

Cultural Exchange and Outbound Migration

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1 Introduction

1.1 Background

It is well known that an understanding of a language helps a migrant in integrating into the work and social life of a destination country. Learning the spoken language of an area leads to increased wages (see e.g. Dustmann and Soest 2001; Chiswick and Miller 1995), and increase the likelihood of finding employment (Dustmann and Fabbri 2003). With knowledge of the local language, a migrant's ability to navigate in a new country are greatly increased and therefore they are much more likely to move.

This link between language acquisition and migration was further explored in the 2017 paper *Presence of language-learning opportunities abroad and migration to Germany* (Huber, {"U"}belmesser). There the authors link the opening of a Goethe Institute(GI), which teaches German and German culture abroad, to the migration of people from non-German countries into Germany. The thought here is that, since knowing the local language of a country lowers the costs associated with migration, one would expect that opening an institute that focuses on teaching the German language should lower those costs associated with moving to Germany. Then, if that is true, one would see an increase in migration from the country with a newly opened GI to Germany. The conclusions of that paper are that there is a positive relationship between having a functioning GI and migration to Germany.

Having answered that, the next question would be whether the reverse is also true. Does opening a GI affect migration from Germany into a foreign country? If it is true that teaching language courses abroad lowers the cost of migration between two countries, then one would expect that the migrants would flow in both directions. For example, when a Goethe Institute begins to invest more into German speaking programs in a country, does is that correlated with an increase in Germans moving to that new foreign country? The practical reasons for this case might be varied.

The first is related to the language institute itself acting to help Germans integrate into a new country. In teaching German, the institute educates the surrounding area in German language and culture. This would allow newly arrived German migrants an area in which they could reasonably expect to communicate as well as a host of opportunities to integrate themselves into society. The institute itself organizes events in German which would be helpful in introducing a German expatriate to German friendly networks in the area which is beneficial to a new migrant.

In addition, opening a Goethe Institute could also introduce second order effects which would lead to more German Migration into an area. Opening a GI could lead to businesses learning German and understanding German systems, which could lead to those companies trying to reach out to offer jobs to Germans, or to advertise to Germans, which would then lead to Germans coming into that area. In addition, it could be that a Goethe Institute is founded or receives more funds because there is an accelerating amount of Germans present. If this is the case then there would still be correlation between German immigration and the opening of a GI. However it would be critical to be aware of which way this causality arrow points.

2 Micro Foundations

This utility model of this paper is based on the model presented in the original paper, which is in turn based on the model presented by Bertoli and Fernández-Huertas Moraga. In this model, an individual i from country j considers migrating to country k out of the complete list of countries D . The choice on whether or not to migrate to k , versus another country, is based on the utility that i would receive from that move. The formula is below:

$$U_{ijk} = V_{jk} + \epsilon_{ijk} = w_{jk} - c_{jk} + \epsilon_{ijk}$$

Here the utility (U_{ijk}) is split up into its deterministic (V_{jk}) and stochastic (ϵ_{ijk}) with the deterministic elements being further broken down to the expected income (w_{jk}), and the cost of migration (c_{jk}).

The expected income acts as an increase to utility, as i is naturally more inclined to migrate if they have a higher income. By increasing ties between countries j and k , expected wages should increase, making it migration more likely. The costs, on the other hand, represent a lowers i 's utility as higher costs can make the move more unpleasant and less worth the rewards of a higher income. These costs come not only from monetary costs associated with migration, but also from things such as the immigration laws of k , geographic distance, as well as cultural difference such as language barriers. By creating an area with higher amounts of german culture and language, the GI can help to lower the costs associated with migration and then utility then increases and more people should be expected to migrate.

The error term (ϵ_{ijk}) is assumed in previous papers (@CITATIONS) to be independently and identically distributed(iid). As such, it assumes that the error term does not correlate to the deterministic (V_{jk}) parts of the equation. Because of this, researchers are able to use the standard logit model to describe the migration decision. This model can then predict the probability of migration from country j to k as:

$$p_{ijk} = \frac{e^{V_{jk}}}{\sum_{l \in D} e^{V_{jl}}}$$

as seen in the paper by (@CITATION Übelmesser). Here it becomes evident that the denominator, $\sum_{l \in D} e^{V_{jl}}$, is not influenced by the destination country k . Since that is the case, all individuals from origin country j find k equally attractive. This factor is known as the independence of irrelevant alternatives.

3 Data Sources

3.1 Dependent Variables: Migration

In order to understand the relationship between the GI and German outbound migration, we must look into the migration data. This paper uses various methods to analyze migration flow. The first approach was to

use data from the OECD migration database, since that is where the economic data is pulled from. However, there is a problem with this data in that the data is only available from 2000 onwards. This is explored, however it presents a problem as the CCE estimator requires a minimum of 20 consecutive years to be able to counteract for problems in Multilateral resistance. Because of this, only a standard fixed effects model could be constructed from this data.

To allow for this alternative and potentially more robust model, data was also taken from the Determinants of International Migration (DEMIG) team at the International Migration Institute (IMI). This DEMIG data is available over a much longer time frame, 1932-2011, and is much better at allowing for different methods of analysis. One of the distinguishing features of this data set is the large amount of variables which a researcher can select from this data set. The first major set of options is in the way that the data is collected. For example, it is possible to choose to only include measurements which are created by applications for a residence or work permit. Other figures are compiled by looking at passport issuance or population registries. In this paper the method of data collection is the population register since it is available for many countries and provides a consistent measurement source. The other major area of difference is in the criterion, or who is reporting the move. Possible selections there are the country of residence, country of citizenship, or the country of birth. Other options include the option to differentiate based on gender and whether or not the migrants are a citizen of the reporting country or not.

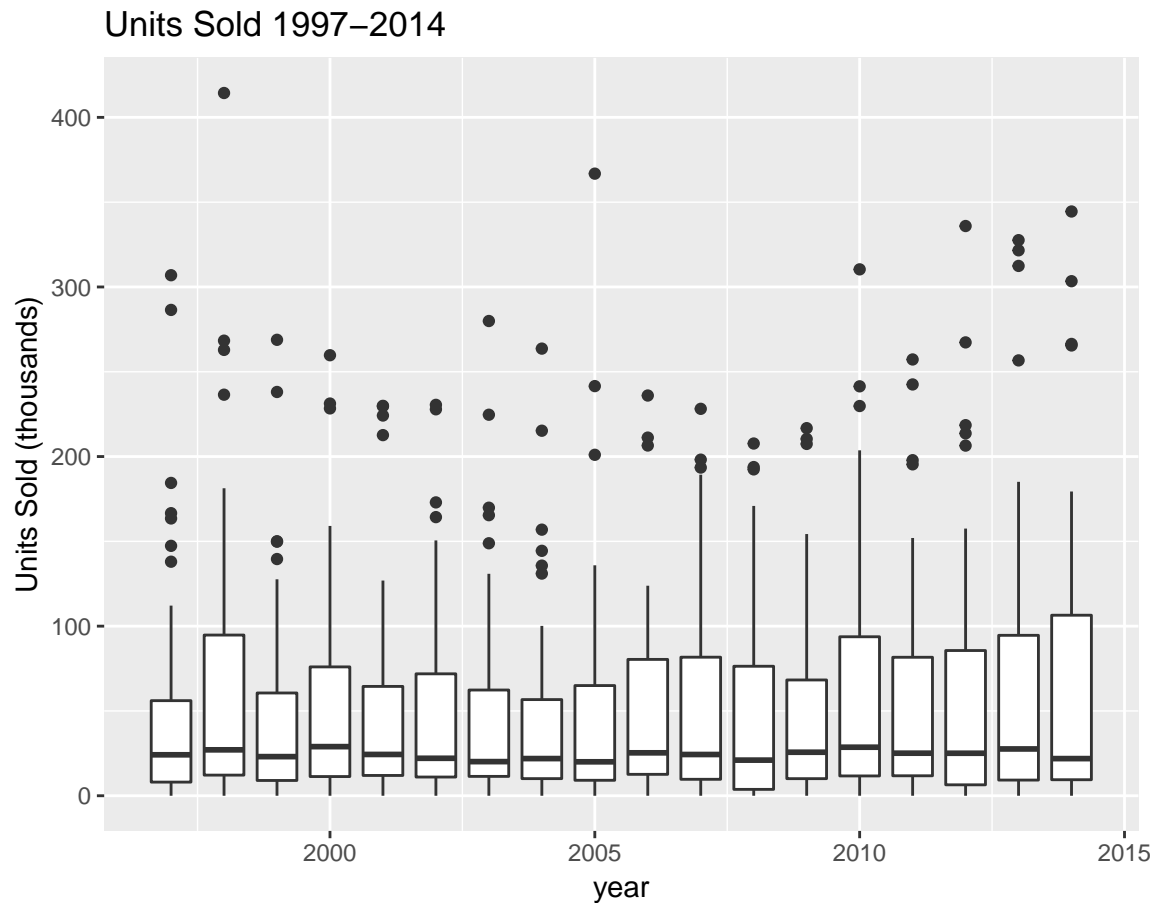
Options	Explanation	Selected
Countries	The Country in which the migrant is classified under	Germany
Collection Method	Describes the manner in which the data was collected	Population Registers
Criterion	Describes which country reports on the move	Country of Citizenship
Gender	Describes the gender of the Migrant	Both
Coverage	Describes whether citizens, foreigners, or both are reported	Citizens were excluded

3.2 Independent Variable: Goethe Institute Units Sold

The first source is the Goethe Institute data (@Uebelmesser). This data is collected from annual reports that the GI has published since 1965, which details what each center is doing, including information on language courses and examination, course sizes and other variables associated with the institute. This data is available at the level of the city, however in this analysis it is aggregated and calculated at the country level. All of these reports are then compiled into two separate files, one for Germany itself and one for abroad. The abroad data, which is the particular source which was used for this paper, contains data for the periods from 1972-1989 and 1997-2014. The data contains measurements of examinations, course registrations as well as a particular measurement called “units sold”. This measurement is meant to quantify the amount of language course participation and is calculated as follows:

$$\text{sold course units} = \text{total number of lecture units} * \text{average course size}$$

Where a course unit is defined as a 45 minute instructional period, the total number of lecture units is the sum of units given by all teachers at an institute over the course of the year, and average course size is the total number of students at an institute divided by the number of courses offered. This number can be zero as some GI do not provide any language teaching services whatsoever. Box plots of the amounts of units sold by individual Goethe institutes over the years can be seen in figure one below. This unit allows someone to directly compare the amount that a specific institute is investing into language learning and allows to look at the role that language learning plays into the migration process directly, without being swayed by the other aspects that having a Goethe Institute brings to an area. The downside of using this data source is that the data is not available from 1989-1997 and therefore techniques which rely on a long stream of consecutive years will not function.

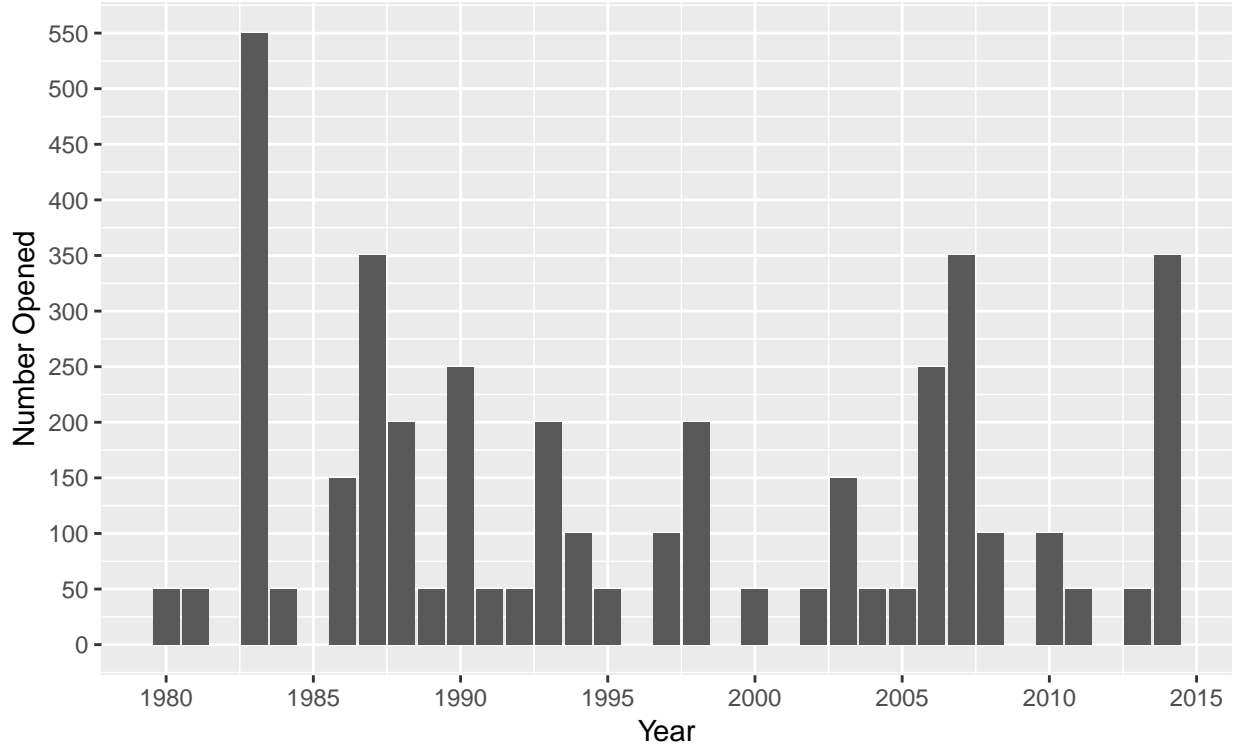


The graph above shows distributions of units sold at different intitutes for each year. As you can see the median stays mostly constant, although with highly variable right tails.

3.3 Independent Variable: Goethe Institute Openings

In addition to the course units used, one can also look to see if there is an increase in migration during times in which a GI is opened in a country. This statistic is also found in the Goethe Institute data abroad provided by @Übelmesser. In the data set, a date is given for when an institute opens or closes, up to a maximum of three times in the history of the specific institute. Using this data, we can look to see how the migration changes at the time this happens.

Goethe Institutes Opened 1980 – 2014



3.4 Independent Variable: Controls

As there are many reasons that a person would choose to migrate to a new country, several controls are needed. The first of which is to control for the GDP of the destination country.

4 Methodology

To begin with, a standard fixed effects model was applied to see if

$$y_{jt} = \beta X_{jt} + \mu_{jt} \text{ for } t = 1997, 1998, \dots, 2014 \text{ and } j = \text{country of destination}$$

$$y_{jt} = \alpha' X_{jt} + \phi' d_t + \phi' d_j + \lambda \tilde{z}_{jt} + \eta_{jt}$$

with the weighted cross sectional averages defined as

$$\tilde{z}_{jt} = \frac{1}{\sum_j \omega_{jt}} \left(\sum_j \omega_{jt} y_{jt}, \sum_j \omega_{jt} x_{jt} \right)$$

5 Results

6 Conclusions

7 References