Inequality and Mobility in Spain (1372-1932)

Kevin Lai[1], José-Antonio Espín-Sánchez[2], William Giraldo[2], Salvador Gil-Giraldo[3], Chris Vickers[4]

(1) Math and Statistics Department, Swarthmore College (2) Economics Department, Yale University (3) Geography Department, Universidad de Murcia (4) Economics Department, Auburn University

Introduction

In Economic analysis, inequality and social mobility are key issues that characterize a society.[3] However, these key issues are not well known in the pre-modern era.[3] There have been past studies of social mobility, but there were many limitations to those past studies: (1) focused on industrializing countries (US and UK), (2) only involved male-to-male social mobility, (3) focus exclusively on the past two centuries, (4) refer to only the top 1% (the extremely wealthy, or (5) only study mobility across one generation.[2,4] The purpose of the project is to address these limitations in the analysis of inequality and social mobility in Spain (1372-1932).[3]

In the preliminary stage, we will start with the analysis of inequality and social mobility of one generation (1754-1786) and only in the Murcia Region of Spain. We will use the following sources:

Ensenada Census (EC): 1754-1756 Census; Documents capital, income, age, parish, social treatment/nobility, properties, name, occupation, religion, household composition, etc.[1]

Floridablanca Census (FC): 1786 Census; Documents age, parish, social treatment, occupation[3]

Baptism Records, Marriage Records

Methods

Methods of Data Analysis:

Transcription: Both the EC and FC were transcribed onto Excel spreadsheets for future analysis. These censuses were transcribed by parish.

Name Matching: The names from the baptism and marriage records were matched to both censuses to check and get more information on each individual.[3]

Income Matching: The income data from the EC was matched with the FC since FC lacked income data.

Results:

Models/Graphs: Lorenz Curves (income inequality), Density Distribution, Categorical Boxplot

Analyses: two-sample t-test, linear regression (SLR and multiple regression)

Results

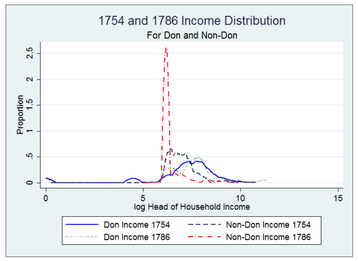

Figure 1: 1754 vs 1786 Log Income Distribution By Social Treatment [3]

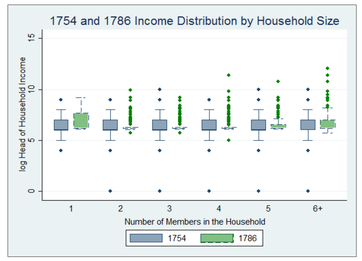

Figure 2: 1754 vs 1756 Income Distribution by Household Size [3]

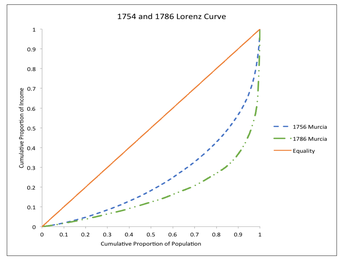

Figure 3: 1754 vs 1786 Lorenz Curve [3]

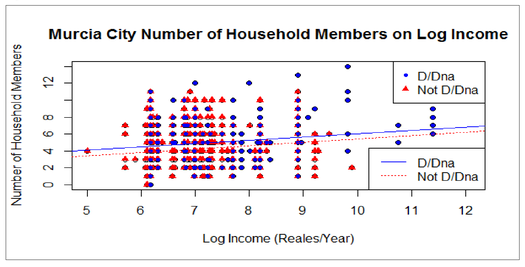

Figure 4a: 1786 Murcia City Number of Household Members on Log Income separated by social treatment

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	1.49100	0.31591	4.720	2.47e-06 ***
log(Income[Income != 0])	0.39169	0.04919	7.963	2.38e-15 ***
Social.Treatment[Income != 0]	0.65281	0.10927	5.974	2.59e-09 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.833 on 2913 degrees of freedom
Multiple R-squared: 0.05191, Adjusted R-squared: 0.05126
F-statistic: 79.74 on 2 and 2913 DF, p-value: < 2.2e-16

Figure 4b: Linear Regression Summary Table

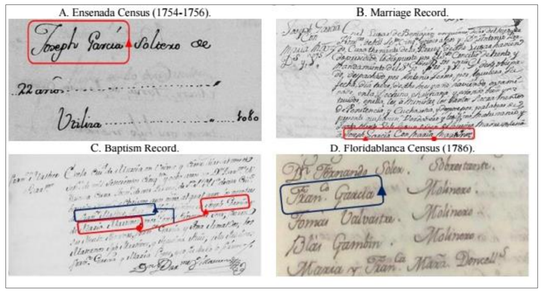

Figure 5: Example of Matching Names of a Family Between the Censuses, Marriage Record, and Baptism Record [3]

Analysis and Conclusion

There are 4 main points to see from analysis:

(1) **Figure 1** and **Figure 4a** show that there is a difference in income per household between the different social treatments.

(2) **Figure 2** shows that families that have more members tend to have higher incomes. **Figure 4a** shows that there is an increase in number of household members when there is an increase in income

(3) **Figure 3** shows the Lorenz Curve, which shows the percent income on percent population. We see that the income distribution in Murcia in 1754 is "more equal" than that in 1786. This can also be seen from the Gini Coefficients (Gini Coefficients measures the equality with 0 being perfect equality and 1 being perfect inequality). The Gini Coefficient for Murcia City went from 0.51 in 1756 to 0.67 in 1786.[3] This partially supports Kuznets Hypothesis.[4]

(4) Don families tend to have more household members than non-Don families. The average number of household members of Don families is 4.58. The average number of household members of non-Don families is 3.73. Our two-sample t-test gave us a p-value of 2.2 e -16, so with $\alpha = 0.05$, this difference in means is significant. This can be seen in **Figure 4a**.

Matching Results:

Figure 5 illustrates the matching process between the EC and FC, baptism record, and marriage record. By performing this matching, we can begin to construct family trees. A sample family tree constructed from matching is shown in **Figure 6**.

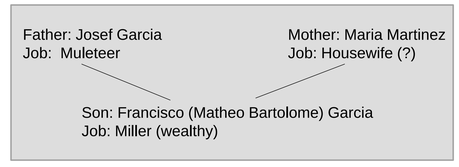

Figure 6: Sample family tree created from matching between EC, FC, Baptism Record, and Marriage Record [3]

Literature cited

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Further Studies

These are some further points to study:

(1) The inclusion of more variables (i.e. age, occupation via HISCO, location, etc.)[1] in linear regression (using matrices)

(2) Inclusion of matching guild records for more accurate information in professions and income

(3) Analyze mating patterns (assortative vs . non-assortative) [3]

(4) Perform the same analysis on more regions within Spain.

(5) Expand range of years (before 1754 and after 1786)