Since it is designed as a user-friendly application, initial training can likely be completed in an 8-hour day.

Political Sustainability: High

This option is much more politically sustainable than Option 1, because it does not change state refugee quotas. Importantly, the algorithm complements, but does not *replace* human decision-making. This preempts a common concern that the algorithm will replace jobs for employees at Initial Reception Centers. Employees will still have the final say in determining which federal state a refugee is assigned, and may override the algorithm's recommendation in certain cases (Graham, 2018).

PROS: Highly effective at increasing refugee employment rate by 4 percentage points per year; simple to implement; politically palatable; low-cost

CONS: Effectiveness estimate is based solely on simulated tests of the algorithm, and is not guaranteed

Option 3: Modify MySkills Assessment to Reach All Asylum Seekers upon Arrival

This option seeks to offer skills assessments to all asylum seekers upon arrival by modifying and expanding Germany's MySkills assessment. This option aims to reduce refugee unemployment by promoting proper skills recognition, and providing a more individualized understanding of refugees' employment support needs.

The MySkills assessment is a new, online exam for asylum seekers that creates a record of their work experience and educational credentials. This record can be substituted for a diploma or resume, and serve as proof of qualifications to potential employers (MacGregor, 2018). However, participation in the current MySkills assessment is voluntary and limited. Only skilled asylum seekers with professional experience in certain industries may access the assessment by requesting an appointment at their local Jobcenter. The assessment asks questions relevant to a select few, skilled professions, such as car mechanics, sales persons, chefs, and construction workers, although an updated version of MySkills covering 31 professions is expected to be released later this year (Herdin, 2019).
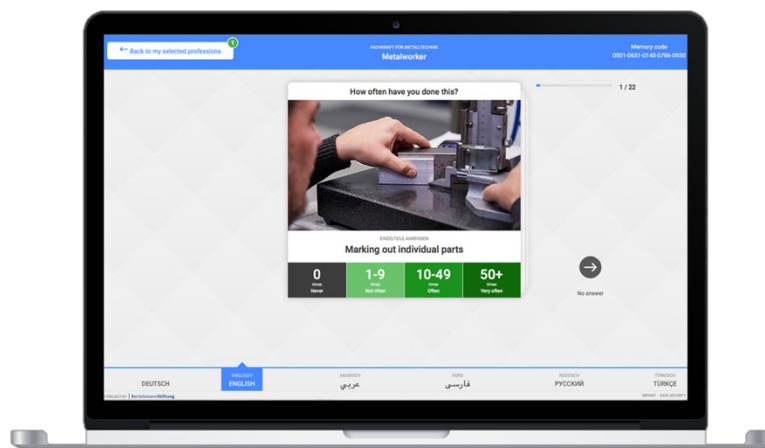

Figure 7: Sample MySkills Assessment Screen
Source: Herdin, 2019

This option will further broaden the scope of the MySkills assessment to also apply to low-skilled asylum seekers; and to allow asylum seekers to access MySkills earlier in the resettlement process, during their stay in Initial Reception centers. Allowing asylum seekers to access MySkills earlier will ensure that employment support needs are considered early on.

Specifically, this option involves two phases. First, the Federal Office for Migration and Refugees (BAMF) must make the assessment available to asylum seekers in a number of Initial Reception Centers. Since MySkills is a computerized assessment, BAMF may simply distribute laptops equipped with MySkills software to participating Initial Reception Centers.

Second, the MySkills assessment must be updated and expanded to evaluate a wider range of backgrounds and professional skills. The Bertelsmann Stiftung Foundation, the German think tank that developed MySkills in conjunction with the Federal Employment Agency (BA), will likely be responsible for developing these software modifications (Herdin, 2019).

Bertelsmann Stiftung may look to Norway for inspiration. Norway already employs a similar model of online, individual skills assessment for asylum seekers upon arrival. The Norwegian tool is a 70-question online form assessing language skills, education, and work experience. However, no applicant actually answers all 70 questions, because the tool follows an algorithm that only requires applicants to answer questions that are relevant to them. If an applicant indicates a background in higher education, they bypass primary-school-level aptitude questions. On the other hand, for those who indicate minimal education, the tool assesses basic skills like abilities to use a watch or handle a mobile phone (OECD, 2018).

The Norwegian skills assessment is shorter, more individualized, and applicable to a broader population of asylum seekers than the current German MySkills model. This option will expand MySkills to include basic biographical questions, as well as primary-level educational assessment questions, in addition to the existing vocational assessments. In doing so, MySkills will establish a baseline of each individual asylum applicant's skills upon arrival. This information will allow employment officials to provide more targeted and individualized recommendations to the asylum seeker upon arrival in their assigned state.

Option 3 Evaluation:

Effectiveness: +0.6 percentage points per year

Based on estimates from the literature, this option is projected to increase the refugee employment rate in Germany by approximately 0.6 percentage points per year (UNESCO, 2018; Brucker, 2016). See Appendix A for details on this projection.

This option is less effective at reducing refugee unemployment than the other two options because it does not change the states to which refugees are distributed; it merely ensures that when they arrive in local employment offices, German officials have a better understanding of their employment support needs. This option is also hindered by a limited scope, as the 8% of refugees in Germany who are illiterate will not be able to take the online assessment (Burchard, 2017).

Cost: €240,750

Implementing this option will require that The Bertelsmann Stiftung Foundation employ at least three software engineers to make the necessary modifications to the MySkills assessment. This option will also require that BAMF invest in a set of laptops for each participating Initial Reception Center in the pilot program. In total, this option is estimated to cost 240,750 euros over two years. See Appendix B for details on this projection.

Administrative Feasibility: Medium

This option scores medium on administrative feasibility for two reasons. First, it requires the coordination of multiple stakeholders who have collaborated successfully in the past (Bertelsmann Stiftung and BAMF). Second, it requires software modifications to MySkills, which may be time-intensive. However, this option merely requires adding a *simplified* MySkills assessment for low-skilled asylum seekers—not additional complexities. Therefore, this is a relatively modest adjustment.

Political Sustainability: High

Similar to Option 2, this option is highly politically sustainable because it does not change state refugee quotas. Furthermore, because MySkills has already been already deployed successfully over the past year, a proposal to expand the program will likely be supported by BAMF officials.

PROS: Low-cost; politically palatable; and relatively simple to implement

CONS: Not as effective as other options at increasing refugee employment rate

OUTCOMES MATRIX

	Option 1: Modify State Refugee Quotas to Account for Local Labor Market Conditions	Option 2: Integrate Algorithm into Refugee Distribution Decisions	Option 3: Modify MySkills Assessment to Reach All Asylum Seekers upon Arrival
Effectiveness *Projected Percentage Point Increase in Refugee Employment Rate Per Year*	+1 percentage-point per year	+4 percentage points per year	+0.6 percentage points per year
Cost *Estimated Over Initial 2-Year Period*	€1,487,221 for research committee	€ 303,115 for pilot program	€ 240,750 for pilot program
Administrative Feasibility	Low	High	Medium
Political Sustainability	Low	High	High

RECOMMENDATION
Option 2: Integrate AI Algorithm into Refugee Distribution Decisions

      Based on the preceding analysis, I recommend that the Federal Office for Migration and Refugees launch a pilot program of the IPL Refugee Distribution Algorithm. Germany's existing employment support programs are hindered by an inefficient distribution mechanism that fails to consider employment probabilities. The IPL Refugee Distribution Algorithm provides an effective, low-cost, simple, and politically palatable option to address this problem. This option will ensure that decisions about which refugees go to which states are intentional, proactive, and designed to maximize individual employment outcomes. Implementing the IPL Algorithm will fill a major gap in German refugee integration policy, and maximize the efficiency of existing German programming.

LIMITATIONS OF RECOMMENDATION

With such a new technology, effectiveness is not guaranteed.
The projected effectiveness of this option is based on limited available data of the IPL Refugee Distribution Algorithm's effectiveness in other, simulated contexts. As of April 2019, the algorithm has only actually been deployed in one pilot program in Switzerland, and data on that program's results is not yet available (Stanford Immigration Policy Lab, 2018b). Therefore, while preliminary tests of the algorithm appear promising, results are not guaranteed. Furthermore, it would likely take several years in order to implement the algorithm at full scale across Germany, as scale-up would likely be contingent on the success of the pilot program. Appendix A notes additional details on the effectiveness estimate.

This option will not retroactively assist in employing refugees *already* resettled in Germany.
One major limitation of this recommendation is that it will not help to employ refugees who have already been assigned to German states. Rather, it aims to ensure that refugees who arrive in Germany in the future have better employment prospects. This is a limitation of all three policy options proposed in this report, as they are all designed to address the policy gap that exists during Stage 1 of Germany's resettlement process.

Additional policy interventions outside the scope of this report may be necessary to improve employment rates among refugees that have already arrived in Germany, particularly since 2015. This report identifies the Stage 1 policy gap as Germany's most significant area for improvement, but it is certainly not the *only* area for improvement. Poor coordination between stakeholders and a lack of empirical evaluations also hinder the effectiveness of Germany's employment support programs.

Germany's employment support programs are implemented across a wide array of government agencies on both the federal and regional level. The Federal Office for Migration and Refugees (BAMF) and Federal Office for Employment (BA) are both responsible for integration policy on the federal level, but different programs fall under each ministry's purview. Other relevant stakeholders include privately-owned language schools, health providers, regional governments, NGOs, and other civil society actors. There is significant overlap in responsibilities among these agencies, which creates redundancies and counterproductive tensions (MPI, 2016).

Furthermore, many of Germany's existing employment support programs have not undergone rigorous empirical evaluations to quantify their effectiveness. Such evaluations would help the German government determine which programs should be prioritized in the federal budget, and which programs should be modified.

Despite this limitation, policy interventions that seek to maximize refugees' employment outcomes early in the resettlement process will provide the greatest return on investment for Germany. Compared to investments in coordination or empirical evaluation, all three options presented in this report are relatively low-moderate cost, and are projected to generate major improvements in the refugee employment rate.

IMPLEMENTATION STRATEGY

Because the IPL Algorithm is a new technology that needs further testing, I propose that Germany implement a pilot program, deploying the algorithm to place 5,000 asylum seekers. The employment outcomes of these 5,000 asylum seekers should be tracked and compared relative to 5,000 refugees in a control group, who are assigned using the traditional EASY System. Switzerland is currently implementing a very similar pilot on a smaller scale, using the algorithm to place 1,000 refugees (Stanford Immigration Policy Lab, 2018b).

The Stanford Immigration Policy Lab has had conversations with relevant German authorities in the past about implementing a pilot program, but as of April 2019, does not yet have concrete plans to implement the pilot (Personal Correspondence with J. Fei, 2019).

Germany is expected to receive between 180,000 and 220,000 new asylum applicants in 2019, and a similar number in 2020. Of this population, 10,000 will be targeted in the pilot program. Each Initial Reception Center houses between 500-1000 asylum seekers; thus, the pilot program can be limited to 13 Initial Reception Centers in three states: six centers in North Rhine-Westphalia, four centers in Bavaria, and three centers in Baden-Württemberg (See Appendix A for details).

Implementation of the pilot is relatively simple. The algorithm, which is accessed as a desktop application, will need to be downloaded onto computers in participating Initial Reception Centers. Initial Reception Center employees will then need to be trained to use the algorithm. Since it is designed as a user-friendly application, initial training can likely be completed in an 8-hour day. IPL researchers should be available on-call to answer any questions that employees have about using the algorithm.
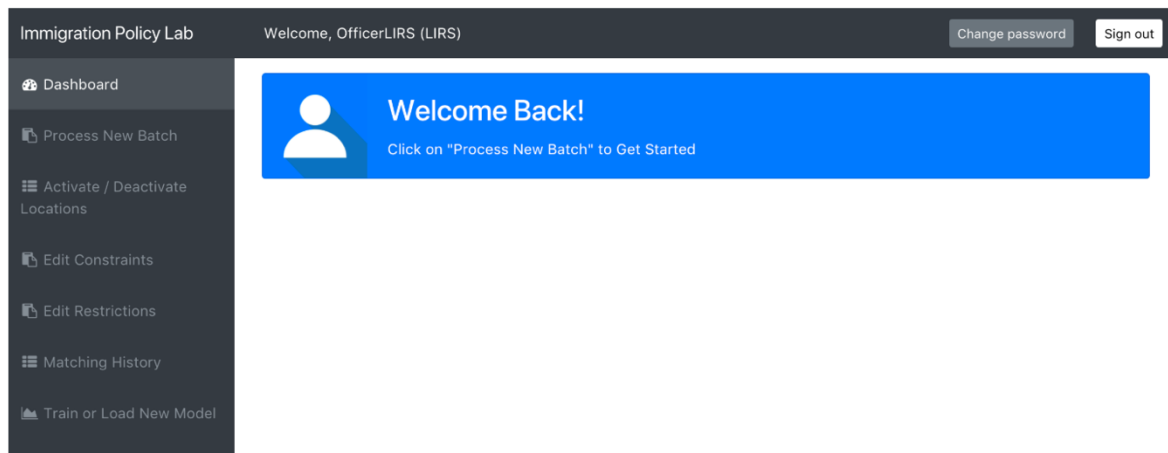

Figure 9: Screenshot of User-Friendly IPL Algorithm Desktop Application
Source: Stanford Immigration Policy Lab, 2018b

The algorithm may need to undergo slight modifications in order to tailor its recommendations to the German context. Similar modifications were made before deploying the Switzerland pilot. Specifically, the algorithm must be tailored to fit available German data. Germany collects basic data on all migrants in the Central Register of Foreign Nationals (AZR). The AZR is a national database which stores information on as migrants' demographic information, education level, language status, and professional experience. However, the current Register only provides these details on a fraction of migrants, so its use is limited. As of June 2016, an estimated 150,000 new arrivals had no data file in the AZR (Die Zeit, 2016). Employment officials should continue to work to improve the accuracy of the AZR in order to maximize the algorithm's effectiveness.

The Federal Employment Agency (BA) and Federal Office for Migration and Refugees (BAMF) also collect additional data on registered asylum seekers. In order to maximize the algorithm's accuracy, data from both federal agencies should be input into the algorithm. Historically, data sharing between BA and BAMF has been limited, but it has recently been increasing. The agencies combined their data on asylum seekers in order to produce a joint report in October 2018, for example (Schwenkenbecher, 2018). This demonstrates an important precedent, and suggests that continued cooperation to implement the IPL Algorithm is possible.

It is worth noting that this pilot program may be more effective if implemented in conjunction with Option 3, to modify and expand the MySkills assessment to be offered in Initial Reception Centers. The MySkills assessment could provide supplementary data on individual refugees' skills and work experience beyond the baseline information in the AZR. This supplementary MySkills data could be inputted into the algorithm in order to improve the accuracy of placement recommendations.

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APPENDIX A: Effectiveness Analysis

This section aims to provide additional details and transparency on effectiveness estimate calculations.

Metric of interest:
Projected percentage point increase in refugee employment rate per year after the policy is implemented at full-scale across Germany

Assumptions and Limitations:
1) Estimates of each policy option's effectiveness are based on very limited data. These estimates should be considered rough projections.

2) In order to standardize effectiveness scores across each option, I divided each projected percentage point increase in the refugee employment rate by the number of years until that increase would be realized, according to the estimate. Therefore, all of these calculations rely on the assumption that the policy interventions would generate *linear* increases in the refugee employment rate over a period of years.

3) These effectiveness estimates are based on the assumption that each policy option is implemented *at full-scale*, across Germany. The estimated effectiveness of Option 2, for example, is based on a scenario in which the IPL algorithm was implemented in *all* refugee distribution decisions in Germany, not merely the effectiveness of the pilot program outlined. For this reason, effectiveness estimates should not be compared directly to cost estimates, which refer to the limited implementation of each option (i.e. only the cost of pilot program).

Option 1: Modify State Refugee Quotas to Account for Local Labor Market Conditions

Edin et al. (2004) found that a similar intervention in Sweden produced a 6-percentage point increase in the refugee employment rate over 8 years.

6 percentage points / 8 years =
0.75 percentage point increase in refugee employment rate per year

However, *before* this change to consider local labor market conditions, Sweden's initial allocation system was already more comprehensive than Germany's EASY system. Sweden's original allocation system accounted for available housing, which the EASY system does not. Therefore, this estimate is likely conservative; Germany would likely see a slightly greater

increase in the refugee employment rate after this intervention than Sweden did. For that reason, I inflated the estimate from the Swedish context slightly.

0.75 percentage point/year + 0.25 percentage point/year (assuming a heightened effect in Germany) = **1 percentage point increase in refugee employment rate per year**

Option 2: Integrate AI-Driven Algorithm into Refugee Distribution Decisions

There are two data points available on the effectiveness of the IPL algorithm at increasing the refugee employment rate. Both data points are drawn from IPL researchers' simulated test of the algorithm on historical data from the United States and Switzerland. As shown in the table below, taking a simple average of the results of these estimates generates an average estimated effect for a country with an actual refugee employment rate of 24.5%.

Coincidentally, this is quite close to Germany's actual refugee employment rate of 25%. Therefore, I calculated a simple average of the estimated percentage point changes in U.S. and Switzerland tests to project that the algorithm would generate a 12.5 percentage point increase in Germany's refugee employment rate 3 years after full-scale implementation.

It is important to note that this projection is based on two other *estimates* of the algorithm's effectiveness—not on its actual results. This is because no data on the algorithm's actual effectiveness in pilot programs has been published yet. Nonetheless, this projection should be recalculated once that data becomes available.

	Actual 2016 Refugee Employment Rate	Projected 2016 Refugee Employment Rate (With Algorithm)	Projected Percentage Point Increase After 3 Years
U.S.	34%	48%	14
Switzerland	15%	26%	11
Synthetic Germany*	24.5%	37%	12.5

*Average Of U.S. And Switzerland Estimates

12.5 percentage points / 3 years =
~ 4 percentage point increase in refugee employment rate per year

Option 3: Modify MySkills Assessment to Reach All Asylum Seekers upon Arrival

UNESCO (2018) found that refugees who had their vocational qualifications properly recognized were 45 percentage points more likely to be employed four years after arrival.

45 percentage point increase in refugee employment rate / 4 years =
11.25 percentage point increase

However, we must discount this estimate to account for the fact that merely 6% of refugees have professional vocational qualifications to be certified (Brücker, 2016).

11.25 percentage points / year * 0.06 percent of refugee population =
0.675 percentage point increase in refugee employment rate per year

I then adjusted this number down slightly, because the 45-percentage point increase discussed in UNESCO (2018) referred to qualifications that were recognized as *equivalent* to the corresponding German certification. The MySkills assessment provides a *comparable* certification, but it is unlikely to be perceived by employers as identical to the German certification.

0.675 percentage point increase per year – 0.075 percentage points (assuming understated value of MySkills certification relative to traditional German certification) =
0.6 percentage point increase in refugee employment rate per year

APPENDIX B: Cost Analysis

This section aims to provide additional details and transparency on cost estimate calculations.

Metric of interest: Estimated financial investment required to implement and maintain each policy option over an initial period of two years. Costs are estimated in 2019 euros.

Assumptions and Limitations:
1) Estimates of each policy option's cost are based on very limited data. These estimates should be considered rough projections.

2) Costs in Year 1 are calculated according to a discount rate of 4.3%. Evans & Sezer (2005) recommend employing this discount rate when appraising the monetary costs of social projects in Germany.

3) Cost estimates are based on the actual implementation strategy proposed for each policy option. For example, estimated cost of Option 2 refers to the cost of implementing the recommended pilot program, not implementing the algorithm full-scale across Germany. For this reason, cost estimates should not be compared directly to effectiveness estimates, which refer to full-scale implementation of each option.

Option 1: Modify State Refugee Quotas to Account for Local Labor Market Conditions

Cost of hiring 7 expert consultants for 2-year research project to develop new allocation mechanism

Expert consultant annual salary Year 0 = 6,000 (average monthly salary of W-3 senior professor in Germany) x 12 months x 7 experts = 504,000

Expert consultant annual salary Year 1 = 504,000 / 1.043 = 483,221

Cost of allocating research funding to expert committee to finance their work

I assume that 500,000 euros will be allocated for initial research. Note that this is a rough, conservative estimate based on funding allocated to other integration research led by civil society actors (Rietig, 2018). Actual funding allocation would be determined through availability in BAMF budget and availability of partnering sponsors.

	Year 0	Year 1	Total
Expert Salaries	504,000	483,221	987,221
Research Funding	500,000	-	1,487,221
Total Annual	1,004,000	483,221	€1,487,221

Option 2: Integrate AI-Driven Algorithm into Refugee Distribution Decisions

Cost categories:

Cost of algorithm:
$0 – donated by IPL with existing grant funding

Cost of training BAMF employees to use algorithm:
Number of refugees targeted in pilot program = 10,000 (5,000 in control group)

Number of refugees per Initial Reception Center = ~ 750

Number of Initial Reception Centers targeted in pilot program = 10,000 / 750 = ~13
(North Rhine Westphalia 6; Bavaria 4; Baden-Württemberg 3)

Number of employees trained to use algorithm in each Initial Reception Center = 65

Total number of employees to train = 13 x 65 = 845 employees

Median annual salary of BAMF employee = 40,000 euros
/ 365 days per year = ~110 euros per employee per day x 845 employees = 92,950

92,950 = Cost of one 8-hour initial training for BAMF employees in targeted Initial Reception Centers

Cost of Stationing 2 IPL Researchers in Germany to Oversee Pilot Program
Estimated average salary of Stanford post-doctoral fellow = 60,000 USD x 2 fellows =
120,000 USD = 107,293 euros in Year 0
107,293 / 1.043 = 102,870 euros in Year 1

	Year 0	Year 1	Total
Cost of Algorithm	0	0	0
Opportunity Cost of Training for BAMF Employees	92,950	0	92,950
Cost of Stationing 2 IPL Researchers in Germany	107,293	102,870	210,163
Total Annual	92,950	46,788	€303,115

Option 3: Modify MySkills Assessment to Reach All Asylum Seekers upon Arrival

Cost categories:
Cost of updating software:
Average annual salary of software engineer in Germany = 51,000
x 3-person team of software engineers responsible for updates = 153,000

Cost of putting laptops in Initial Reception Centers:
Number of initial reception centers to target with pilot program = 13 (see Option 2)
Number of laptops to distribute to each Initial Reception Center = 15
Cost of 1 laptop = 450 euros

Total number of laptops needed for pilot program = 195
Total cost of laptops for pilot program = 87,750

	Year 0	Year 1	Total
Modifying Software	153,000	0*	0
Laptops	87,750	0	0
Total Annual	240,750	0	€240,750

*assuming software updates are completed within 1 year