

# Name changers in Hungary

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Research Report

## Abstract

We study how changing identities and the decision to assimilate affected wages in Hungary in the late 19th - early 20th century. By doing this, we show, in the spirit of Akerlof and Kranton (2000) that identity, which often provides the grounds for labor market discrimination, is in itself endogenous to economic incentives. We proxy the assimilation decision by the fact that an individual changes his or her surname from a foreign sounding one to a Hungarian sounding one. We build a unique dataset from the universe of records of reserve officers of the Royal Hungarian Army from 1867 to the late 1930s, and also make use of an exogenous policy shock in the empirical strategy (a one-year informal campaign within the public administration to put pressure on public sector employees to “Hungarianize” their names).<sup>1</sup>

KEYWORDS: economics of identity, cultural assimilation, labor market discrimination, economic history

## 1 Introduction

This research aims to follow up on our previous research (Gáspár and Pető, 2016) on the economic incentives of assimilation among public sector workers in the early 20th century Budapest. In that paper we showed that public sector workers who decided to “Hungarianize” their family names earned significantly more - by 5% to 15% depending on the specification. The result was robust to a variety of empirical specifications (we applied OLS, IV and matching estimators). We found that the results are consistent with a theoretical explanation which is based on signaling theory and the economics of identity literature (specifically Akerlof & Kranton 2005). Name changing is a costly signal with which minority workers can signal that they have embraced an insider worker identity, and the principal is able to “draft contracts” on this information.<sup>2</sup>

Our data suffered from serious limitations. First, we effectively only could use cross-sectional variation to identify wage differentials, as our data was from a specific and narrow time window (1904 to 1912). Second, our findings were limited to a very specific part of the labor market, namely, public sector workers of Budapest. We applied for The History Project funds to conduct a second investigation in which we are able to overcome both these limitations by creating a new data set which has potentially better empirical features.

In this project we use the universe of records of reserve officers of the Royal Hungarian Army from 1867 to the late 1930s. There are four important feature of this data which give it a great potential. First, the data set contains very detailed individual level information, not just about labor market outcomes but family background as well (e.g. father’s education level) Second, reserve officers typically kept their civilian jobs as well, the data of which was accurately recorded by the Army, making us able to do comparisons across industries and between the public and the private sector. Third, the data is rich along both geographical and time dimensions as it covers the whole time period while Hungary was a constitutional monarchy, and people in the sample come from all parts of the country.

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<sup>2</sup>The quotation marks refer to the fact that there was, of course, no “assimilation closure” in actual work contracts; contracting is understood in a game theoretic sense, meaning that the eventual salary was contingent on this decision.

We match this list of individuals (based on names and birth date) to a database of all name changing episodes from the Ministry of the Interior,<sup>3</sup> which had exclusive legal authority over name changes, so the list is comprehensive. We also match name of officers of surname frequencies by births, compiled by the same Association using registry data.

The competitive edge of the new data set is we are able to do sectoral comparisons between the private and the public sector. We are interested 1) whether name changers occupy higher ranks of the army compared to non-changers of foreign origin 2) whether name changers earn more in the private sector as well. Comparing public and private sector outcomes for the same people alleviates selection issues. Also, as potentially different mechanisms operate on these two labor markets, it would be very instructive in understanding both of them by seeing them in action at the same time.

## 2 Literature

What people think about themselves has an enormous effect on various aspects of how they behave as economic decision makers.<sup>4</sup> Thus, political entities on both national and subnational levels are constantly trying to shape the identification of the general populace. In modern democracies this effort is made in a quite nuanced way (like promoting ideas such as the “American dream” or the notion of a unified Europe), while historical examples or contemporary ones from less democratic countries (such as the People’s Republic of China [Cantoni et al. (2014)]) show a more active engagement of the state in directly trying to transform the mindset of the people.

Our research builds on the background built by the literature called the “economics of identity” (after Akerlof and Kranton (2000, 2002, 2005), Austen-Smith and Fryer Jr (2005), Fryer and Torelli (2010), Hetschko et al. (2014)Hetschko et al. (2014) etc.). The main notion of this literature is that people many times act under group pressure in a way that they effectively trade off the disutility of following the behavioral norms prescribed by their identity group (women, men, jocks, organized labor etc.) for the utility of belonging there. Or they do not – if the utility cost of obeying the group exceeds a certain threshold, they can be better off by leaving it, and change their identities. Our research focuses on this second, extensive margin. Workers in our data faced the decision of keeping their foreign sounding name and identity or leaving the group, choosing assimilation in hope for better labor market outcomes. We are looking at a historical episode in the Kingdom of Hungary within Austro-Hungarian Empire, where the aim of the government was to establish the majority of Hungarians by assimilating religious and ethnic minorities in the pursuit of transforming a multi-ethnic and diverse polity into a nation state. We proxy the assimilation decision by the fact that an individual changes his or her surname from a foreign sounding one to a Hungarian sounding one.

Massive name changing movements in European history have always been indicating the presence of a young and weak nation state, and vice versa. Young nation states often put into motion policies which aimed at homogenizing the populace in terms of national identity, which often included promoting name changing. We see examples for these events in the Baltic states starting from the 1930s (Toivo 2012), in the Czechoslovakia before and after the first independence (Dickins 2011), or in contemporary Israel where the name Hebraization movement is perhaps the most similar to the Hungarianization of the previous century (Stahl (1994)). The other typical example is when a smaller group of people reacts to the presence of a menacing (or even invading) stronger neighbor with trying to diminish cultural differences through name changing. We saw such events both in the Baltics (with the Russianization following the Soviet occupation) and Czechoslovakia (with the rise of Nazi Germany). More recent examples from communist Eastern Europe after 1945 include ethnic Hungarians of Romania who were often forced to adopt a Romanian name, a process reverted as soon as the fall of Communism (Botos Botos, Volgyes 1977). Ethnic Turks and Albanians of Bulgaria were forced to adopt Bulgarian surnames almost overnight.

This research is a follow up of our earlier work where we analyzed the same question using administrative data, namely the municipal almanac (1904, 1907) and the municipal yearbook (1909, 1912), We found that name changers earn significantly more. We have built a simple model and contrast the qualitative predictions

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<sup>3</sup>compiled by the Hungarian Association for Family History Research

<sup>4</sup>McCright and Dunlap (2011) shows that political identity determines attitudes towards factual information (e.g. more Republicans believe climate change to be a hoax. Akerlof and Kranton (2002) examined children behavior at school and found that students exert different levels of effort in studying to conform the norm established by their peer groups. Alesina and Giuliano (2013) provide a review on the vast literature on the interplay between culture and economics.

of the model to empirical patterns in our data set to learn about the underlying mechanisms and to answer the questions: (i) why would the employer pay higher wages for name changers in our current setting; (ii) if there is indeed a premium for name changing, why do not everyone with a foreign family name change it? We find evidence consistent with the hypothesis that name changing premia were driven by the employer's demand for loyalty expressed as willingness to assimilate, and that heterogenous identity costs generate variation in the name changing decision.

### 3 Data

#### Compiling the dataset

Our data set builds on the following sources:

- **Reserve officers of the Royal Hungarian Army (from 1867 to the late 1930s).** The dataset contain well-organized lists of reserve officers of Hungary with detailed background information on the individuals. The data set contains very detailed individual level information, not just about labor market outcomes but family background as well (e.g. father's education level). Reserve officers typically kept their civilian jobs as well, the data of which was accurately recorded by the Army, making us able to analyse the effect of changing name on labor market outcomes (e.g. wages). To proxy for being employed in different segment of the labor market we create a set of dummies based on the textual description of one's occupation (we have no information on the place of work). The data is rich along both geographical and time dimensions as it covers the whole time period while Hungary was a constitutional monarchy, and people in the sample come from all parts of the country.
- **List of name changers.** Since the legal authority who permitted the name change was the Ministry of the Interior, the data is supposed to be comprehensive. It was scanned and digitalized for family history research purposes.<sup>5</sup>The data includes birth, marital status, the full previous name and the new family name, religion and job description.
- **Birth certificates.** For each family name we count how many times we find that name between 1895 and 1913 in the digitalized birth certificate database at the Family History Research Association. Though the subject of similar measurement problems as the high school data, we believe it serves as a valuable proxy for measuring the relative name frequencies of family names. Prior to 1895 there was no civilian birth register in Hungary.

We use a two-tier method to match the different data set. For every name in the reserve officer data set we find the set of potential matches by fuzzy string matching on the name and matching on the year of birth. The list of potential matches is then narrowed down by human inspection to exactly one by using additional information from place of birth and job description. This second step is yet to be done, so the statistics for name changers presented below should be understood as people for whom we found a potential match in the list of name changers.

#### Use of The History Project funds

We used the INET funds to employ two research assistants who digitalized the reserve officer records over the time period. The raw material is hard to process: printed forms filled out by century old cursive handwriting which essentially ruled out the use of optical character recognition methods. We employed the Research Assistants for **net 3.32 USD/hour wage (5.9 in gross terms) on an hourly basis for 670 hours altogether**. The job of the research assistants was to type the data into a uniform excel sheet which we then compiled into a data set. This resulted in the completion of processing of roughly 4200 individual officer records. **This means that the average cost of typing a single officer file was 0.94 USD.**

A random sample of these excel sheets are validated by us to cross-check with the original data and then we transform the records into a Stata database. Due to the fact that we are still working on this part, and

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<sup>5</sup>Historical database of family name changes in Hungary (1815-1932). Electronically stored database. Leading researchers: Tamas Farkas and Istvan Kovessdi (2014). See: <http://www.macse.org>

we still expect the last round of typings to come in, out of the roughly 4200 final data points we processed 2793 individual records are available for further analysis by the time of the submission of this report.

In the preliminary budget calculation we used the gross wage of \$3/hour for data entry job as a benchmark. However, the task was substantially more complicated than we had expected as the raw material (the quality and the legibility of the input varies a lot), and we were unable to find assistants for that rate who are both able and willing to read 19th century cursive handwriting and are skilled enough in Hungarian history to understand the context. The eventual wage at which we were able to recruit two suitable assistants was gross \$5.9/hour. On the other hand, our estimation of the eventual speed of work was correct (we estimated that on average 6 documents can be processed in an hour, while the eventual figure was 6.32).

As a result, the sample we obtained is smaller than we have expected, due to paying more to the assistants. On the other hand, we were able to team up with historians who had already processed part of the data set for other purposes<sup>6</sup>. They kindly agreed to share data with us, which helped a lot, since we could use their data set as a “gold standard” for data recording. This sample consists of roughly 7700 individuals. Thus the current effective sample size is 10501 which is a sum of the pre-existing data set and the 2793 files we have recorded by this time. With the incoming part of our processed data set the eventual sample size will be close to what we anticipated in the research proposal (roughly 12.000 observations).

## Descriptives of the dataset

In the current data set 98% of individuals were born between 1828 and 1898. We are now cleaning the data variable by variable in the order of importance for our work. The variables of interest are: the name of the individual and his birth date and place of birth; year of entering the army, army rank; year of receiving this rank; year of becoming reserve officer; information on civil job; information on family background (father’s name, occupation); education outcomes; religion. The degree of completeness to which the forms were filled out varies a lot.

The name (family and first name as well) is filled in for everyone, and the year of birth is non-missing for almost 7000 individuals. We use these information when matching the dataset to the list of name changers. To measure the private labor market effect of changing identity, first we look at the civil job of the individual. We have at least one wage observation for more than 5200 individuals, and we see two wages for more than 3600 workers. We know the year of the wage observation as well (they all come from between 1869 and 1930) Most of the wages are measured as yearly wages and are in either Forint or Korona.

### Private sector outcomes

We dropped the observation where the currency unit was different than Forint or Krone (we have dropped 55 observation due to this issue), we further dropped 5 observation because we observe daily wage for them. Kroner was introduced in 1892 and its value was fixed at 2 Krone = 1 Forint, so we make this conversion. We transformed all other wage observation for yearly wages (by multiplying monthly wages by 12) . We have 5173 observations with at least one income observation, and 3543 observations with at least two. Without claiming causality, we report in Table 1 that potential name changers earn significantly more, and their wages also tend to grow faster. This is without controlling for anything, just regressing incomes and income differences on the “potentially name changer” dummy, which is very noisy at this point.

Table 1: Log differences in wages

VARIABLES	(1) Log(1st income)	(2) Log(2nd income)	(3) Difference	(4) Difference/years
Potential name changer	0.160*** (0.0354)	0.192*** (0.0364)	0.0476 (0.0383)	0.0213 (0.0144)
Observations	5,167	3,653	3,576	2,966

Robust standard errors in parentheses.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

<sup>6</sup>Viktor Karády and Péter Tibor Nagy.

## Public sector outcomes

We observe the rank at the army for more than 9400 individual. These are coming from the entirety of the rank distribution.

Table 2: Last obtained rank

	non-changers	potential changers
non-ranked	1,196	329
Corporal	9	1
Sergeant	14	6
Staff Sergeant	2	1
Warrant officer	15	3
Cadet - Warrant offic	265	52
Cadet	327	83
Ensign	253	92
Sub-lieutenant	4	0
Lieutenant	5,032	1012
Senior Lieutenant	589	110
Captain	582	99
Major	126	18
Lieutenant Colonel	90	12
Colonel	132	31
Major General	4	0
General	8	4
Total	8648	1853

## Other variables

At this stage we have cleaned (or partially cleaned) many of the variables that we see in the dataset:

- information on date of birth: we know the day, month and year of birth. 98% of our sample born between 1828 and 1898.
- information on the date of entering the army: 98% of our sample entered the army between 1855 and 1917
- year of becoming reserve officier: 98% of our sample become reserve between 1871 and 1917
- detailed school history of 6000 officers
- civil occupation: we know the civil occupation (at least one) for more than 6000 individual in our dataset. Cleaning of civil occupation will be one of the hardest task as they are given as raw strings abbreviated in different ways. At this point we can only tell that lawyers, clerks, engineers constitute the most numerous subgroup. But we also see merchants, accountants, executives of enterprises, secretaries, university students and many others.
- we see marital status and number of children

Other information which we have not yet processed:

- place of birth and residence
- religion
- spoken languages
- variables describing behavior (diligence, attitudes towards superior officers etc.)
- verbal description of wealth

## 4 Empirical Strategy

We are going to do the following estimations:

- OLS of wages on name changer status with controls
- OLS on wage changes with controls
- OLS with interaction terms based on circumstances of the name changing decision (which year did it happen, was the person already active on the labor market and if so, in which sector)
- Diff-in-diff: use only those people where the name changing happened between different observations of wage
- IV estimate of levels and differences on name changing decision: we use as an instrument for every original foreign family name the share of eventual name changers in the population. Using such an IV is very similar in vein to the strategy taken in the education and labor economics literatures when they instrument individual educational outcomes with class averages to get rid of individual level unobserved heterogeneity. We interpret the IV as a measure of “name alienness”, which is to say, the degree to which the bearer of the name strikes as a person of foreign origin.

We than repeat the estimations with public sector outcomes on the left hand side. We define this as the rank or the change in rank of the officer. We also check for cross-correlations: do success in one sector imply success in the other?

Once we have the empirical results, we will contrast our outcomes to the theoretical analysis of the previous paper. If name changing is a signal of loyalty, we should see higher promotion probabilities for name changers, and also higher salaries for civilian jobs which are in the public sector. Also, name changing should not increase wages in sectors where income is determined strictly on the market.

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## Appendix

Figure 1: Front page of an officer file

1899/1 4188

1. Csapattest stb.: *II. Kir. debreceni 3. honvéd gyalog ezred* | *1. század*  
*1. század*

2. Név: *dr. jur. Revi Nándor*

3. Rendfokozat — rang: *tartalékos hadnagy / 1896. január 1. rangján 706. /*

4. Született: *1872. évi augusztus hó 14. - Kolozsvárt, Magyarországon.*

5. Honilletékesség: *Debrecen, Hajdú vármegye, Magyarország.*

6. Vallás: *izraelita*

7. A m. kir. honvédségbe való belépése előtti személyes viszonyai, nevelése és tanulmányai: *Építési "allat-Roxó" fia, 4. évi jogot a budapesti tud. egyetemen, 3.° eredményjével végzett. Szolgált a cs. és kir. Közös hadseregben és jeligéig ténylegesen 1893. október hó 1. - 1894. szeptember hó 30. -ig, - a tartalékban 1894. október hó 1. - 1902. december hó 31. -ig utólagos minős. hadnaggy.*

8. Mikor és miként lépett a cs. és k. közös hadseregbe, illetőleg a m. kir. (cs. k.) honvédségbe: *1892. október hó 31. -án a cs. és kir. 39. gyalog ezredhez minős. egyévi inkubent a törvényerővel vizsgálati kötelezettség mellett, 1902. december 31. -én minős. tartalékos hadnaggy a m. kir. debreceni 3. honvéd gyalog ezred állományába áthelyeztetett.*

9. Későbbben végzett iskolák stb.: *1893/4. évi egyévi inkubent iskolát a cs. és kir. 39. gyalog ezrednél, megfelelő "eredményjével" végente, 1894. ében a tartalékos kőrs. vizsgát megfelelő "eredményjével" letette.*

10. Magánviszonyai:

Erfolyam	Magánviszonyai:
1900	<i>Nős, gyermekeketlen, ügyvédi náda vételje 2400. Kr. évi jóvádeléssel, pénzügyi viszonyai rendezettek.</i>
1903	<i>Ötös, gyermekeketlen, ingóid, 2000 korona évi jövedelennel, pénzügyi viszonyai rendezettek.</i>
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11. Kitüntetési jelvények és érmek:

Belföldi: *Tuberculosis emlékérem a foggyűres első névénél*

Külföldi:

174. r. sz. Nagy medián pap. merített fog.

Az Államrendtartás 1. c. 1899/1022





