

Department of Economic History

SCHOOL OF ECONOMICS AND MANAGEMENT



LUND UNIVERSITY

The Historical Gender Gap Index

A Longitudinal and Spatial Assessment of Sweden, 1870-1990

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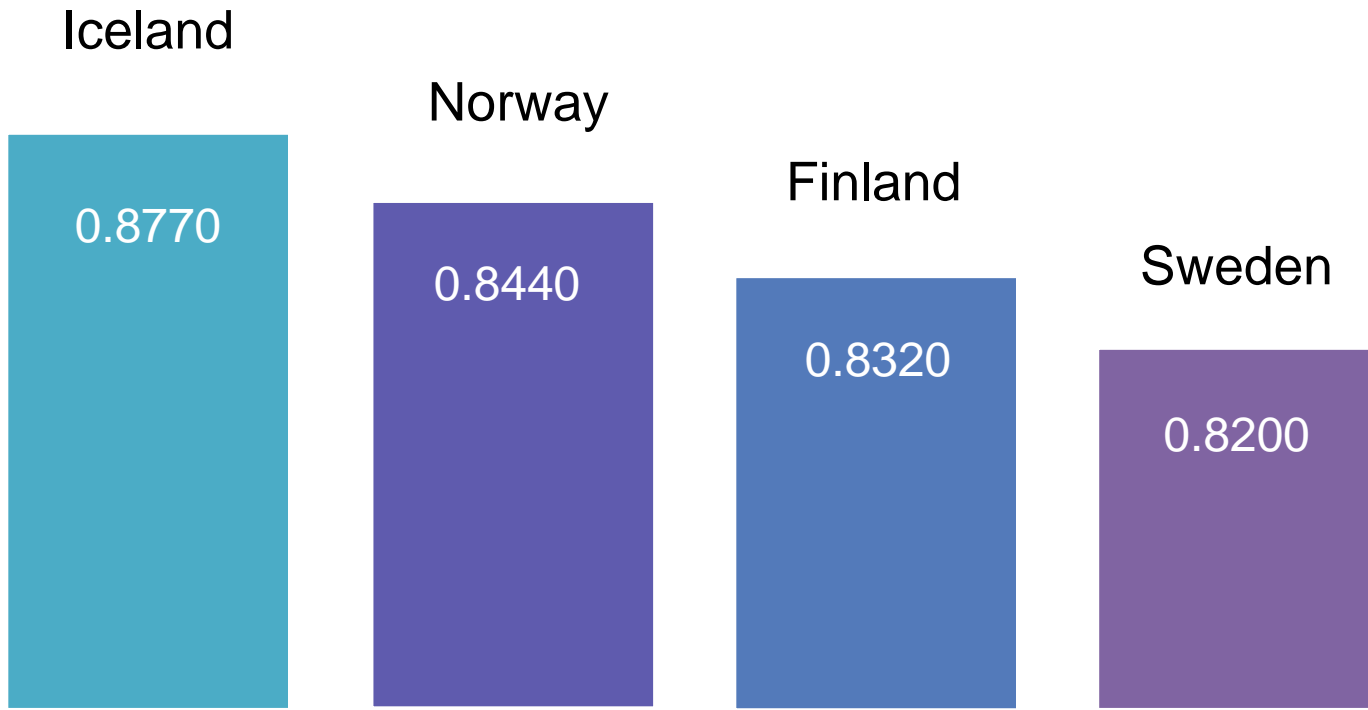
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Leiden University

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Lund University &
University of Strasbourg

Gender Gap Index

2020

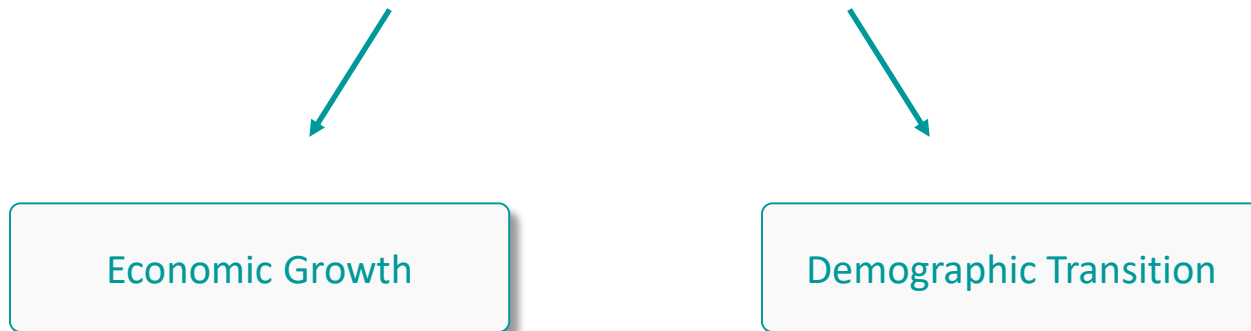


Gender Gap Index

What did the gender gap look like in the past?
How did it evolve?

Implications

- Theoretical Background
 - Gender wage/education gap (Galor-Weil, 1996; Lagerlöf, 2003)
 - Changes in gender roles (Diebolt-Perrin, 2013; Doepke-Tertilt, 2019)
 - European Marriage Pattern (De Moor-Van Zanden, 2010; Foreman-Peck, 2011)
 - Culture and norms (Alesina-Giuliano-Nunn, 2013)



Empirical Investigation – Gender & Growth

- Using Contemporaneous Data
 - Negative relationship – Barro and Lee (1994), Barro and Sala-i-Martin (1995)
 - Positive relationship – Schultz (1995), Dollar and Gatti (1999), Klasen (1999, 2002), Knowles, Lorgelly and Owen (2002), Duflo (2005), Klasen and Lamanna (2009), etc.

- Using Historical Data
 - Lack of information/resources on the various dimensions of gender equality
 - Dilli et al. (2019) – 123 countries, 1950-2003
 - Perrin (2014, 2021) – French counties, 1850s

Objectives

1. Investigate the magnitude of the gender-based inequalities
2. Improve our understanding of gender relations in the past
3. Provide a comprehensive measure of gender equality...
4. ...easily comparable with other variables (economic, demographic, cultural)

Data

- Coverage of the Index
 - Sweden
 - 24 counties – *Län*
 - 1870-1990, in 10-year intervals
- Sources – *Statistics Sweden, SCB*
 - BiSOS A Tredje – Folkräkningen – Folk och bostads-räkningen
 - BiSOS A – Befolkningsrörelsen
 - BiSOS N – Lönestatistisk Årsbok
 - Historiska lönedatabasen
 - Valstatistik
 - Etc.

Critical Areas

Historical Gender Gap Index

Economic Participation

- **Participation Gap**
 - Female labor force
 - Male labor force
- **Remuneration Gap**
 - Female wage
 - Male wage

Health and Survival

- **Survival Gap**
 - Female mortality
 - Male mortality
- **"Missing" women**
 - Female living birth
 - Male living birth





Political Empowerment

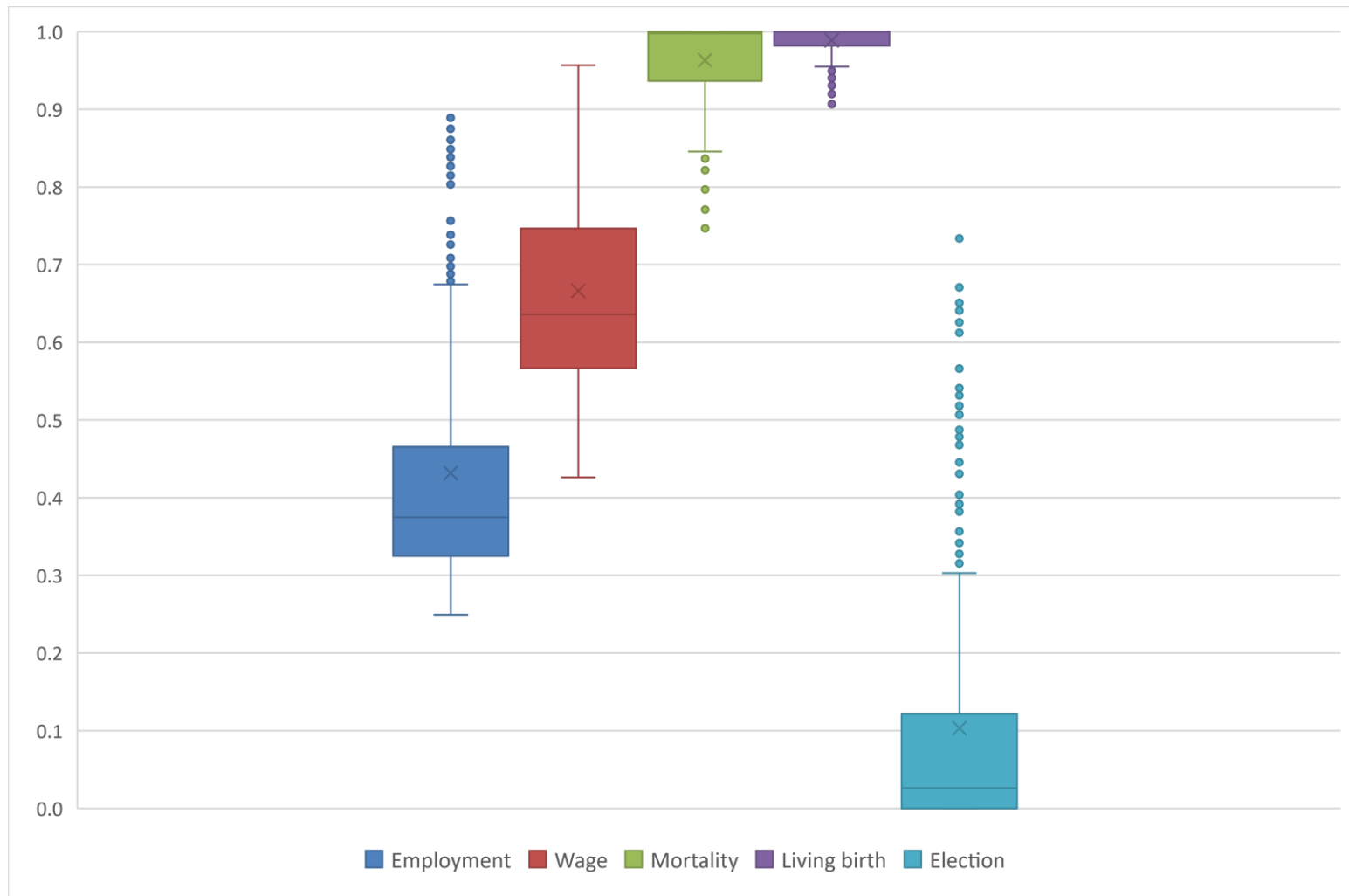
- **Representation Gap**
 - Female elected
 - Male elected

Historical Gender Gap Index

- Main Features
 - **Gender Equality** versus Women's Empowerment
 - **Gaps** versus Levels
 - **Outcomes** versus Inputs
 - **Comparable** across time and space

Steps

1. Convert to ratios
2. Data rescaling at equality benchmark 
 - Equality benchmark = 1
 - Except for sex ratio = 0.944
 - Except for mortality ratio = 1.06
3. Calculation of weighted average scores  Integrate the same relative impact
4. Calculation of sub-index scores  Economic, Health, Political
5. Calculation of final scores  Average sub-indices



1

Economic Opportunity	Standard Deviation	Standard Deviation per 1%	Weights
Female-to-male labor force	0.1627	0.0615	0.4562
Female-to-male wage	0.1365	0.0732	0.5438
Total		0.1347	1

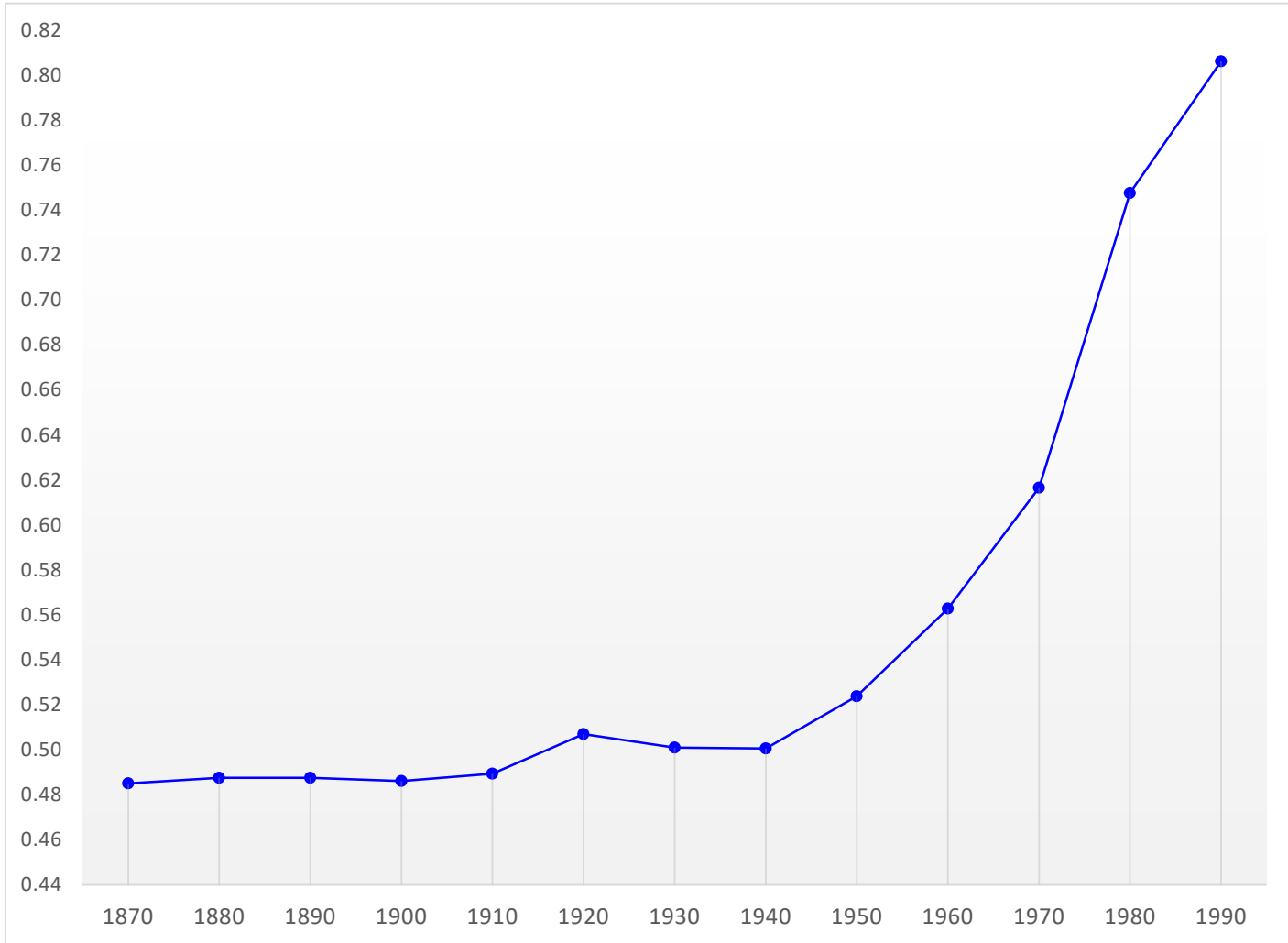
2

Health and Survival	Standard Deviation	Standard Deviation per 1%	Weights
Female-to-male mortality (reversed)	0.0429	0.2332	0.2934
Female-to-male living births	0.0178	0.5616	0.7066
Total		0.7947	1

3

Political Empowerment	Standard Deviation	Standard Deviation per 1%	Weights
Female-to-male election ratio	0.1658	0.0603	1
Total		0.0603	1

Longitudinal Evolution – HGGI, 1870-1990



Swedish HGGI

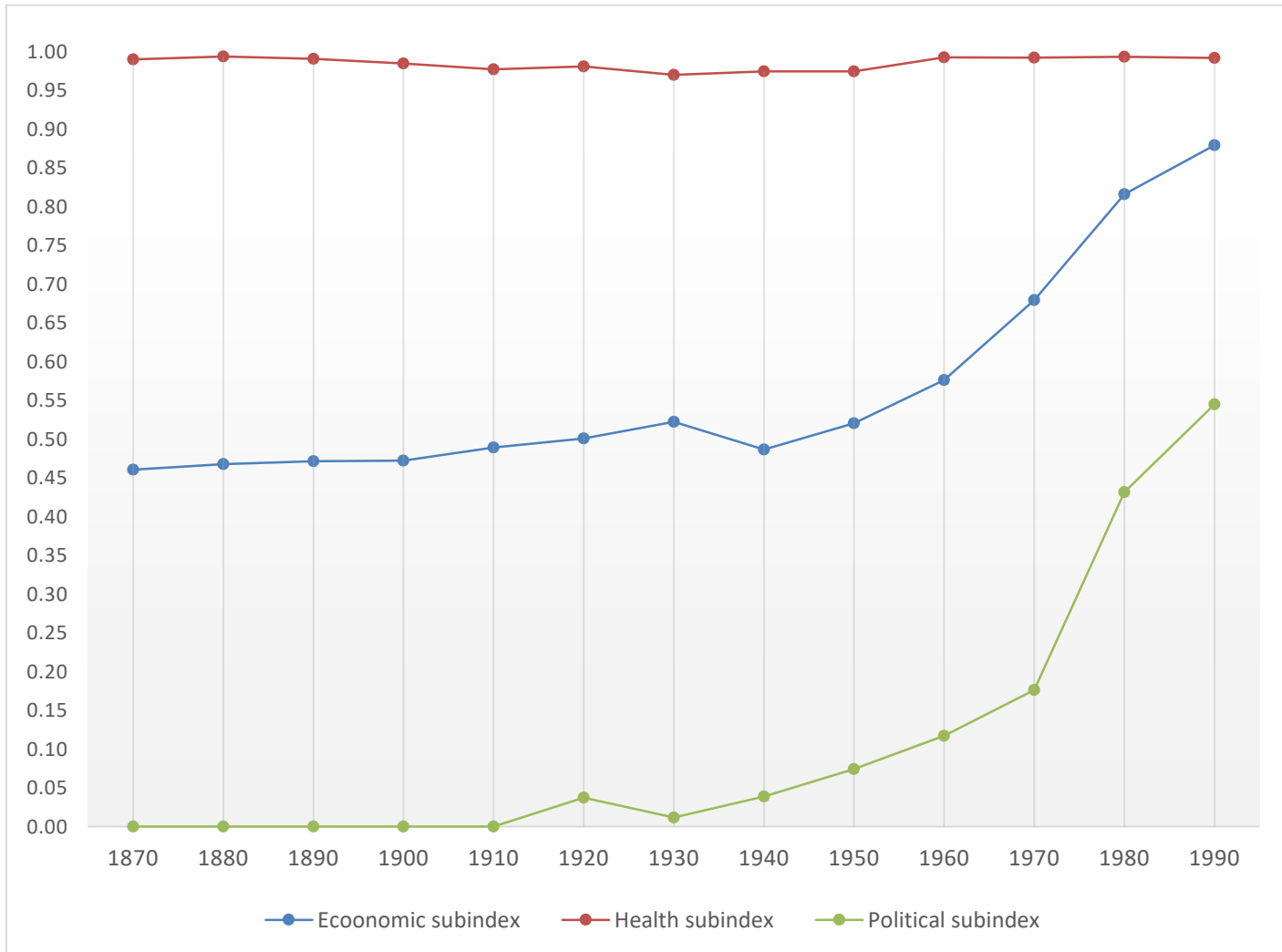
➤ Phase 1 – Stable

- Large inequalities until 1940s
- Sweden had closed ~ 48.5% of gender gap

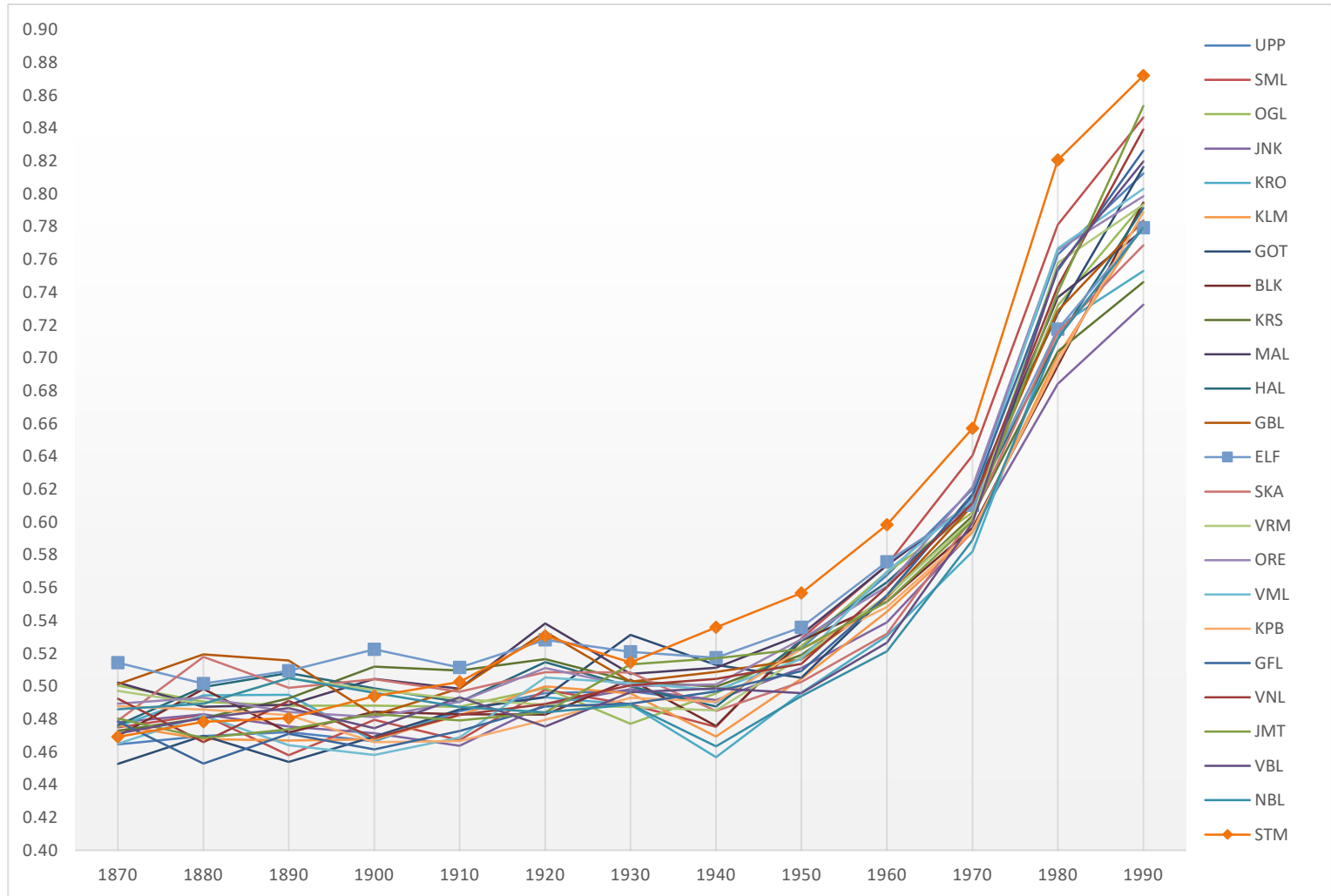
➤ Phase 2 – Continuous (sharp) increase

- From 1940s onwards
- Faster after 1970
- In 1990, Sweden had closed 80.6% of gender gap

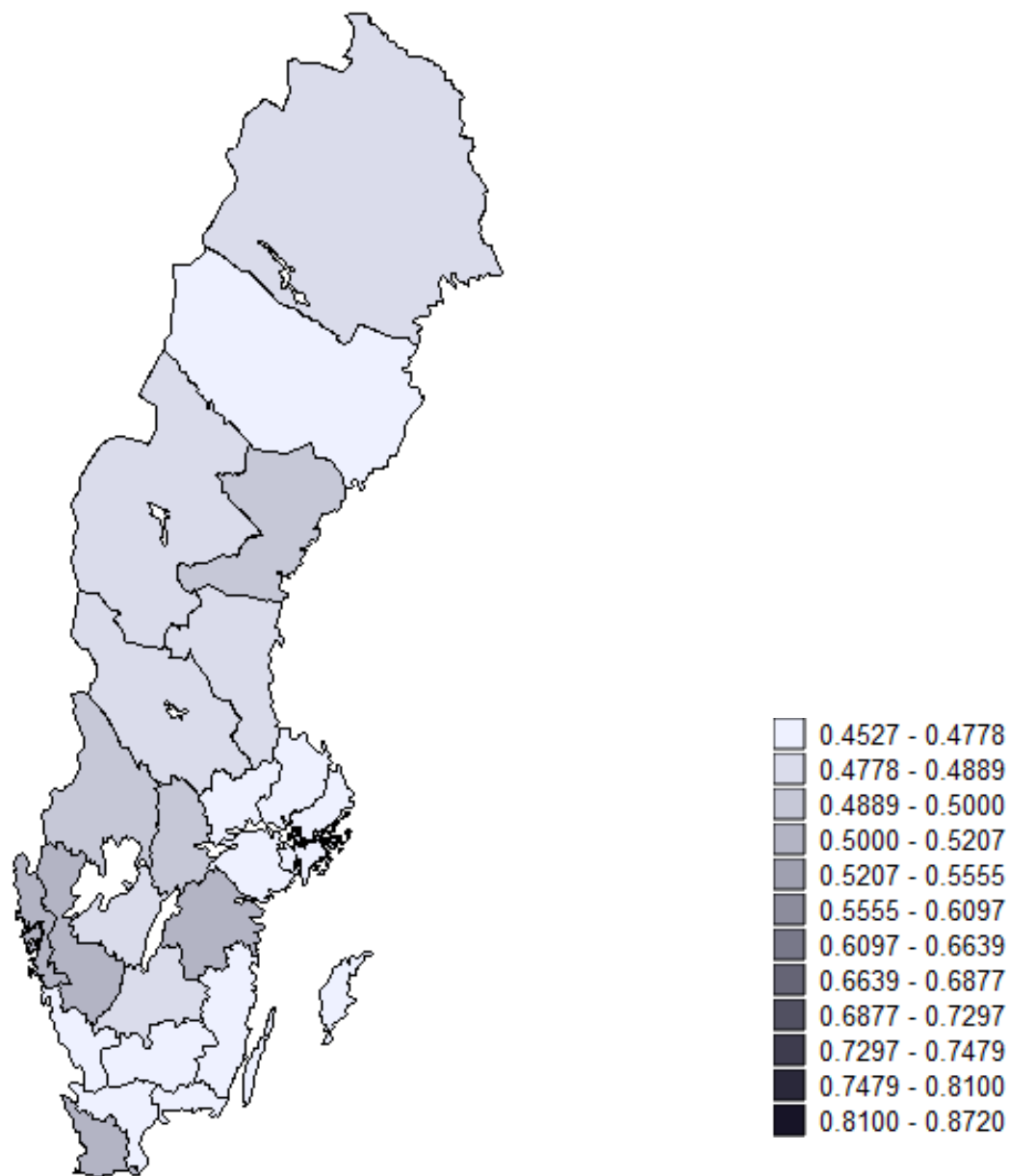
HGGI Subindex, 1870-1990



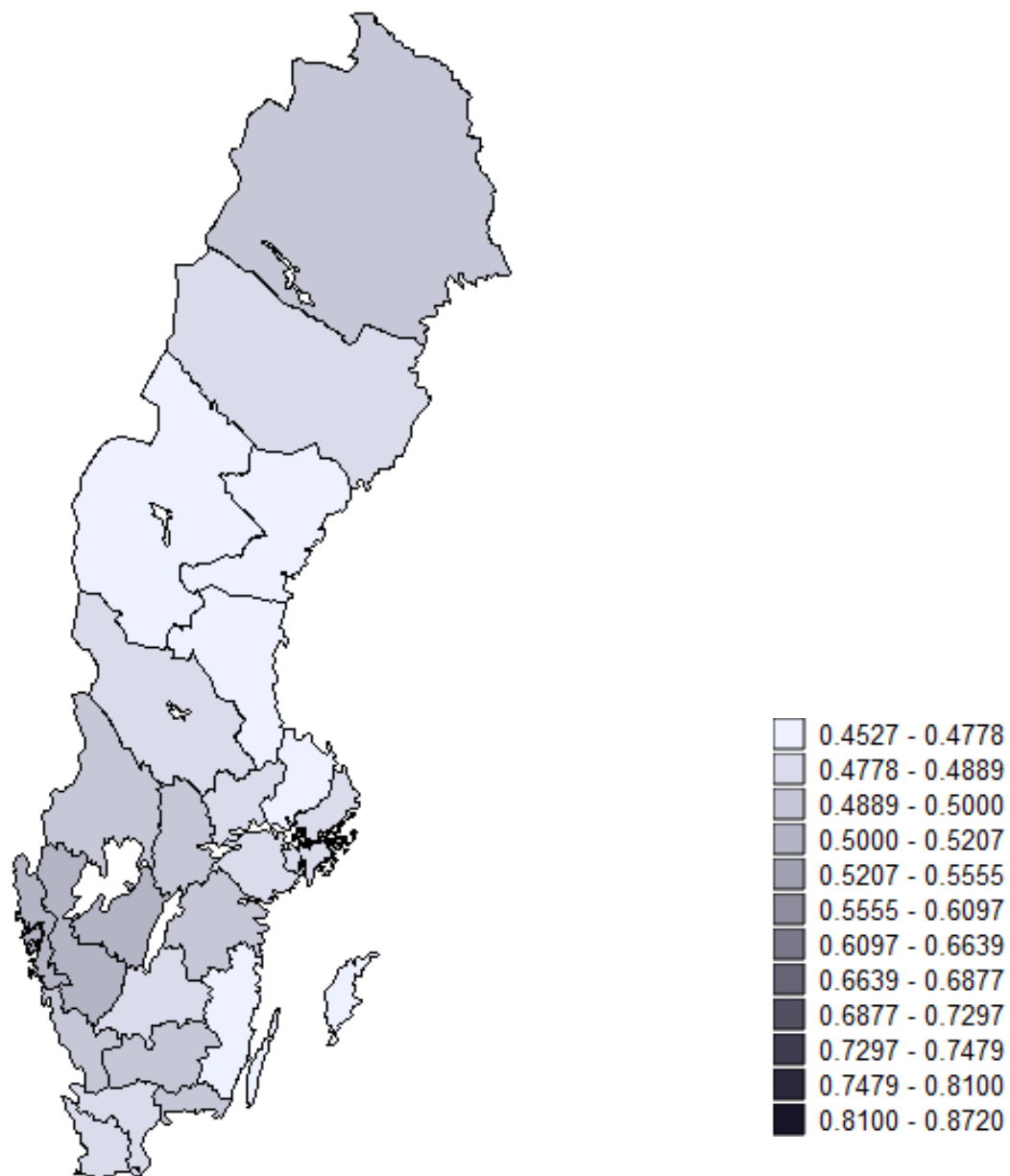
Spatial Distribution – HGGI, 1870-1990



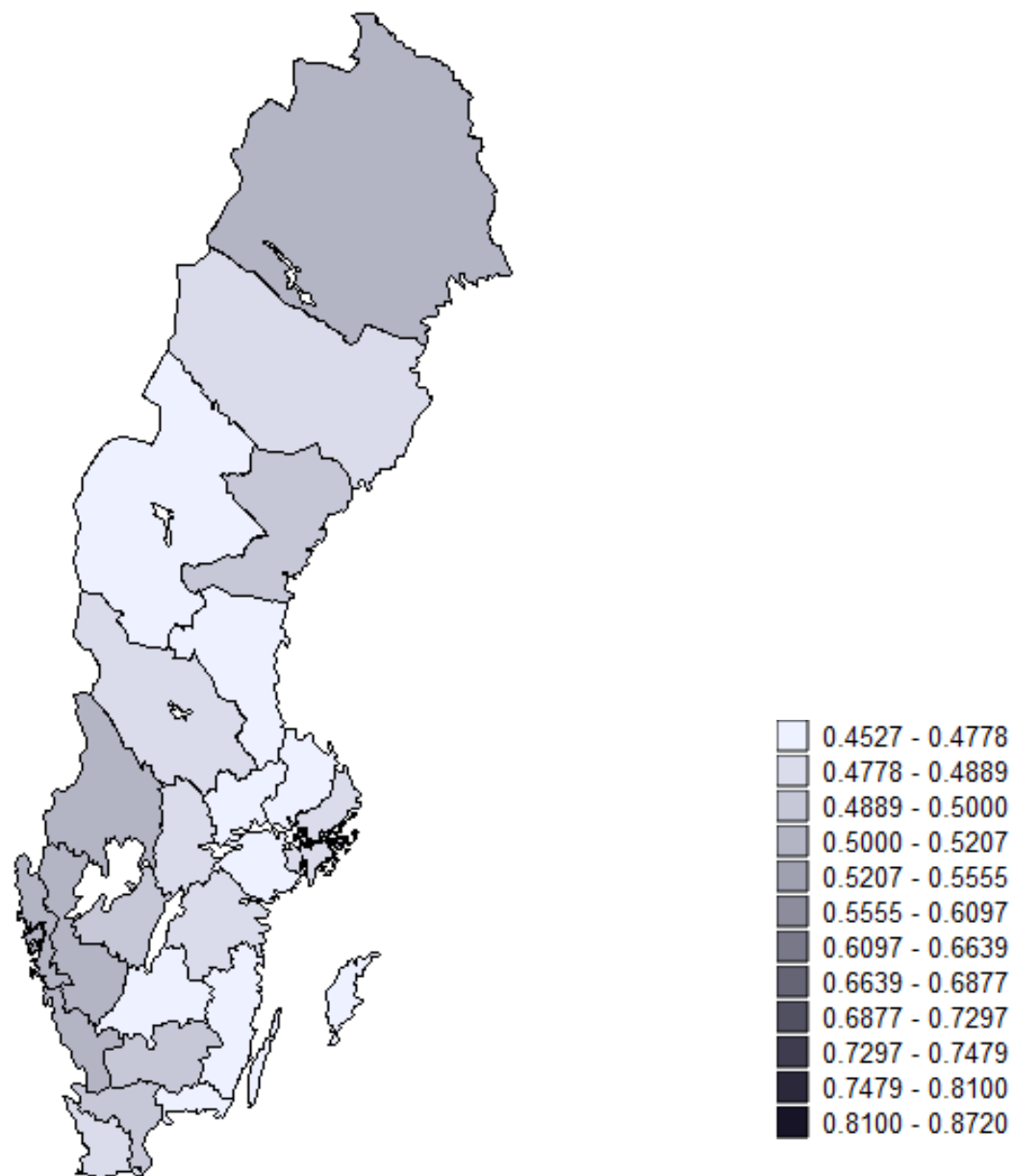
1870



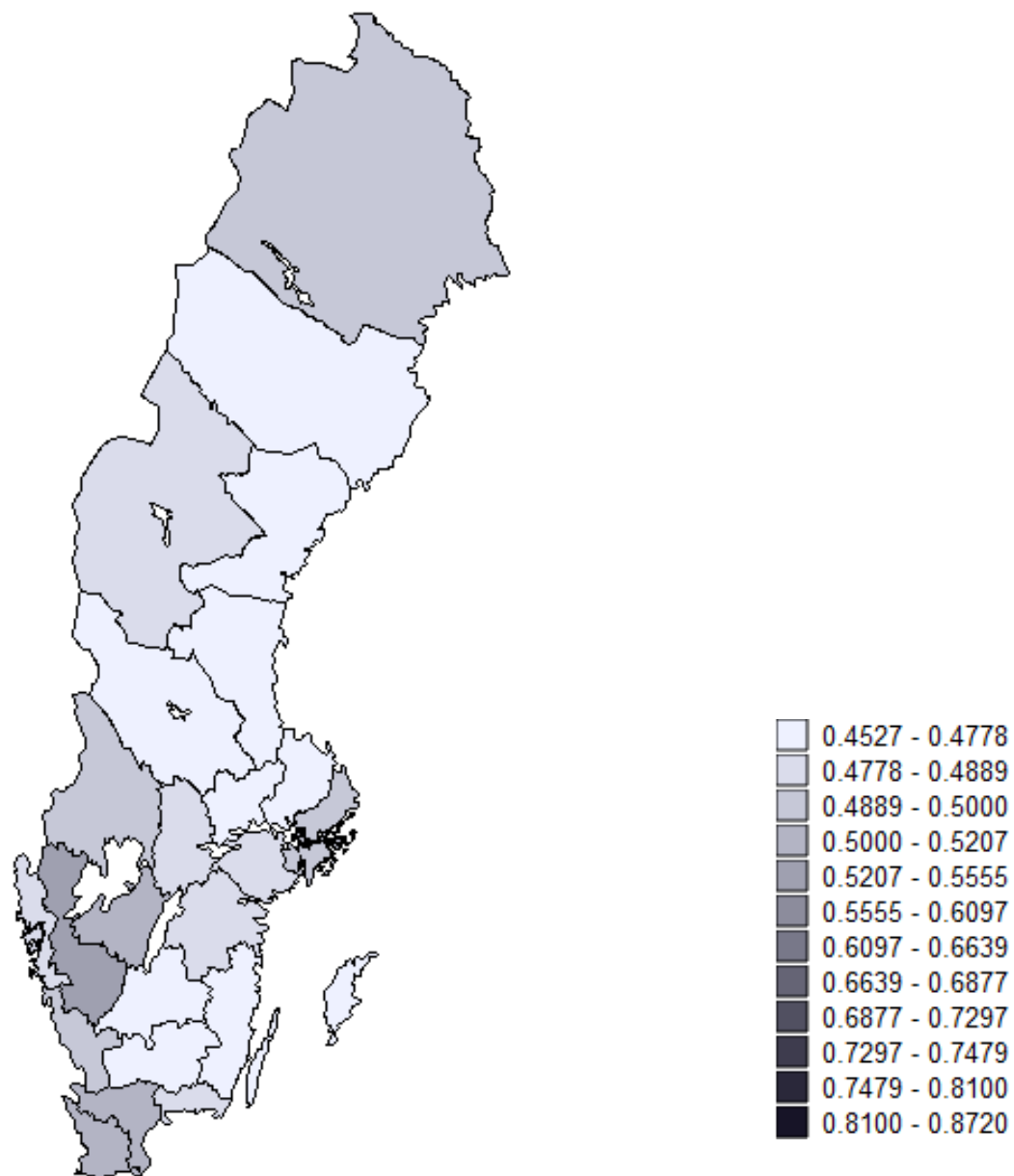
1880



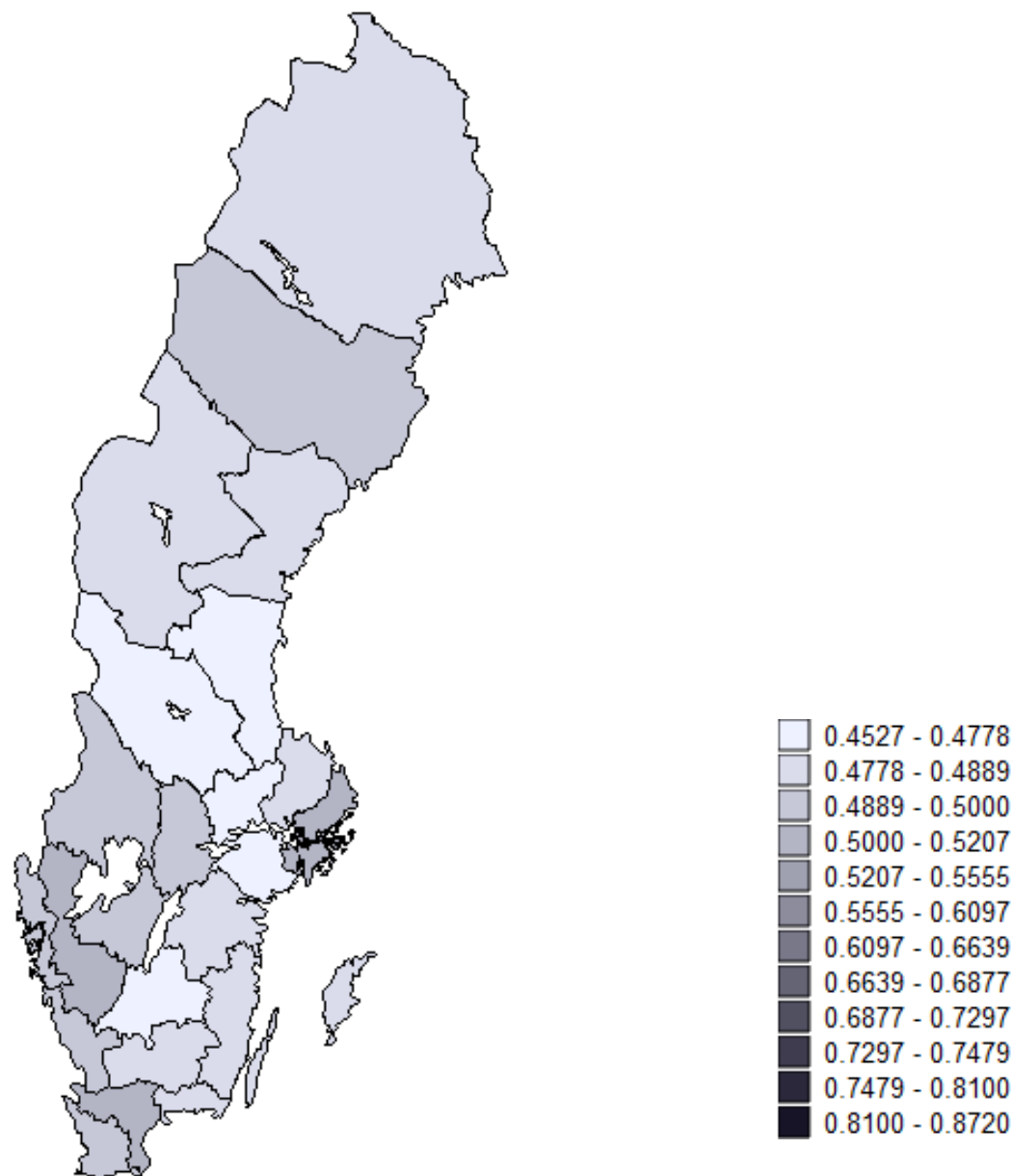
1890



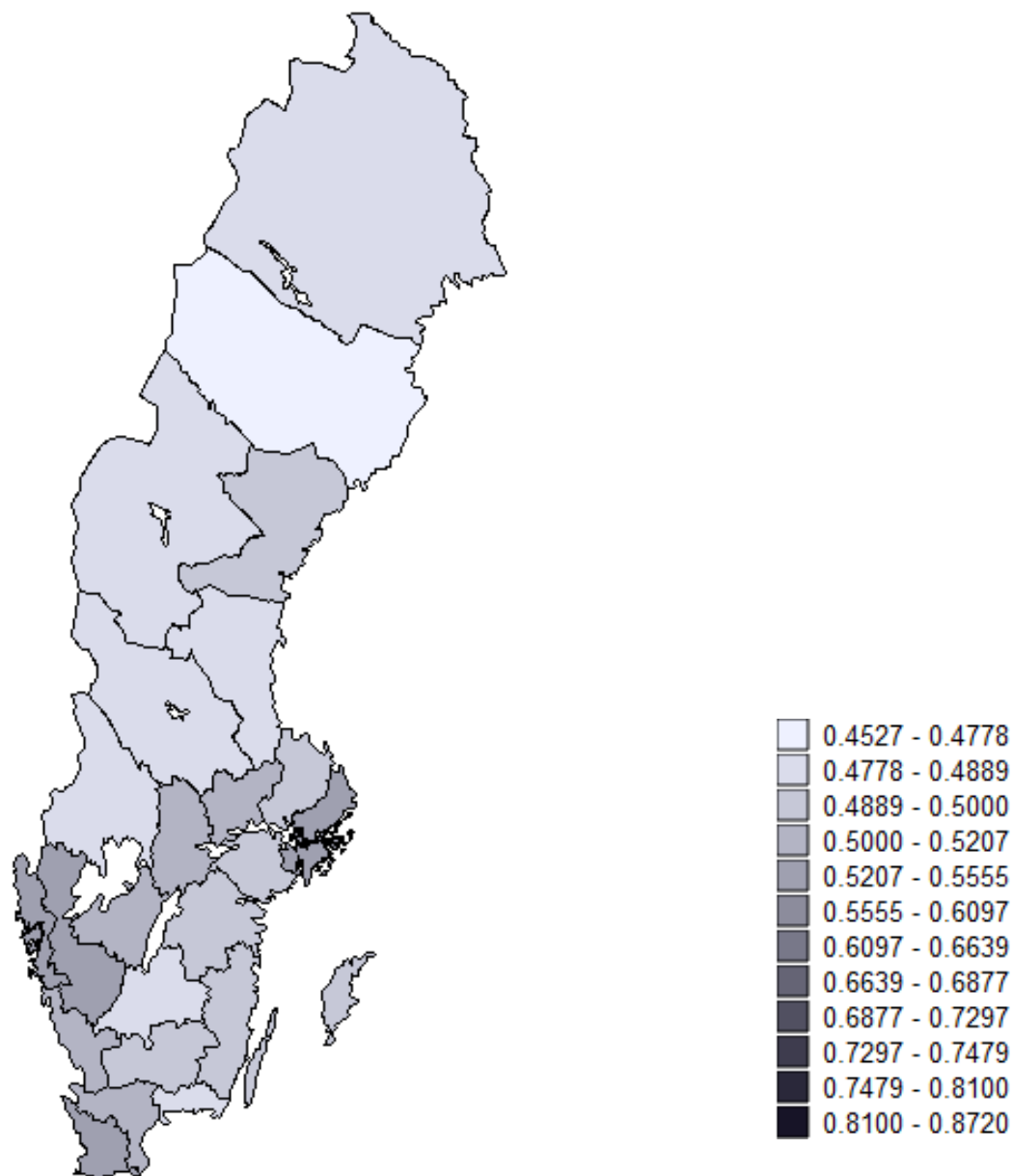
1900



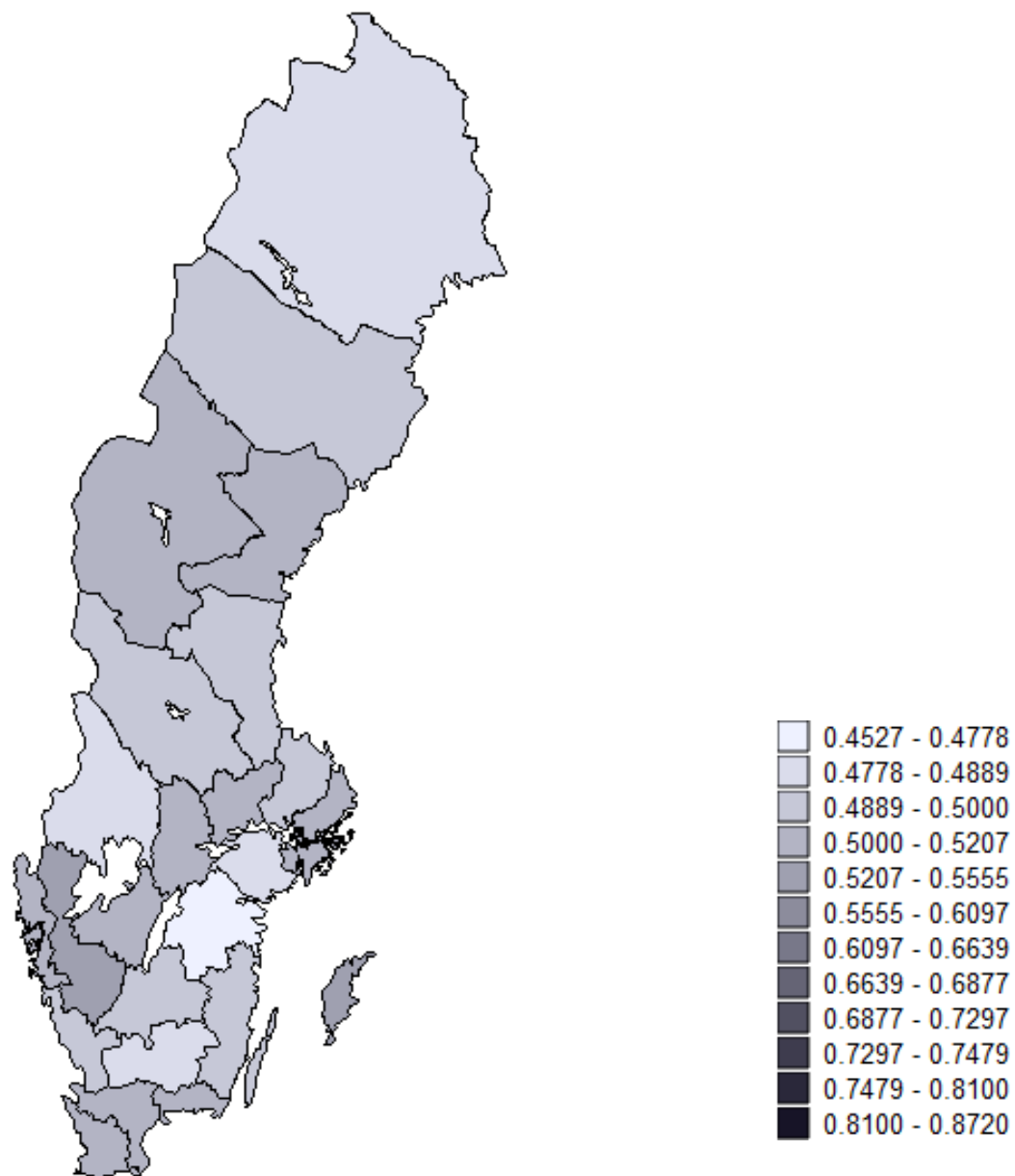
1910



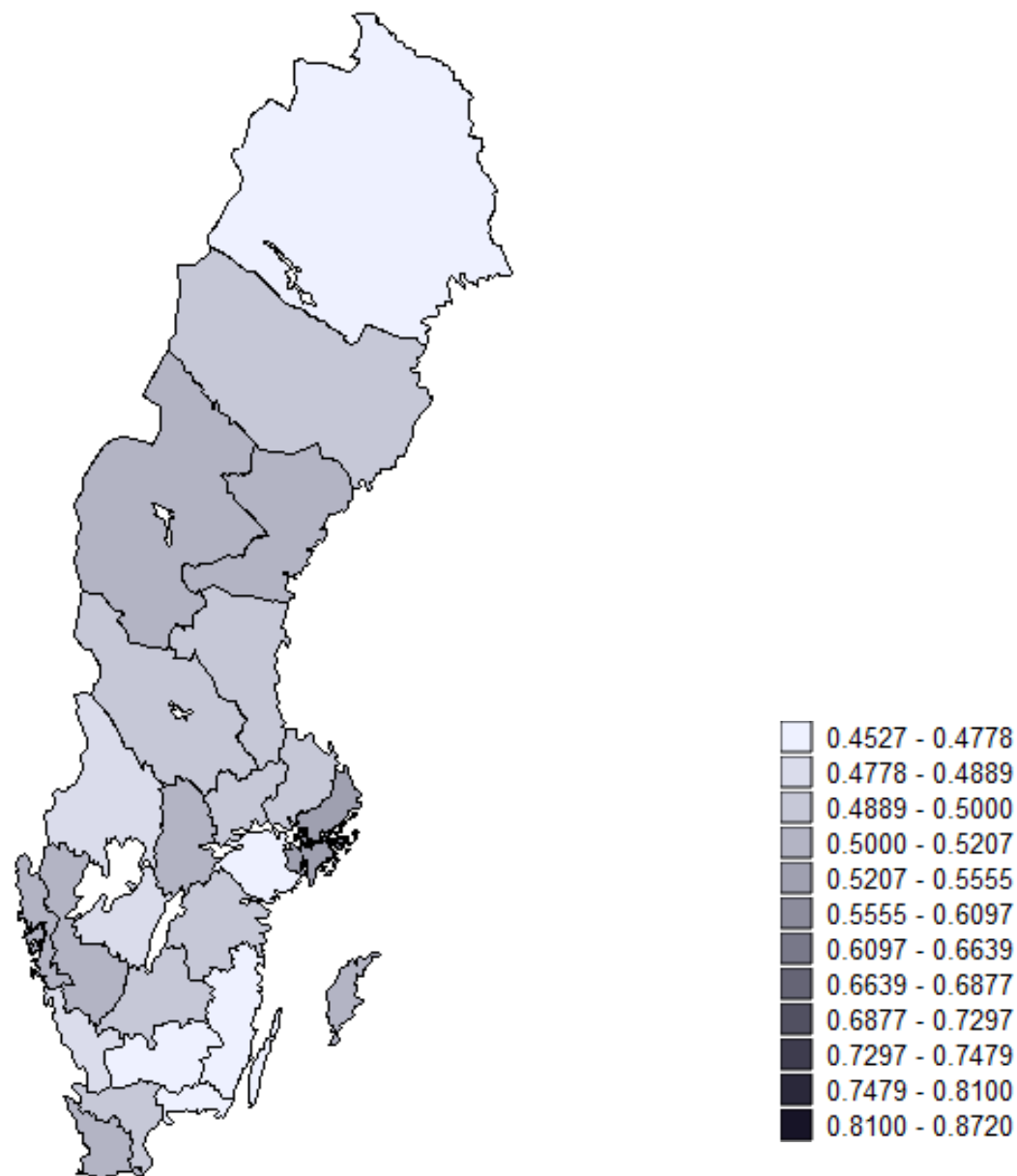
1920



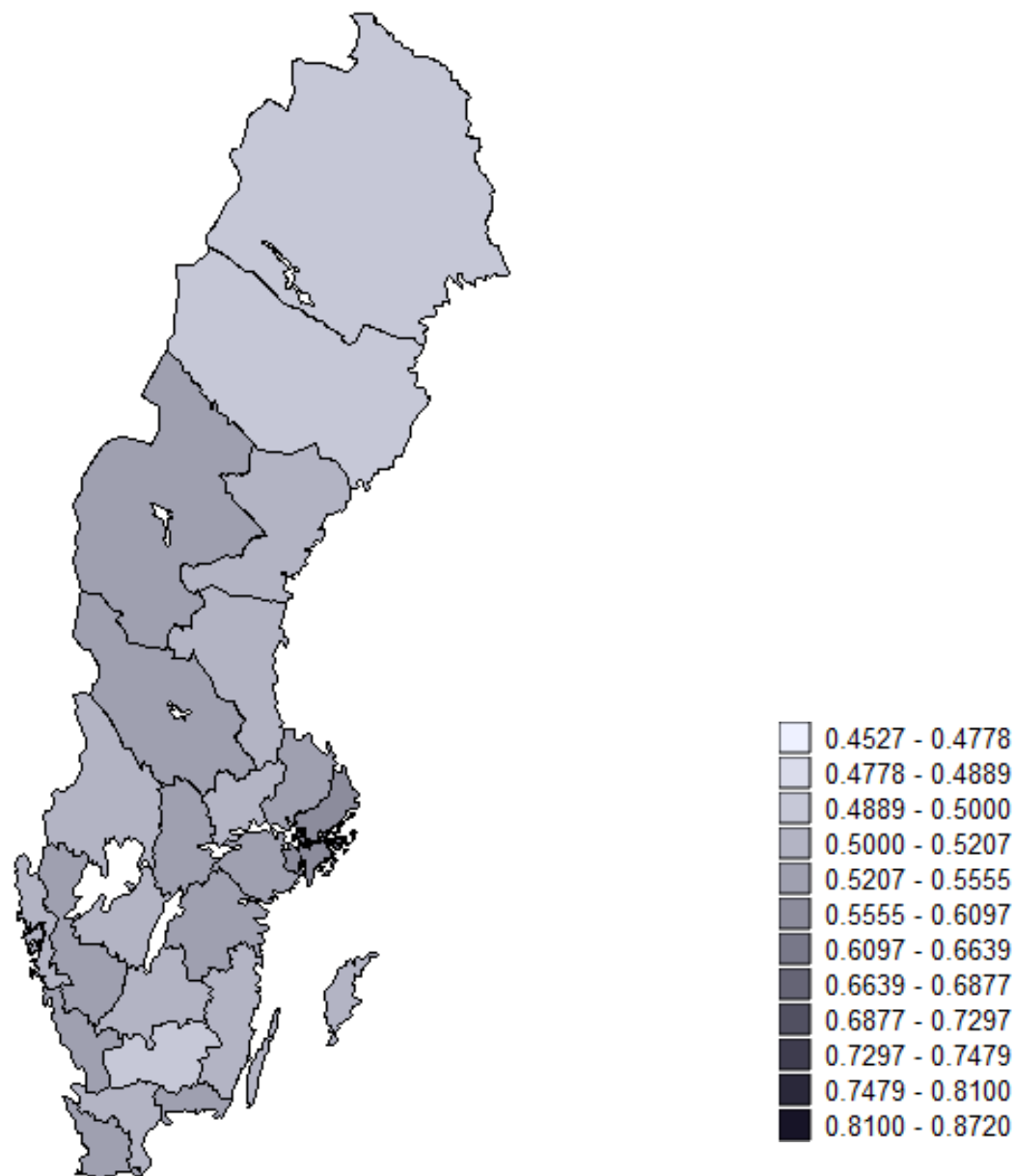
1930



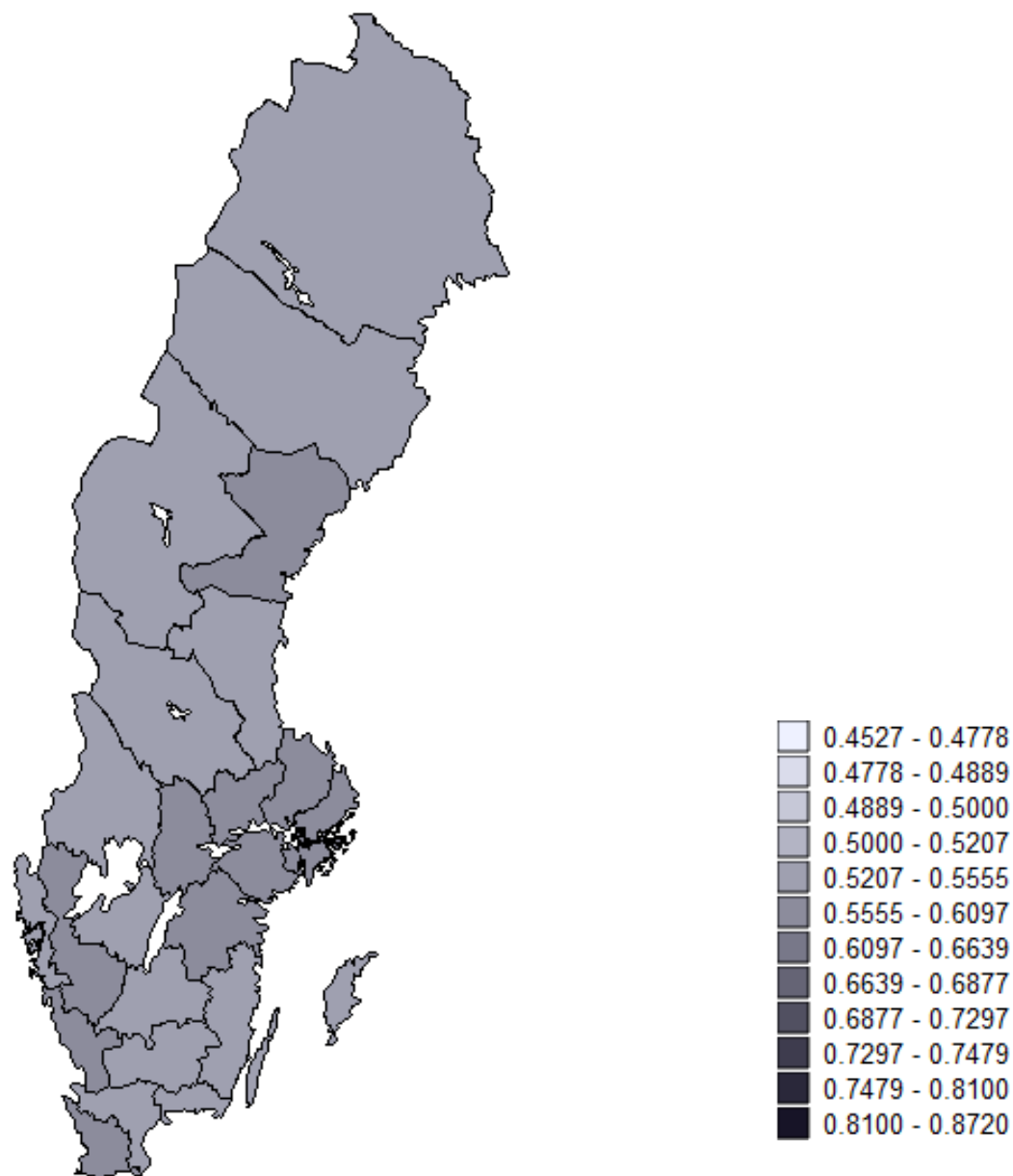
1940



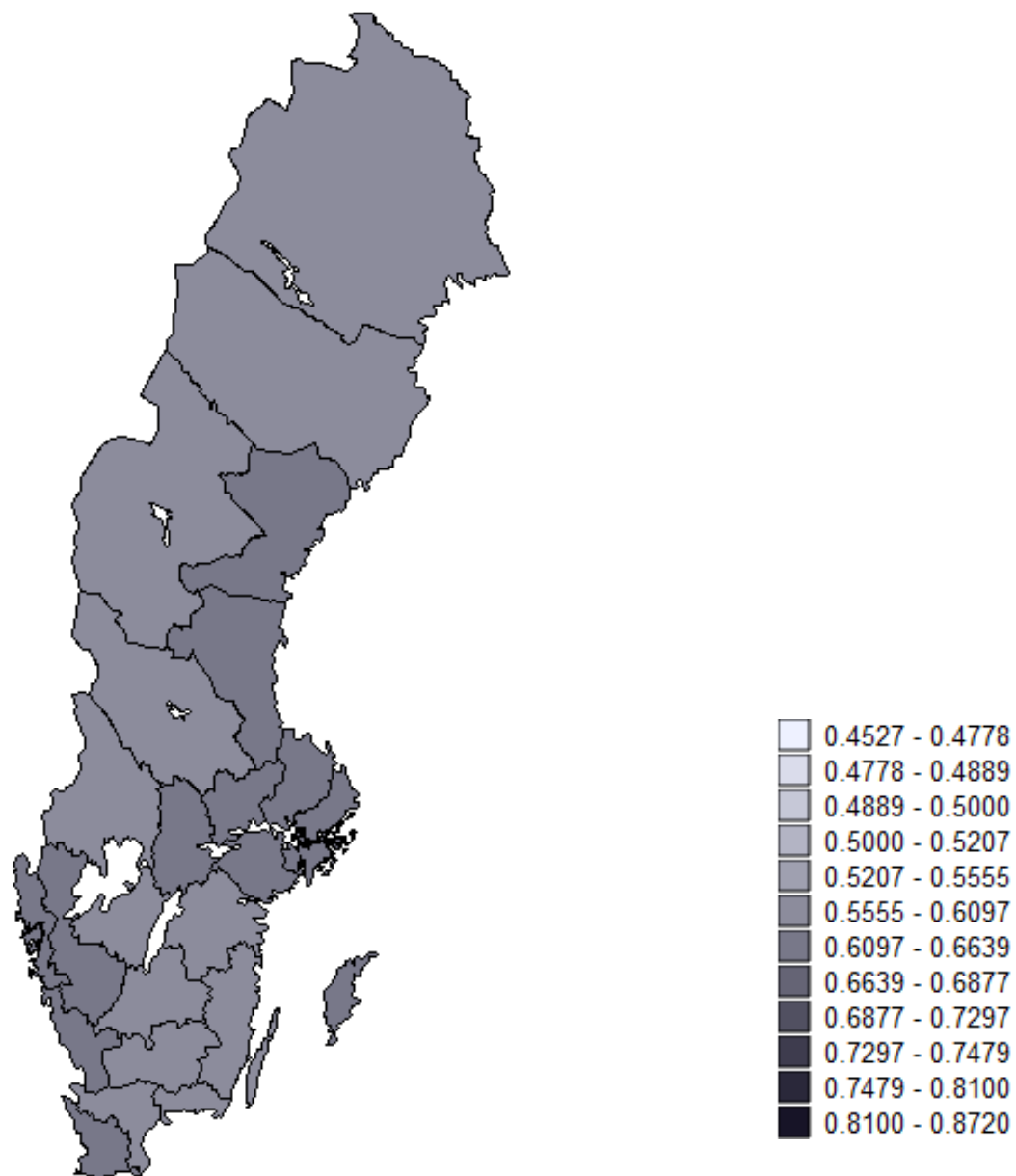
1950



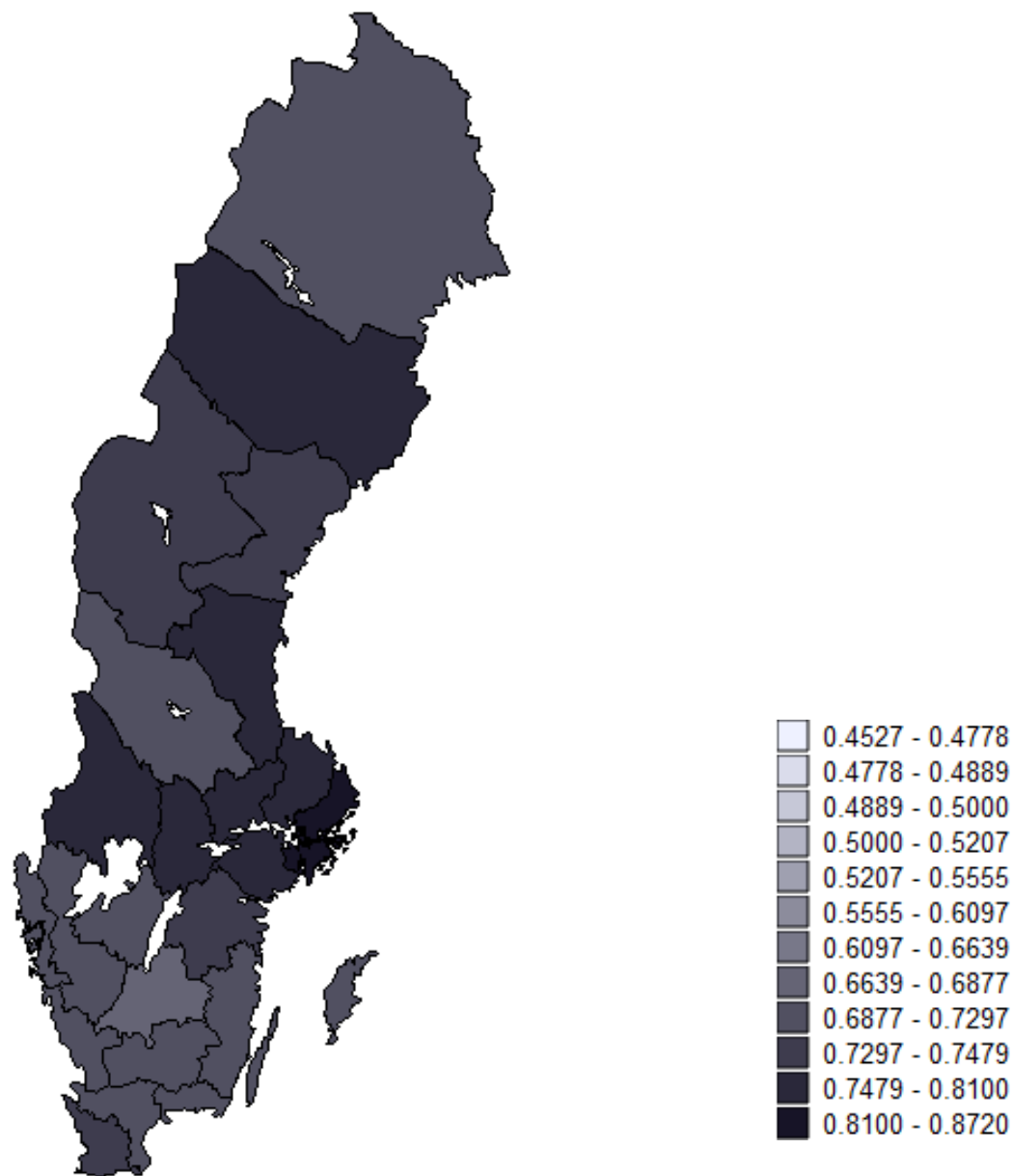
1960



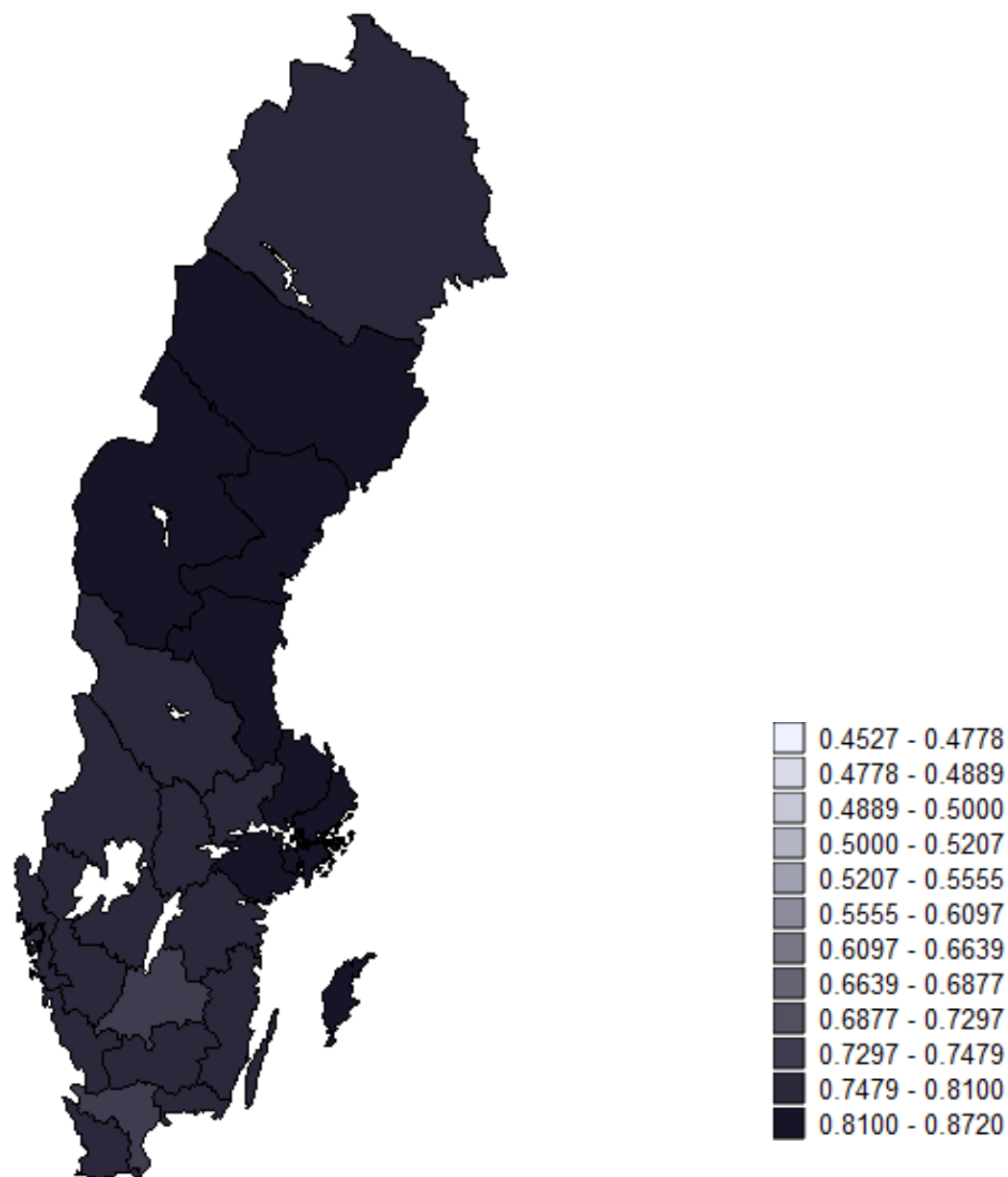
1970



1980



1990



Spatial Evolution

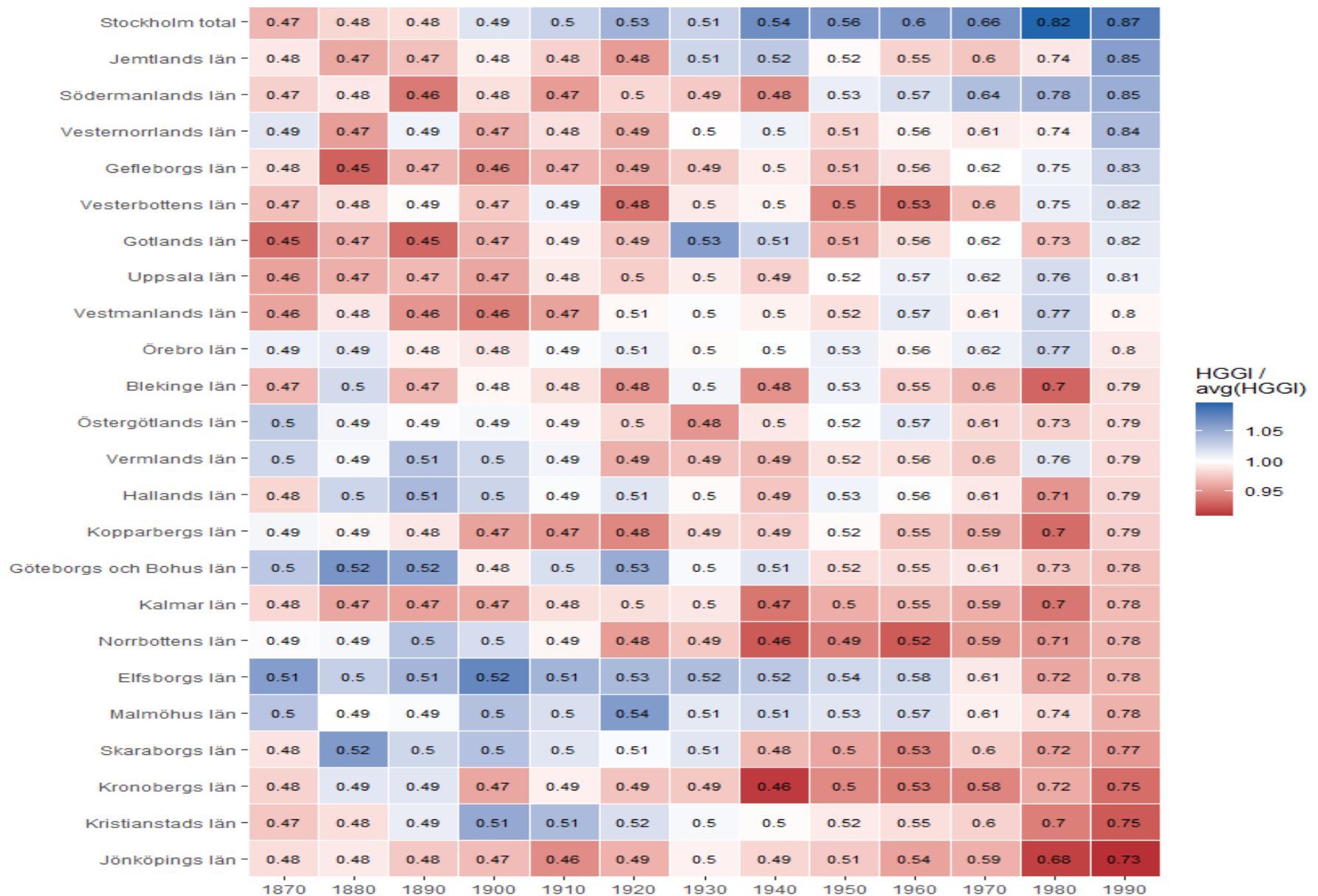
➤ Convergence/Divergence Pattern ?

- Swedish counties follow similar trends
- Note different trajectories → E.g. [Älvsborg](#) vs. [Stockholm](#)

➤ Identify general trends

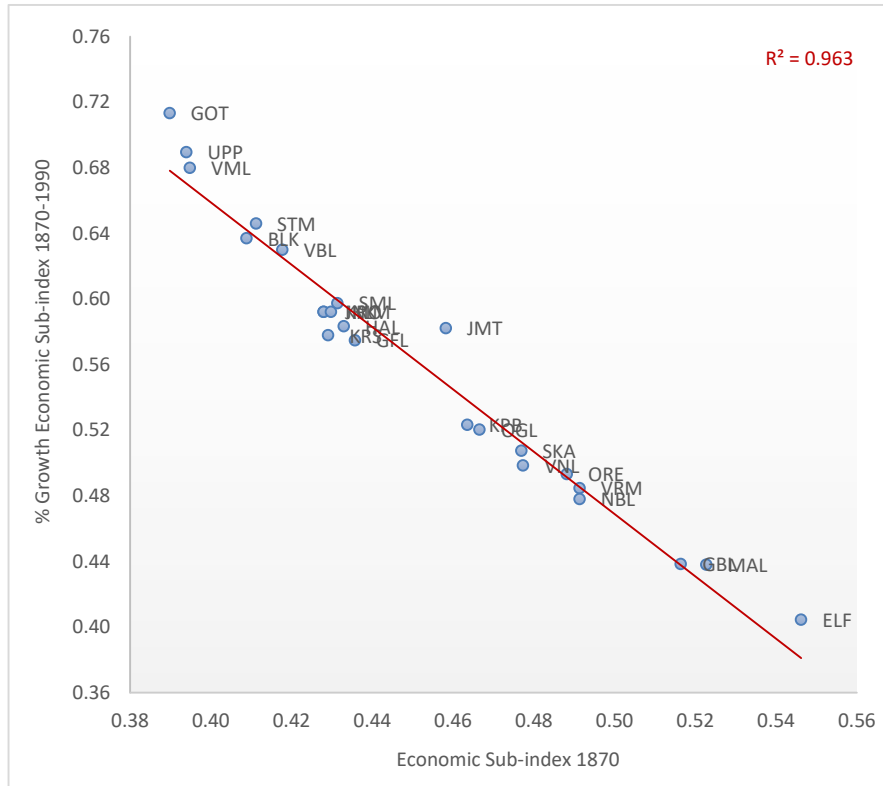
- Catch up of 'Backward' counties ?
- Decrease/Increase in regional inequalities ?
- Implementation of efficient policies at the national level ?

HGGI Scores - Heatmap

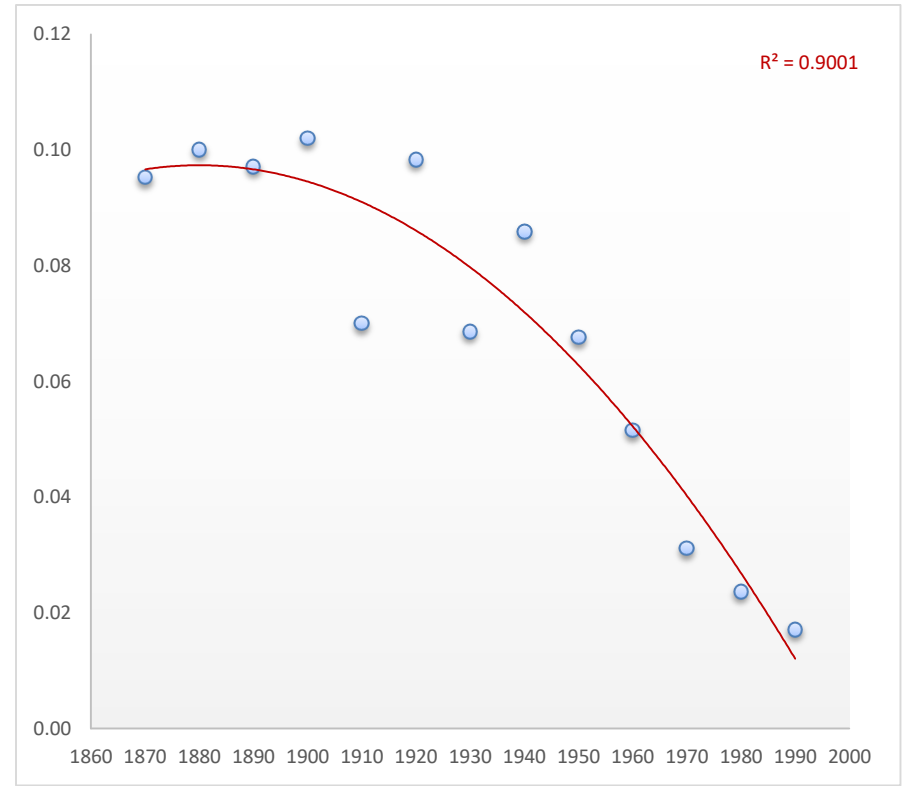


Economic Subindex, 1870-1990

Beta-convergence

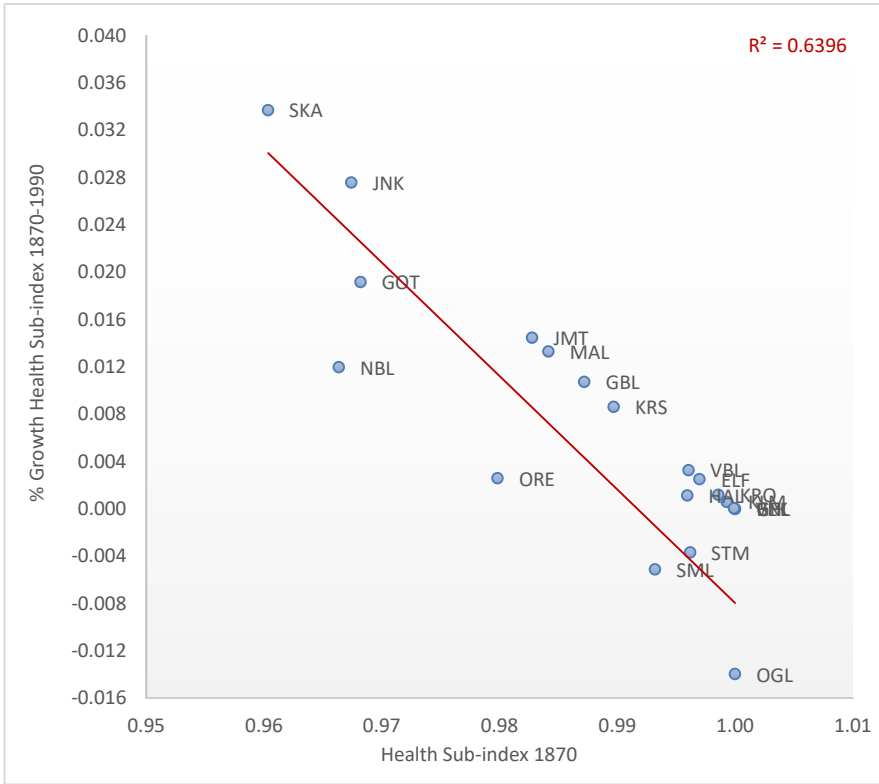


Sigma-convergence

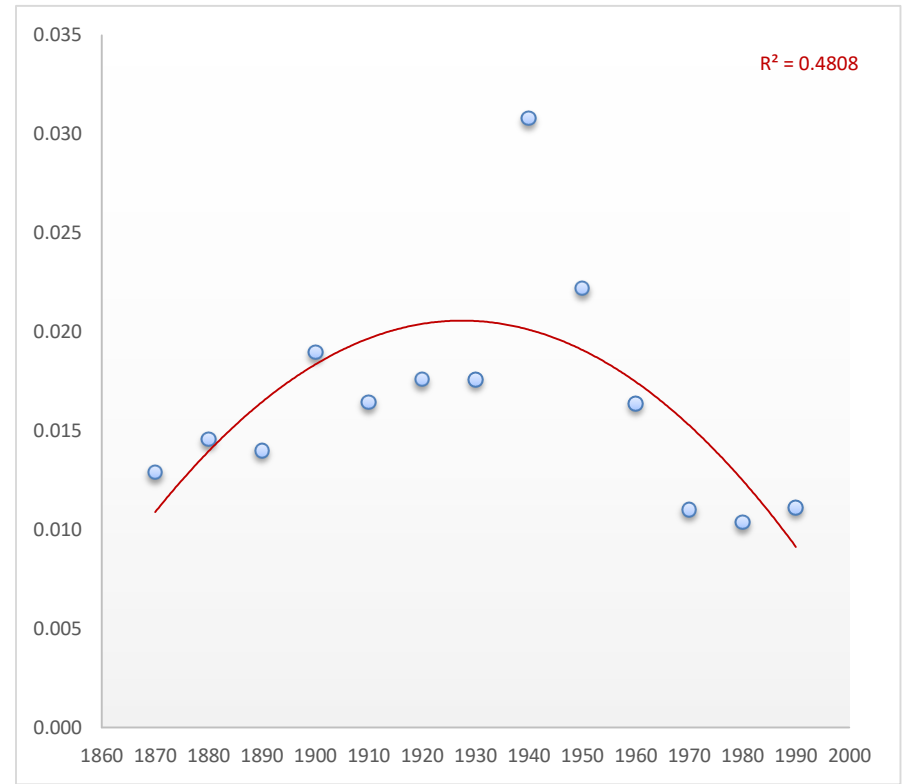


Health Subindex, 1870-1990

Beta-convergence

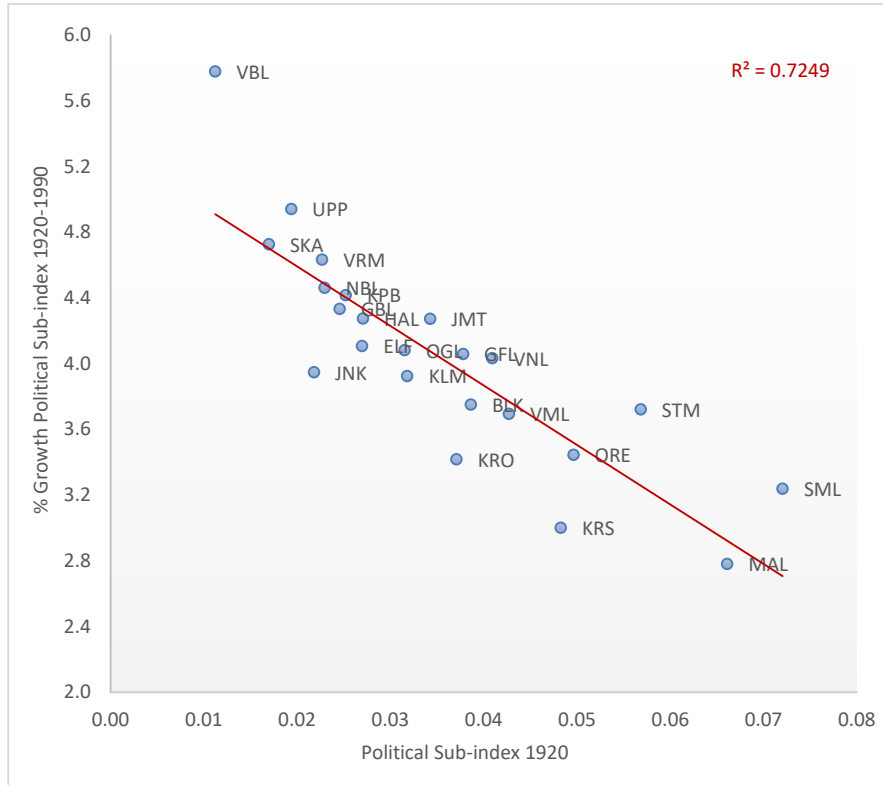


Sigma-convergence

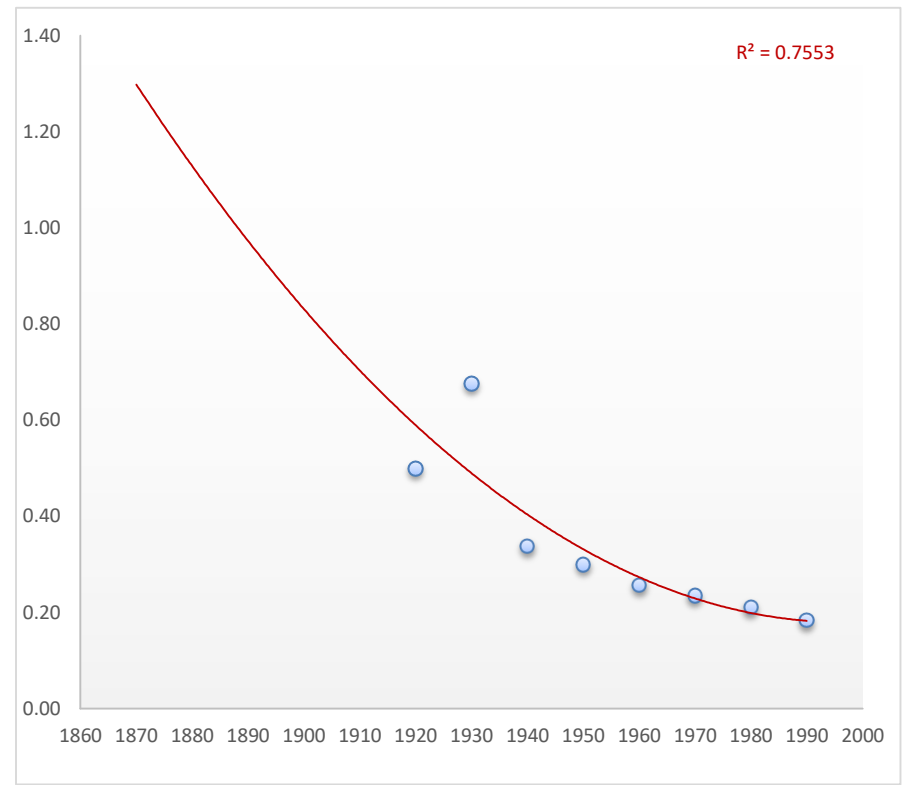


Political Subindex, 1930-1990

Beta-convergence



Sigma-convergence

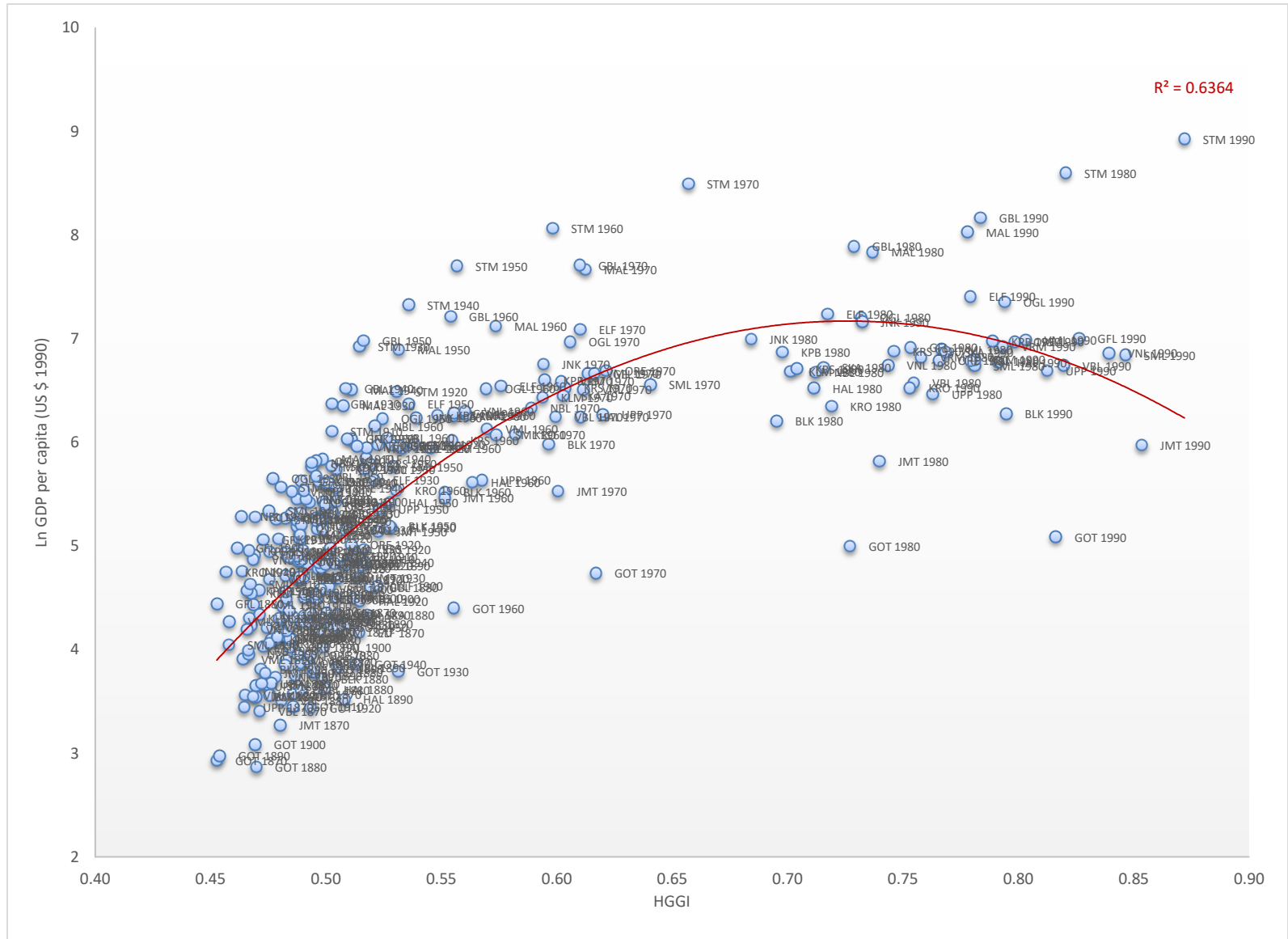


Opened Questions

- What factors explain the takeoff? The spatial convergence?

- Candidates
 - Economic factors – Structural change and modern growth
 - Institutional determinants – Policies in favor of gender equality
 - Cultural forces – Change in attitude

HGGI vs GDP per Capita, 1870-1990



Summary

- Construction of a Historical Gender Gap Index
 - Sweden, 1870-1990
 - Measuring outcome gap on 3 dimensions – economic, health, political
- Highlight
 - Strong improvement in gender equality from 1940 onwards
 - Heterogeneity among Swedish counties...
 - ... decreases over time → Convergence

Further Steps

➤ Extend the HGGI

- Find education data by gender
- → Add [Education attainment subindex](#)
- Sketch the evolution over longer time period (?)

➤ Empirical Investigations

- Input – Roots of gender inequalities
- Output – Effects on economic and demographic developments
- Investigate the predictions of theoretical models

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