Preschool inequalities –analyses of recruitment and segregation patterns in Swedish preschools

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Håkan Forsberg & Andreas Alm Fjellborg
Uppsala University
Sociology of Education and Culture (SEC)
Institutet för bostads- och urbanforskning (IBF)

hakan.forsberg@edu.uu.se
andreas.alm.fjellborg@edu.uu.se

Today's talk

- The research project and its starting points
- The Social Space of Swedish Preschools
- The different studies - recruitment patterns, preschool segregation and commuter patterns
- Conclusions

The first choice

The First Choice: The Expansion of Preschool, its Marketization and Increased Importance for Families' Educational Strategies

Collaborators

Esbjörn Larsson, Håkan Forsberg, Ida Lidegran, Jennifer Waddling, Johannes Westberg, Andreas Alm Fjellborg, Mette Ginnerskov Dahlberg

Funded by *The Swedish research council* 2017-2020

The first choice

The project's purpose is to provide knowledge about the role of preschools for families' educational strategies as well as the expansion and marketization of Swedish preschools from the 1980s onwards.

The project's analytical scope includes both sociological and historical perspectives.

The project is conducted within two different sub-studies

The first choice

Sub-study 1

- Families choice and enrolment in preschool
- The birth of a preschool market

Analytical inputs

- Statistically; preschool recruitment patterns
- Qualitatively; interview studies regarding the choice of preschools

The first choice

Sub-study 2

- Addresses the issue of preschool expansion and marketization
- Particular focus on the period from the 1980s onwards.

Analytical input

- Historical studies of the political process and changes in the perception of the purpose of preschools as well as the actual impact of reforms

The Social Space of Swedish Preschools

A Bourdieusian Analysis of Families' Preschool Enrolment in a Marketised Welfare State

Håkan Forsberg & Jenny Waddling

Uppsala University
Sociology of Education and Culture (SEC)
hakan.forsberg@edu.uu.se
jenny.waddling@edu.uu.se

A first approach

A socio-geographical map of Swedish preschools

Combining a social space approach with geographical ideas and methods

- How is the national space of Swedish preschool structured when it comes to parents' social and economic resources and where they live?
- How are the social and geographical differences of parents' resources related to the supply and location of different kind of preschools?

Construction of a social space of preschools

Data

- Individual register data, total population (ca 504 211 children, 494 903 fathers and 503 470 mothers).
- Social, economical and national background of parents (110 unique variables).
- Geo-data on both schools' location and families' residence
- Information on all preschools - Type of organisation, ownership, pedagogical approach etc..

Geometric Data Analysis (GDA)

GDA in short:

- A multivariate statistical approach (Individuals x Variables)
- Analyse the variation in data by focusing on distribution and concentration of categories
- A relational approach with no *a priori* assumption about the data
- “A quantitative method for analysing qualitative data”

Brigitte Le Roux & Henry Rouanet. 2004. *Geometric Data Analysis: From Correspondence Analysis to Structured Data Analysis*. Dordrecht: Kluwer Academic

Specific Multiple Correspondence Analysis (specific MCA)

- 5 active variables
- 28 categories (23 active and 5 passive)
- 504 211 individuals

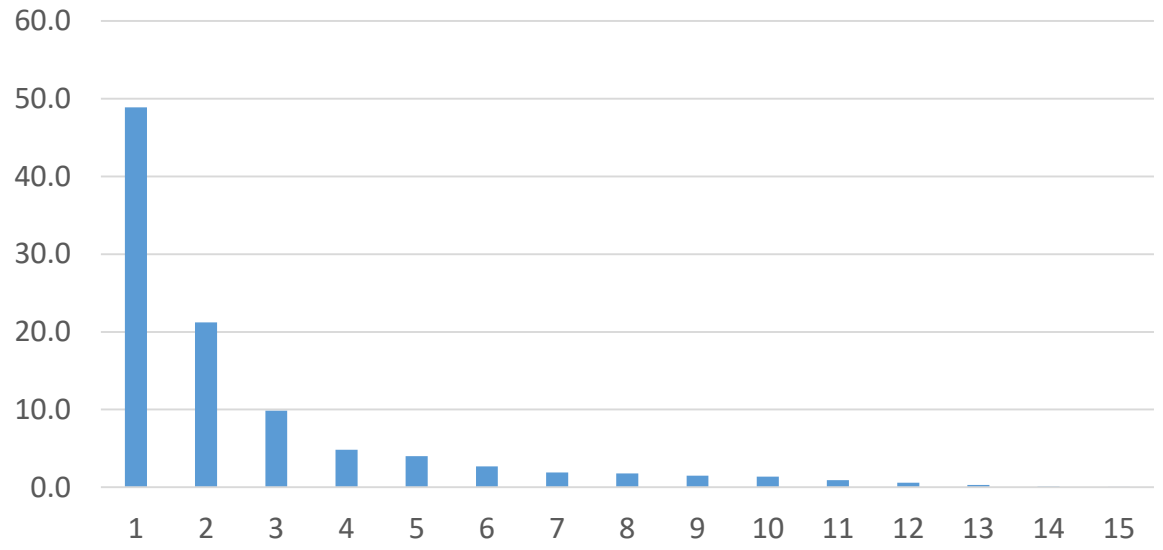
Heading	Variables	Modalities	Status	n	%
Economic capital	Income decile (household)	H-income(1dec.)	Active	49225	9,8
		H-income(2-3dec.)	Active	147731	29,3
		H-income(4-5dec.)	Active	49187	9,8
		H-income(6-7dec.)	Active	147689	29,3
		H-income(8-9dec.)	Active	49179	9,8
		H-income(10dec.)	Active	49213	9,8
		H-income-Miss	Supplementary	11987	2,4
	Occupation sector (household)	State/County	Active	64998	12,9
		Municipal	Active	61652	12,2
		PrivateCompany	Active	309245	61,3
		OtherPrivComp.	Active	27604	5,5
		Sector-miss	Supplementary	40712	8,1
Educational capital	Highest level of education (household)	Primary/Upper secondary (2years)	Active	55059	10,9
		Upper secondary (3years)	Active	129480	25,7
		Post-secondary (not HE)	Active	60700	12,0
		HE (Less-4years)	Active	133600	26,5
		HE(More-4years)	Active	114056	22,6
		EduLev-miss	Supplementary	11316	2,2
	Field of study by the highest level of education	General education	Supplementary	34193	6,8
		SocialScience/Hum	Active	45398	9,0
		Economics/Law	Active	50202	10,0
		Science/Tech	Active	137982	27,4
		Healthcare	Active	80807	16,0
		Social Healthcare	Active	35434	7,0
		Agriculture/Services	Active	72168	14,3
		Edu-track-miss	Supplementary	48027	9,5
National origin	Swedish or Foreign background Statistics Sweden (Child)	Foreign background	Active	107082	21,2
		Swedish background	Active	396816	78,7
		SweFor_miss.	Supplementary	313	0,1

Active variables

- Income decile (household)
- Occupation sector (household)
- Highest level of education (household)
- Field of study by the highest level of education (household)
- National origin (child)

Results

Variances of axes (eigenvalues) and search for threshold



Axis 1, 2 and 3, explain **80 %** of the total variance of the data.

Axis	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Variance of the axis (eigenvalue)	0,372	0,299	0,255	0,226	0,220	0,209	0,201	0,200	0,196	0,195	0,188	0,182	0,175	0,168	0,161
Benzécri's modified rates (%)	48,9	21,2	9,9	4,8	4,0	2,7	1,9	1,8	1,5	1,4	0,9	0,6	0,3	0,1	0,0

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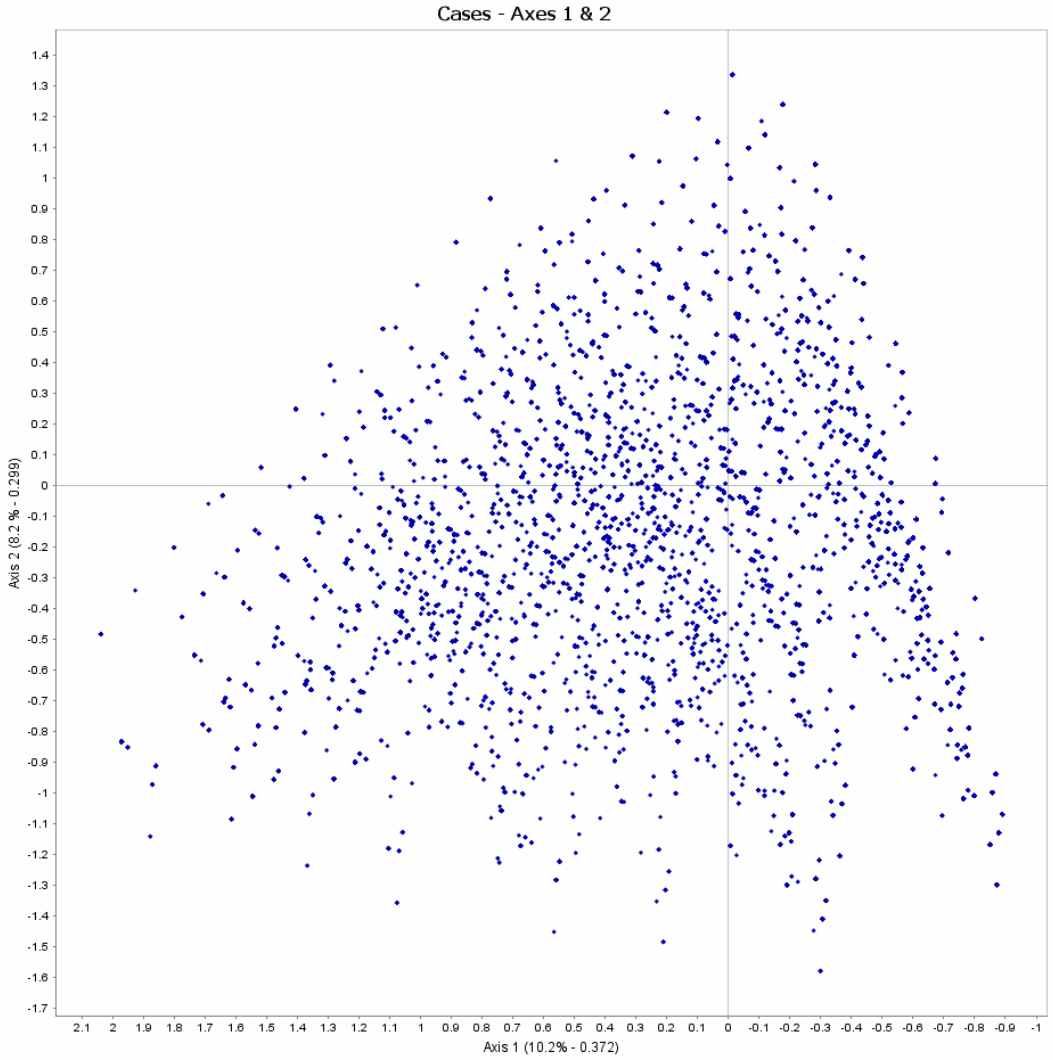
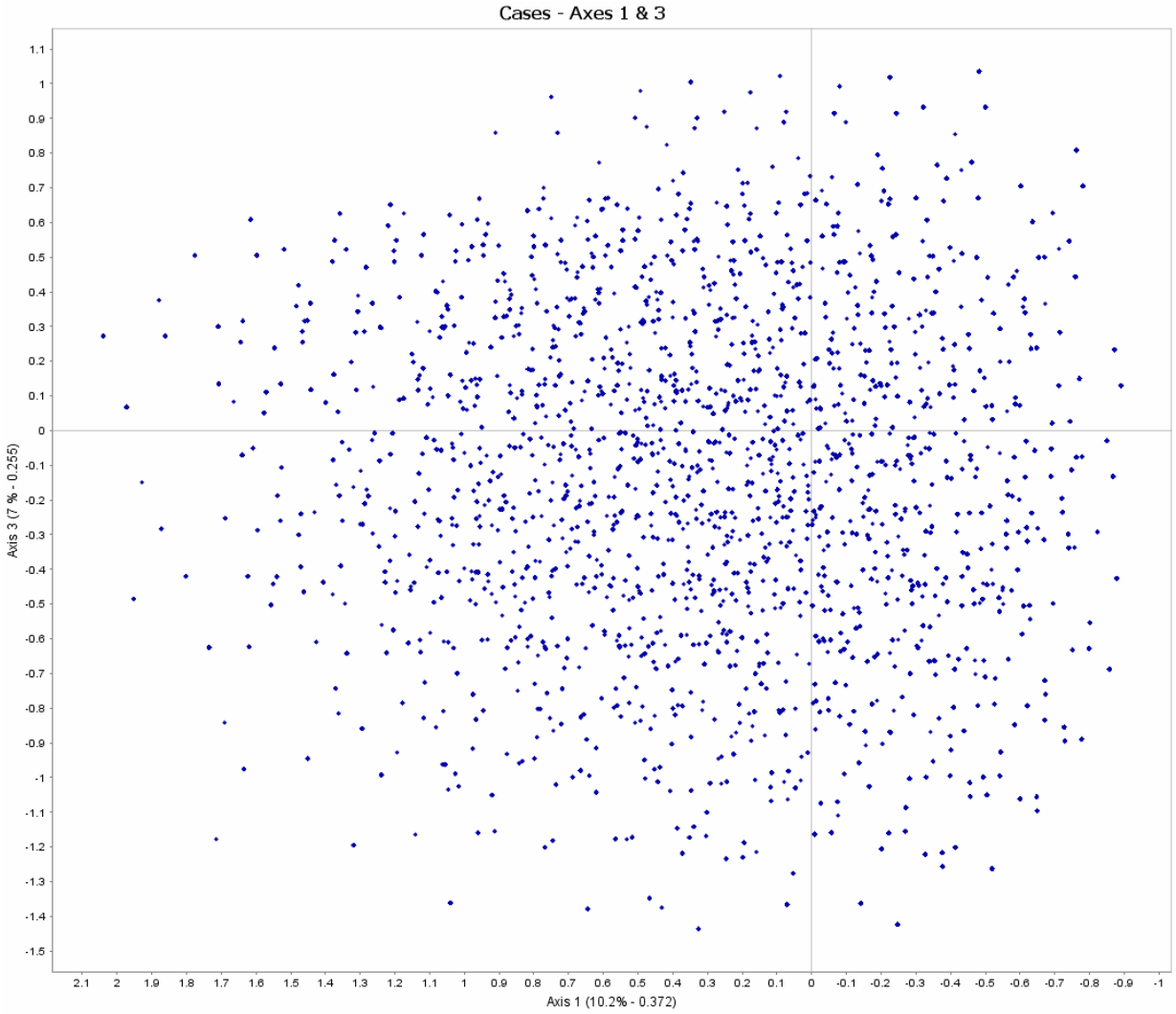
Results

Cloud of individuals





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Results

A three dimensional space

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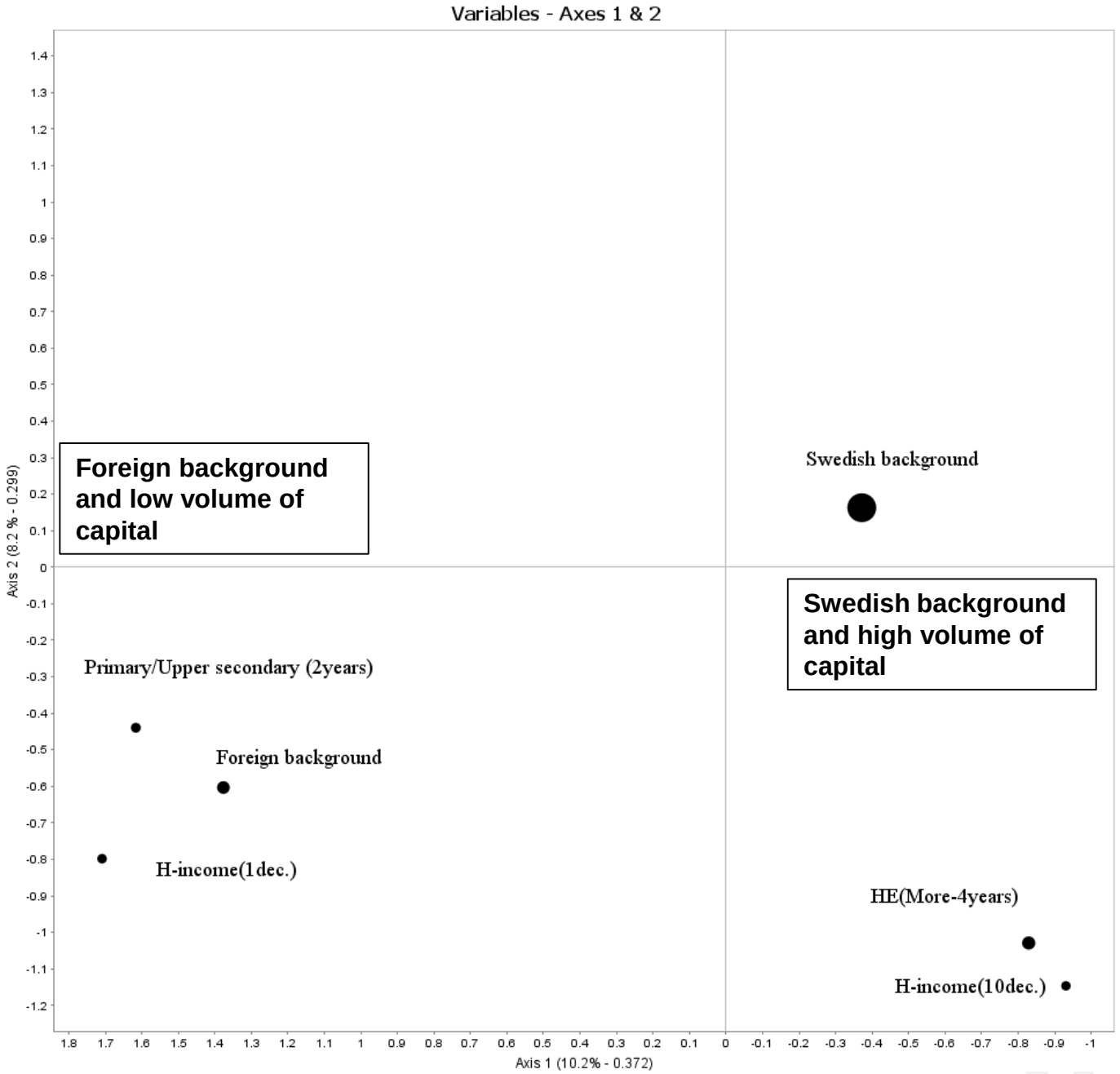
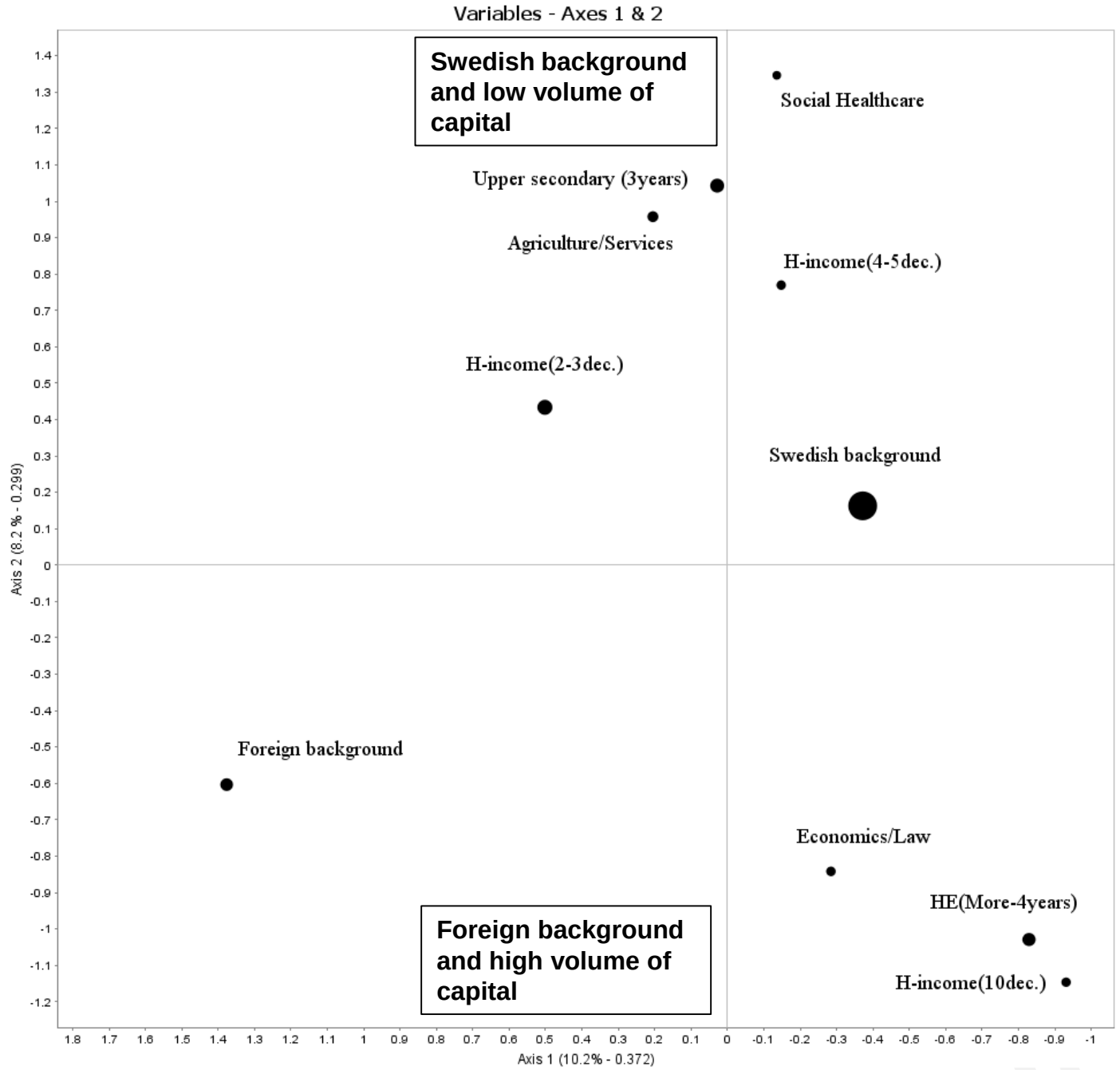
Results



Contributing categories to **axis 1** Plane, 1 and 2 (48,9%)

Contributing modalities to axis 2 (1-2)



Results

Contributing categories to **axis 2** Plane, 1 and 2 (21,2 %)

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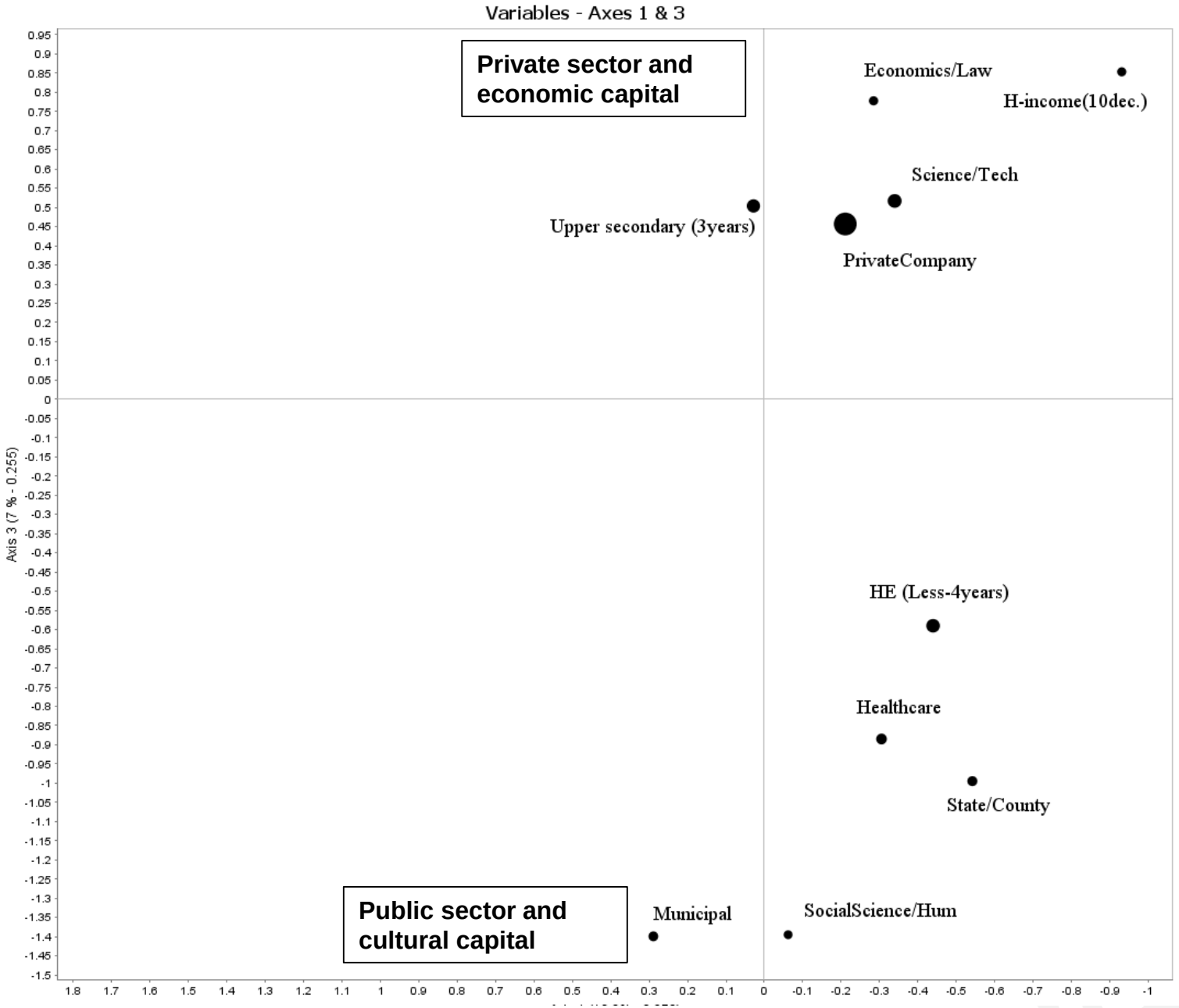
Results



Contributing categories to **axis 3** Plane, 1 and 3 (9,9 %)

Results

The distribution of different kinds of preschools, national and regional level

Plane 1 and 3

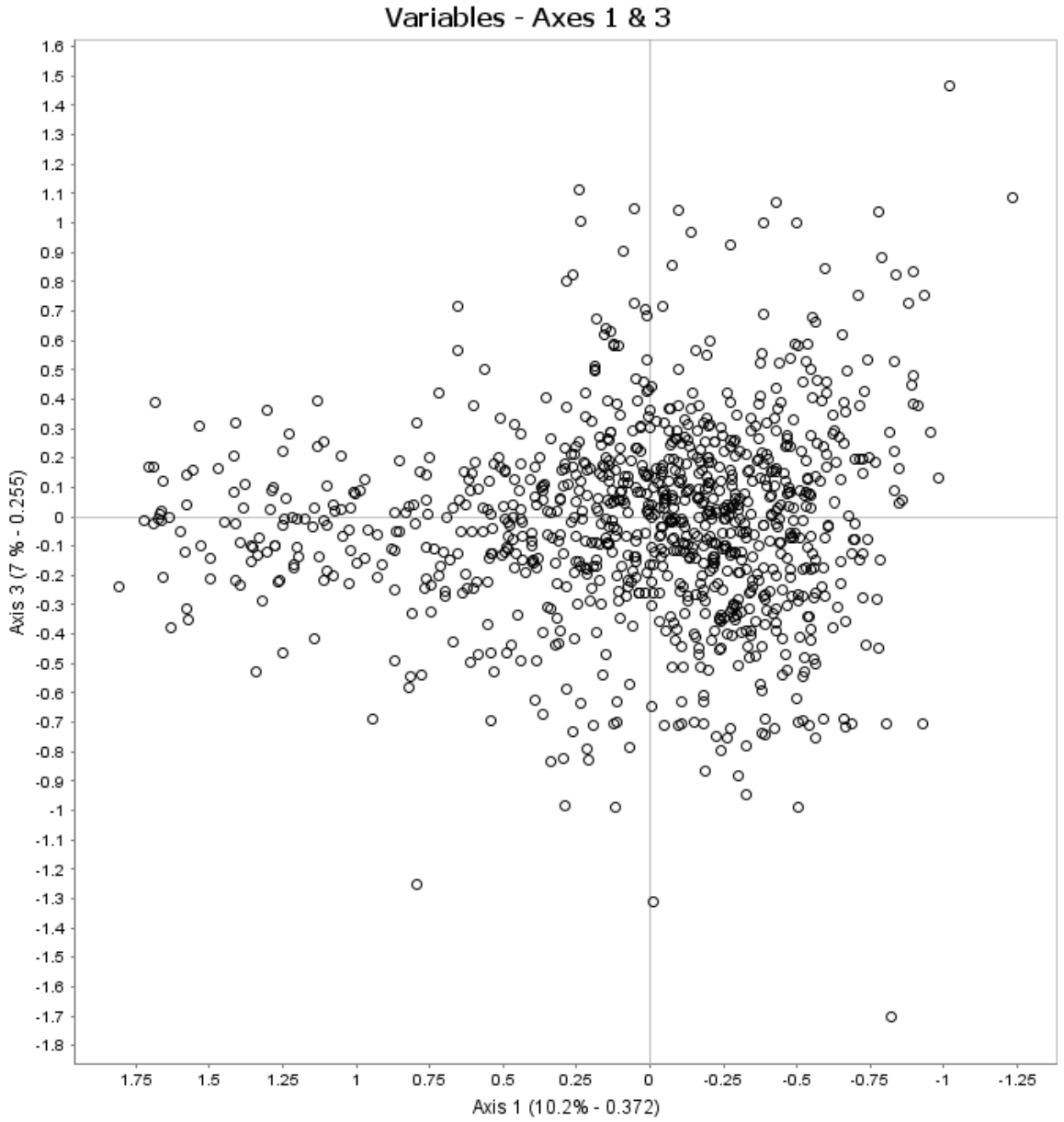
Results

Preschools managed by the municipality

Results

Preschools managed by the municipality, **Sweden**.
(Sample 999 out of 8 337)

Private sector and economic capital



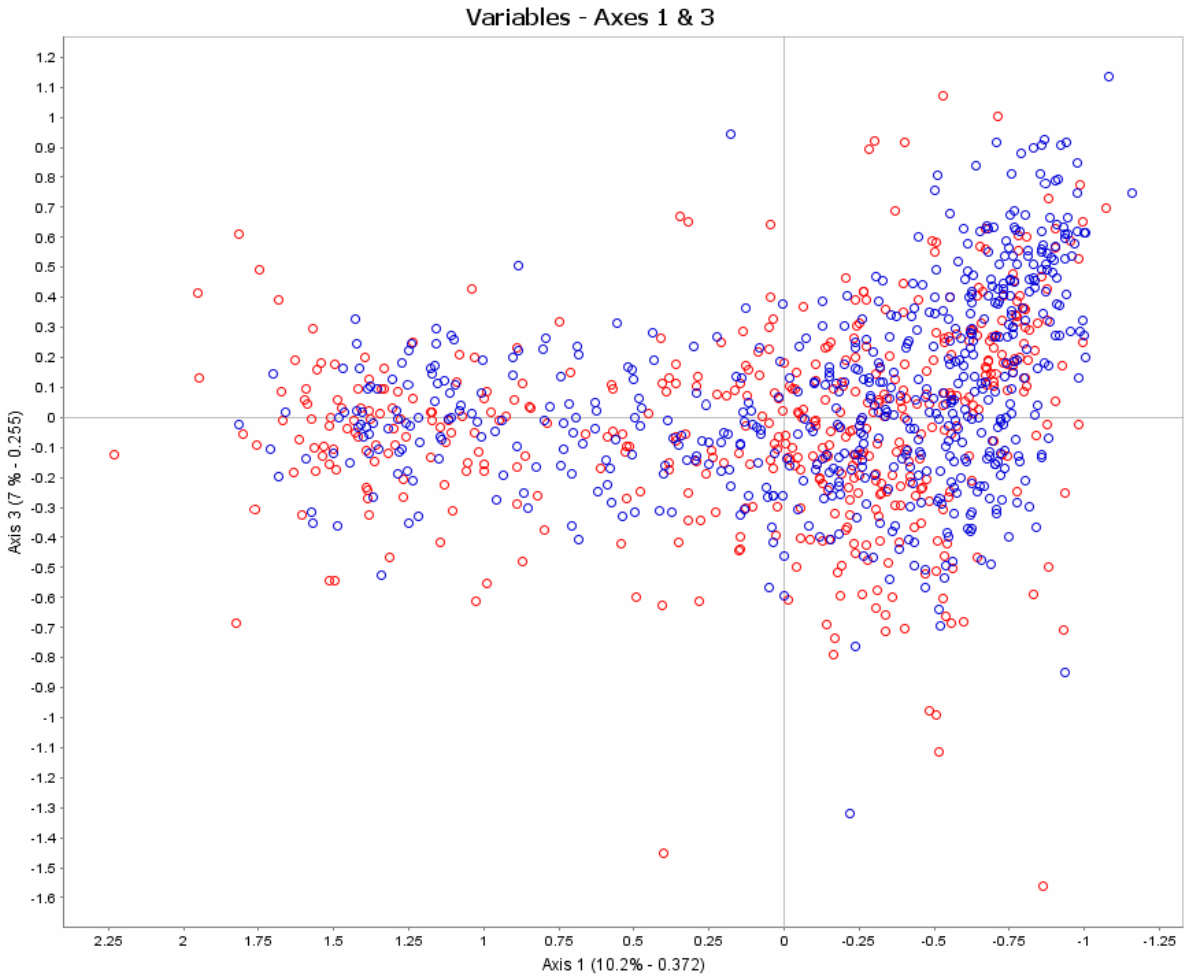
Foreign background and low volume of capital

Swedish background and high volume of capital

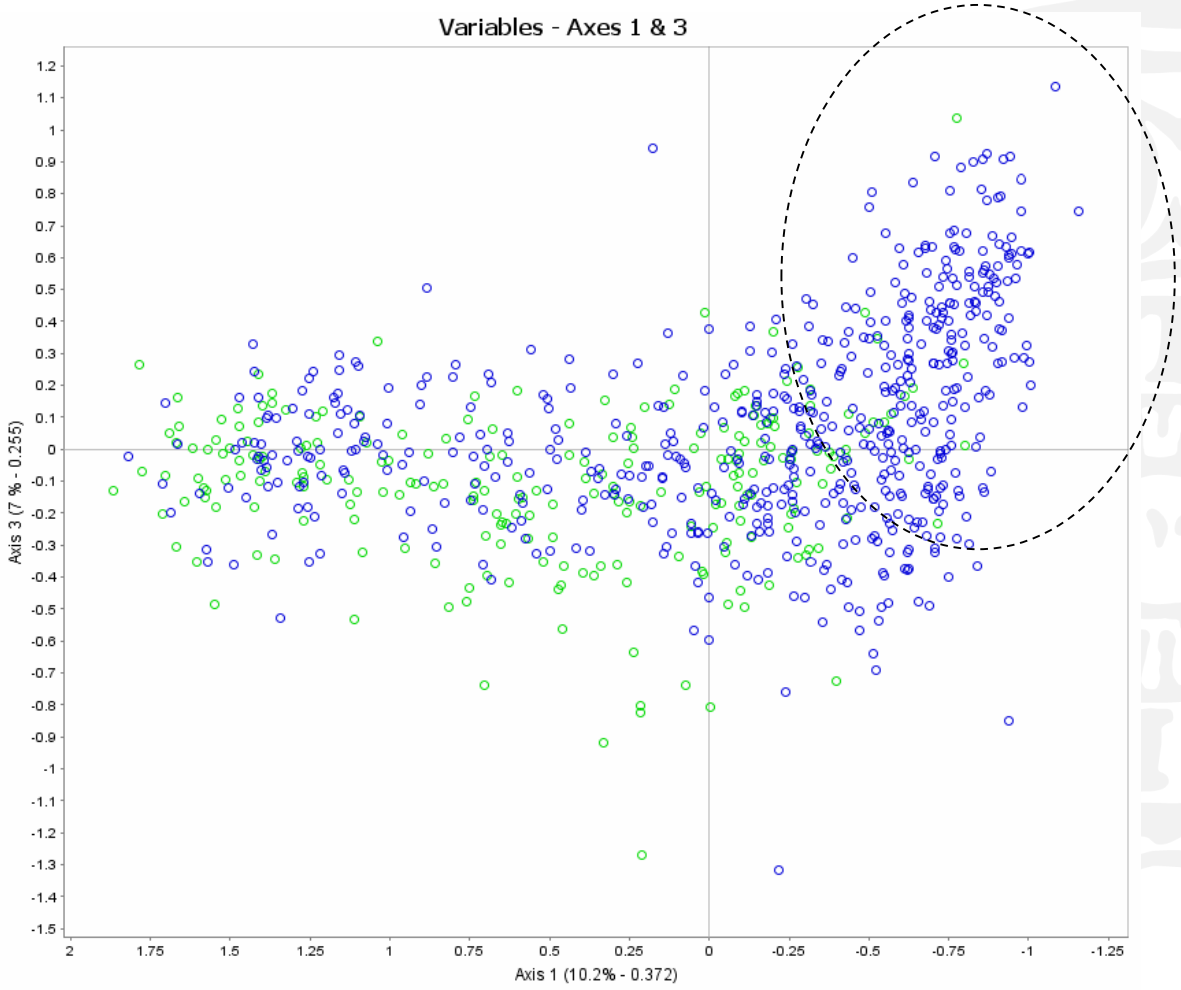
Public sector and cultural capital

Results

Stockholm-Gothenburg

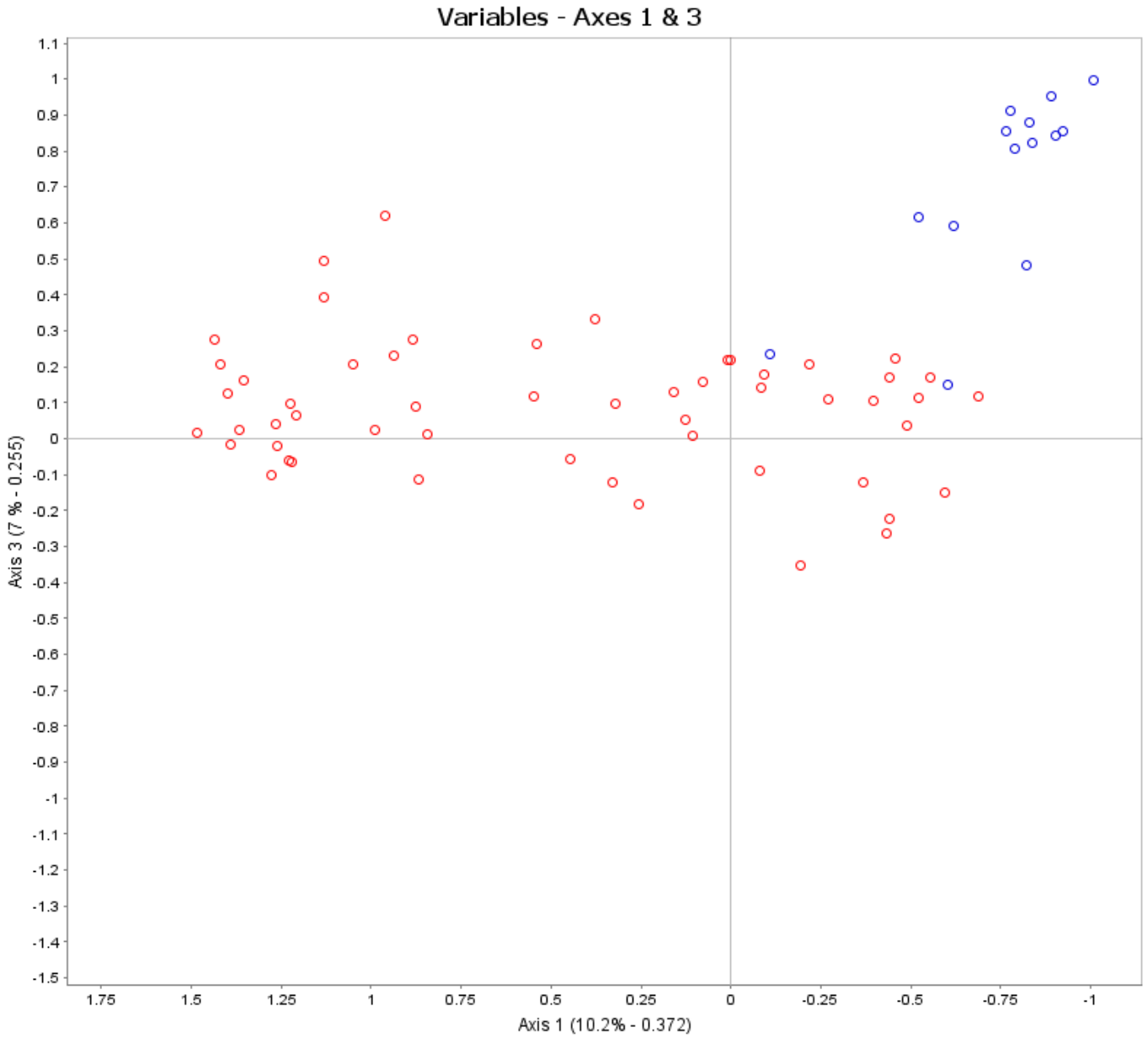


Stockholm-Malmö



Results

Private sector and economic capital



Foreign background and low volume of capital

Swedish background and high volume of capital

Public sector and cultural capital

Preschools managed by the municipality, Danderyd and Botkyrka

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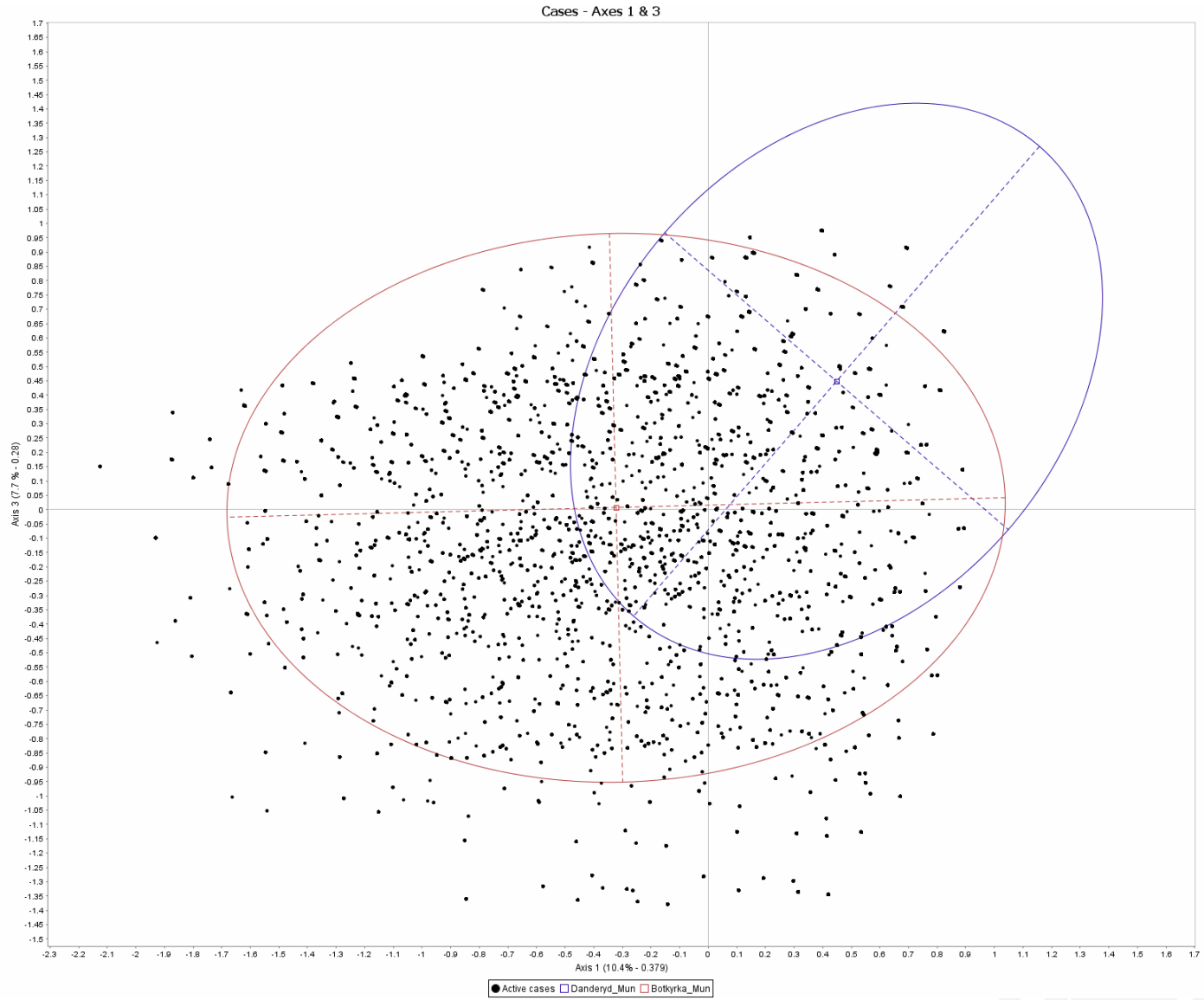
Results

Private sector and economic capital



Foreign background and low volume of capital

Swedish background and high volume of capital

Public sector and cultural capital

Preschools managed by the municipality, Danderyd and Botkyrka

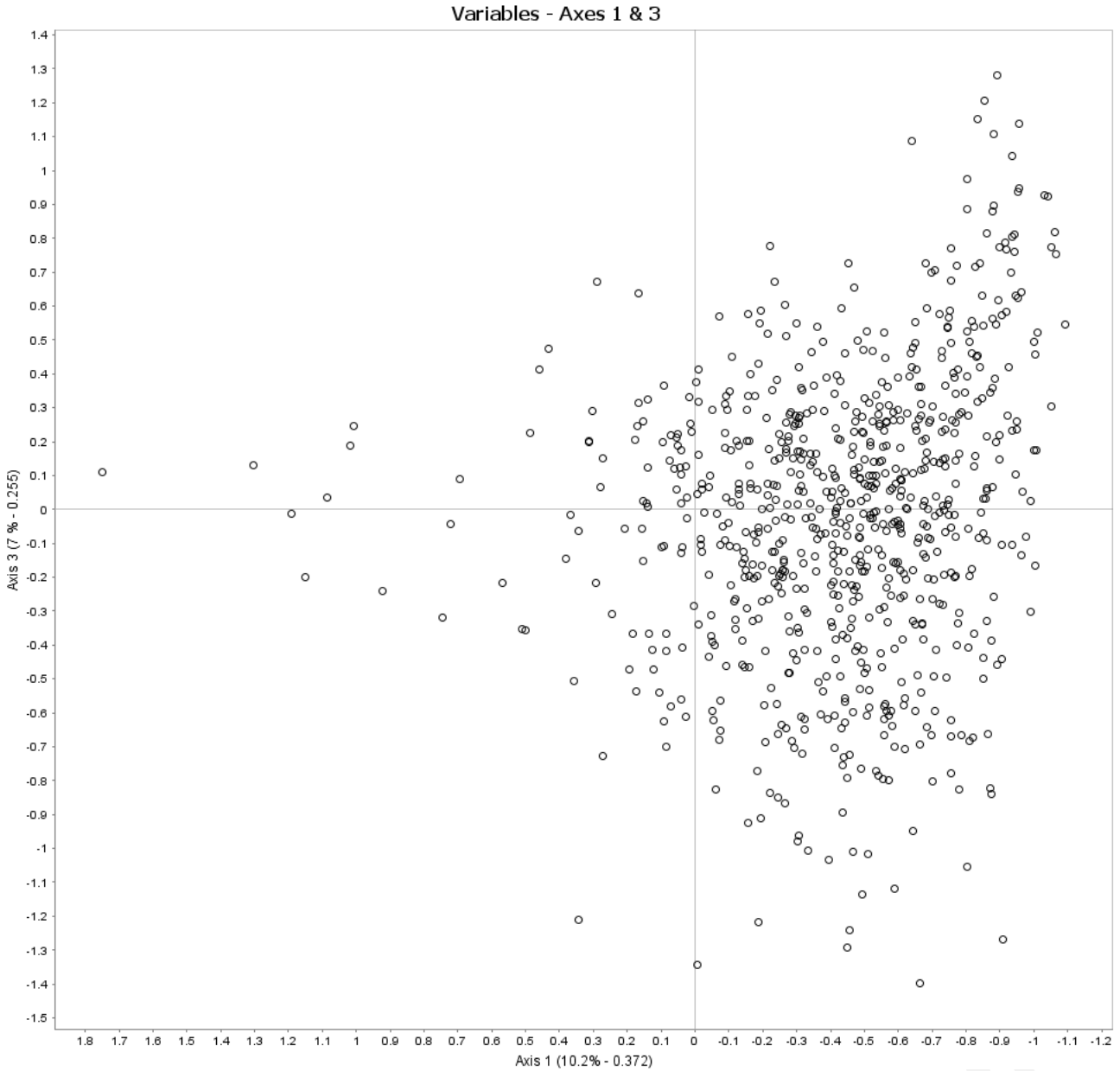
Results

Preschools managed by parents (parent cooperative)

Results

Preschools managed by Parents, **Sweden**.

Private sector and economic capital



Foreign background and low volume of capital

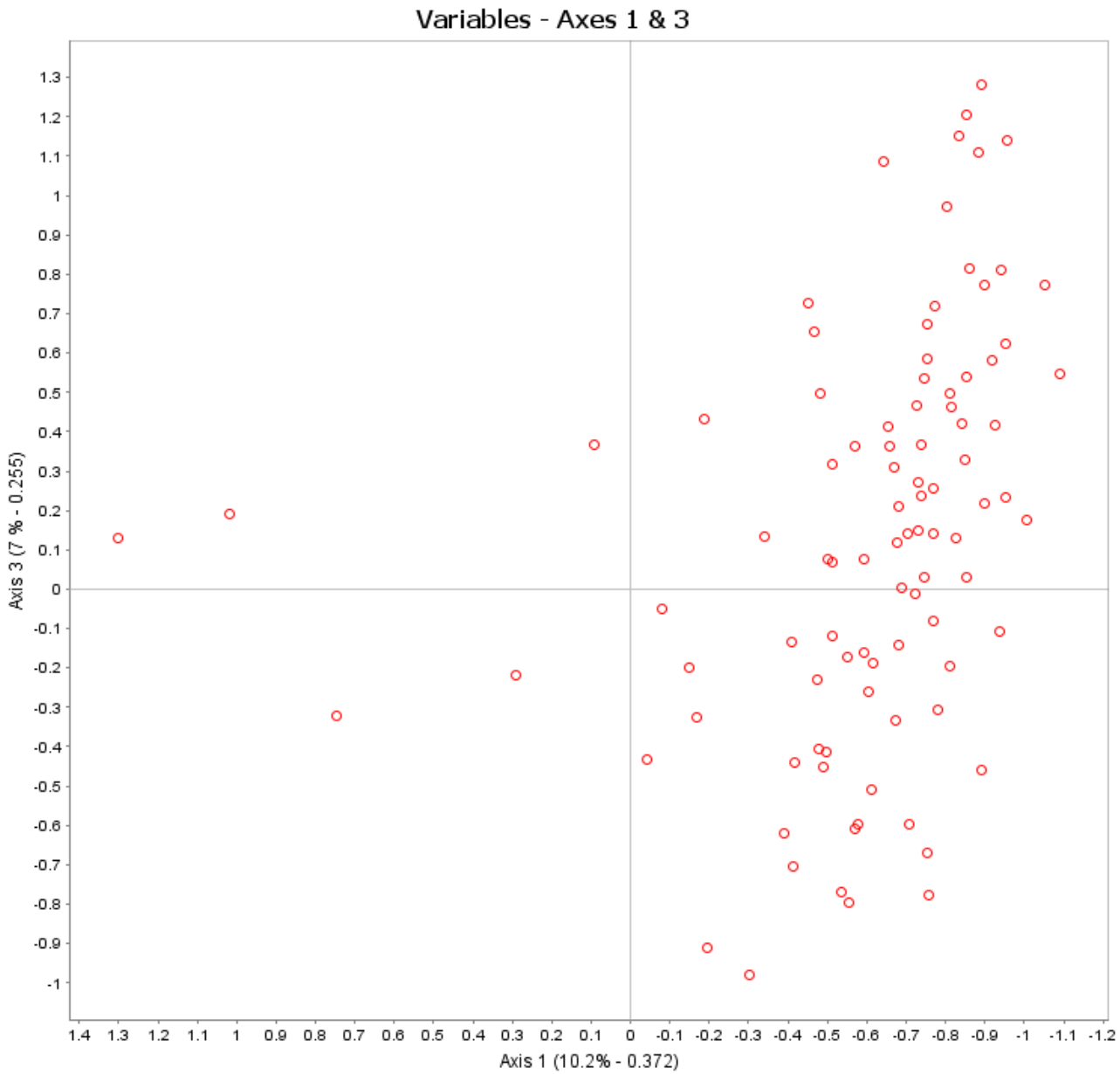
Swedish background and high volume of capital

Public sector and cultural capital

Results

Preschools managed by Parents, **Stockholm**

Private sector and economic capital



Foreign background and low volume of capital

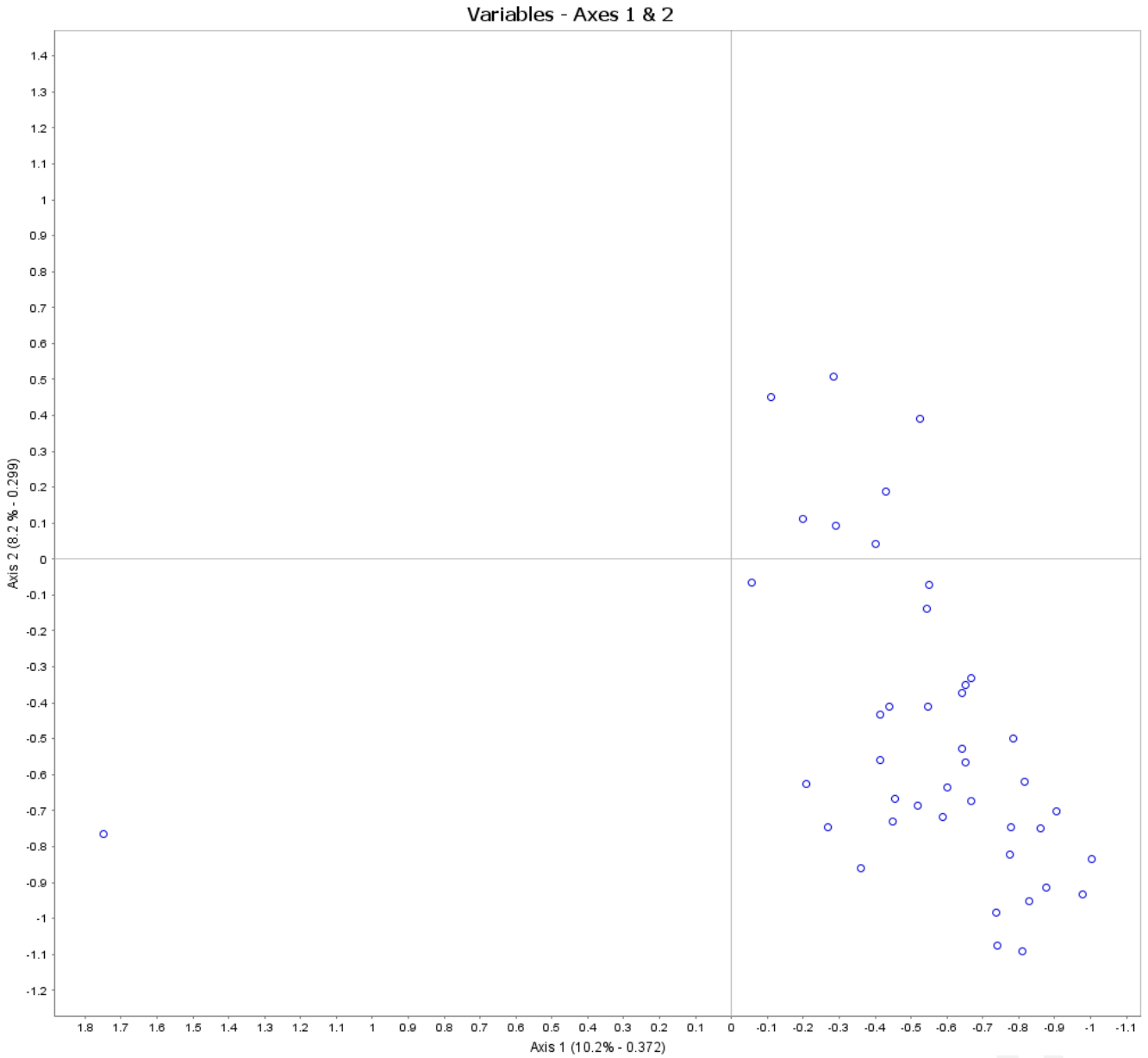
Swedish background and high volume of capital

Public sector and cultural capital

Results

Preschools managed by Parents, **Uppsala**

Private sector and economic capital



Foreign background and low volume of capital

Swedish background and high volume of capital

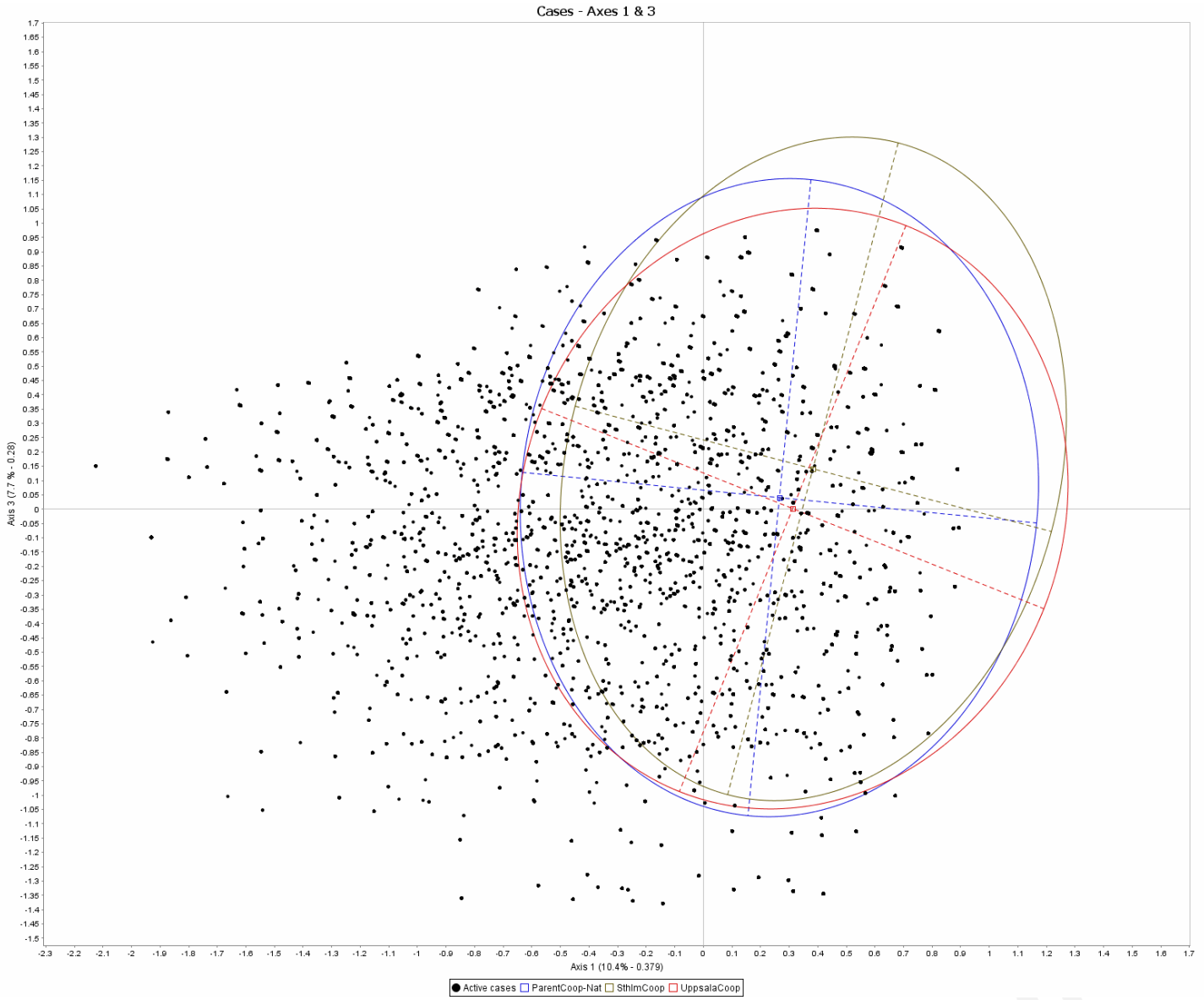
Public sector and cultural capital

Results

Preschools managed by Parents, different scales

Private sector and economic capital

Foreign background and low volume of capital



Swedish background and high volume of capital

Sweden
Stockholm
Uppsala

Public sector and cultural capital

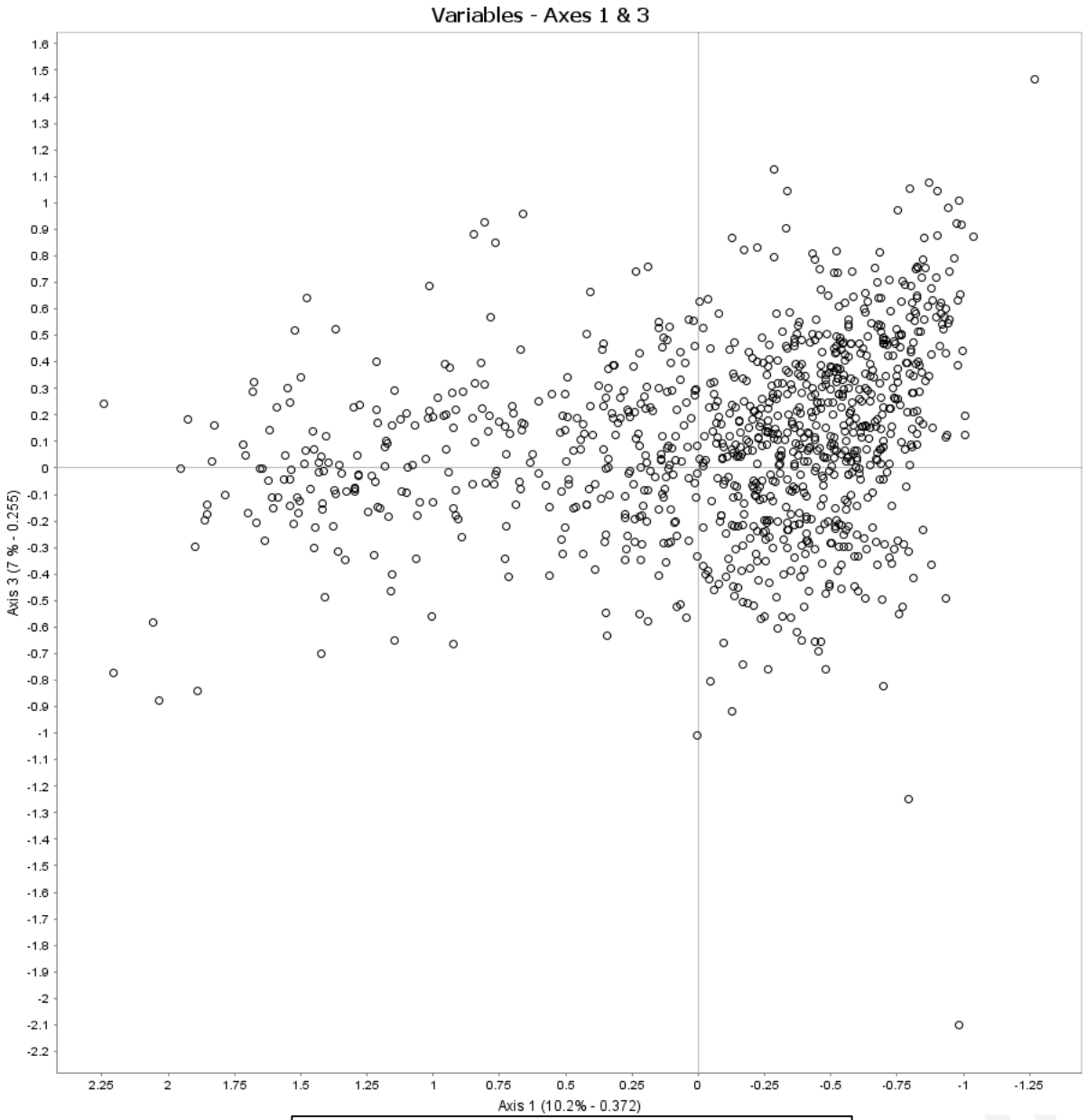
Results

Preschools managed by profit driven companies

Results

Preschools managed by profit driven companies, **Sweden**

Private sector and economic capital



Foreign background and low volume of capital

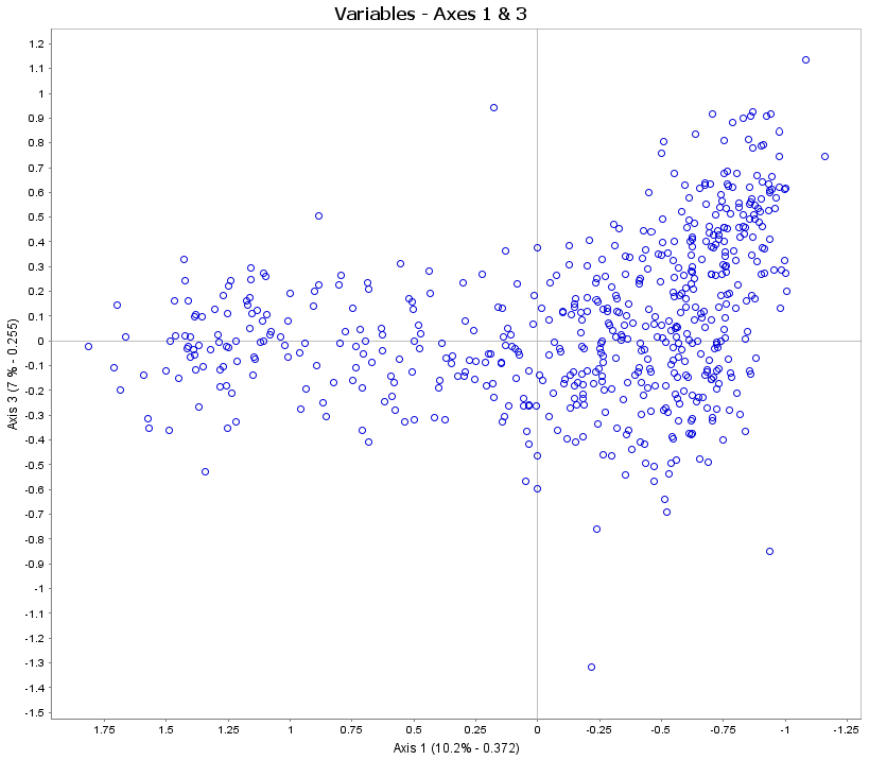
Swedish background and high volume of capital

Public sector and cultural capital

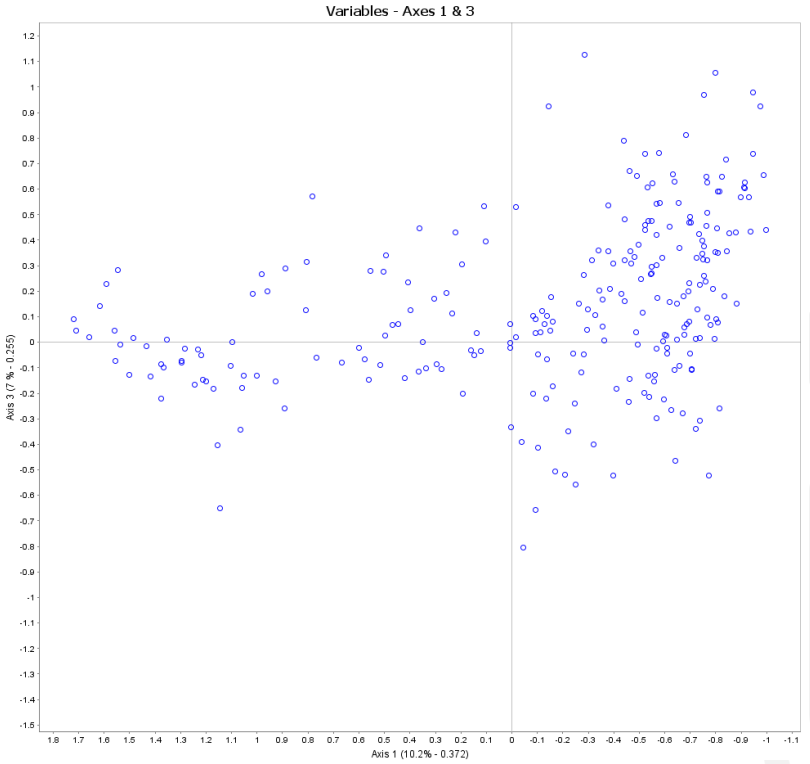
Stockholm

Results

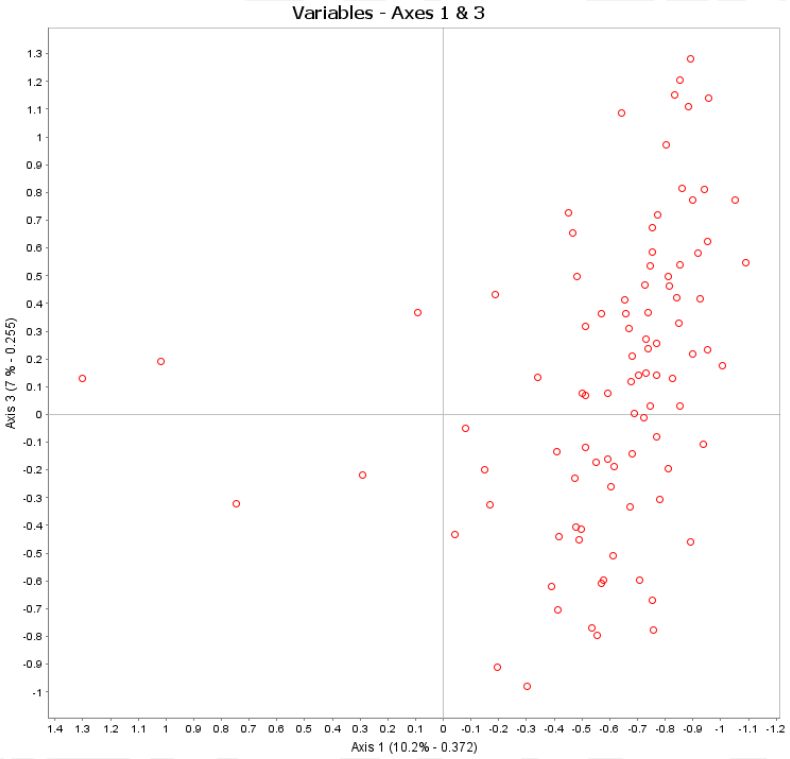
Municipal preschool



For-profit preschool



Parent cooperative



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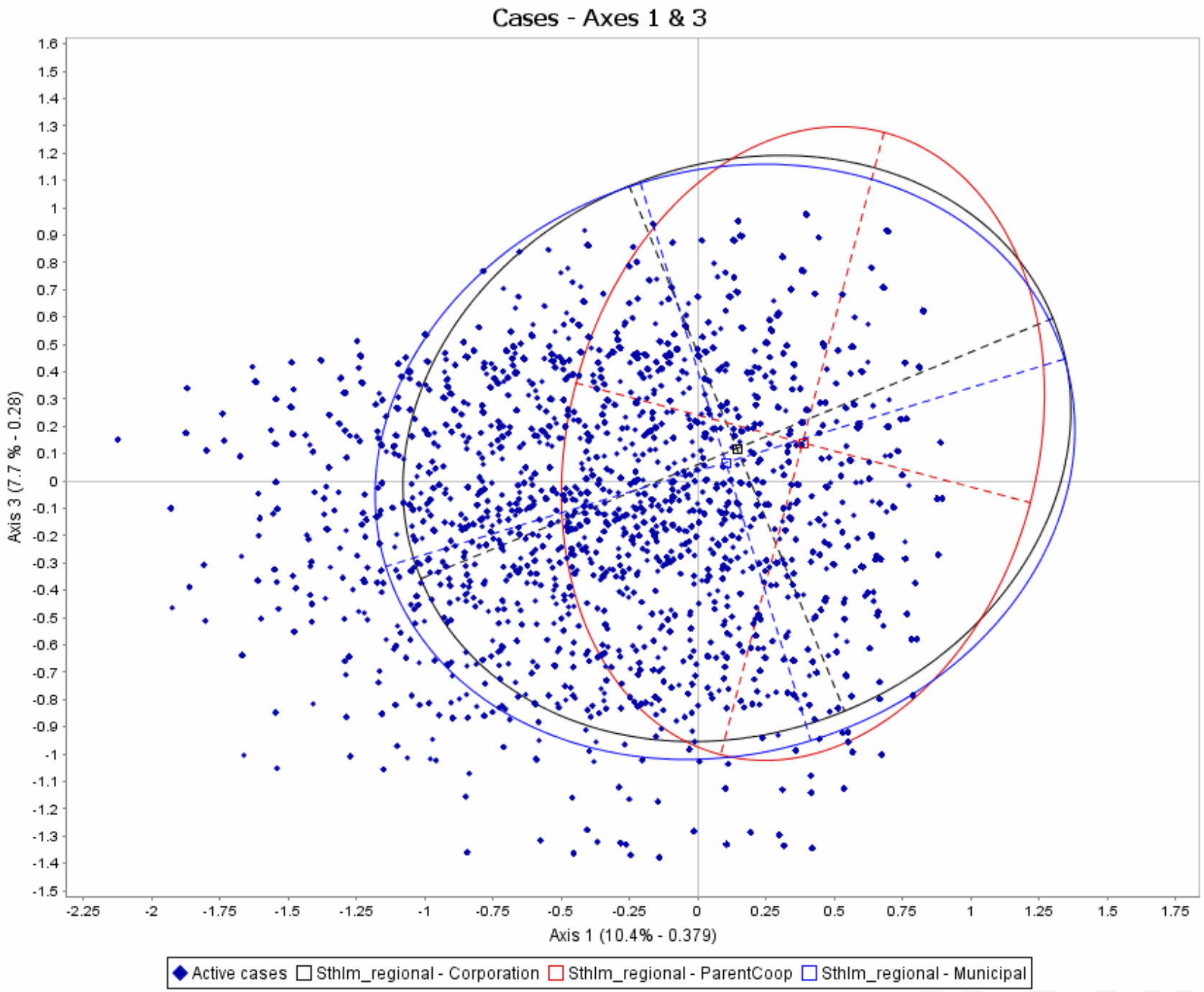


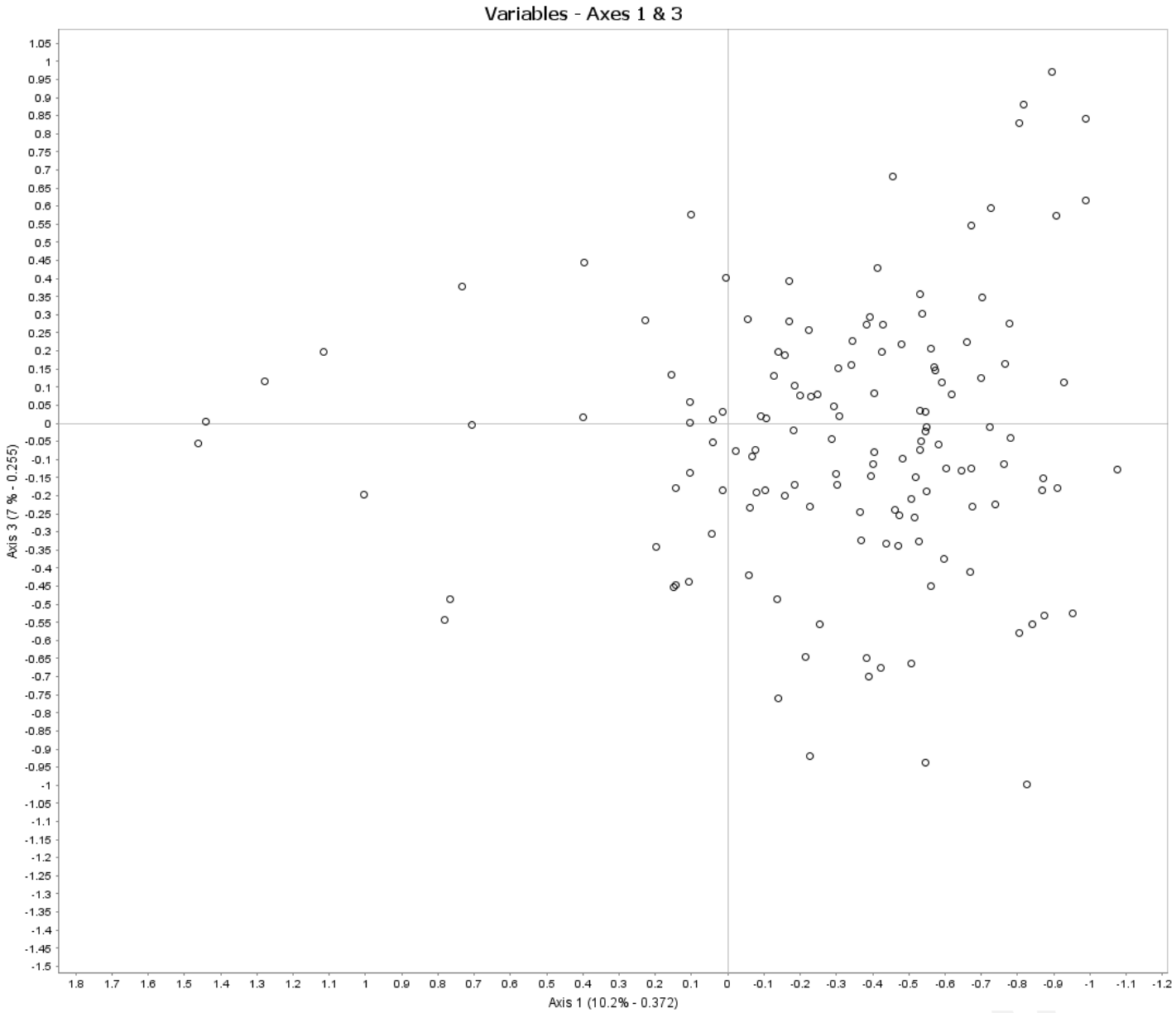
Results

Preschools managed by Religious organisations and Waldorf (Rudolf Steiner)

Results

Religious preschools, **Sweden**

Private sector and economic capital



Foreign background and low volume of capital

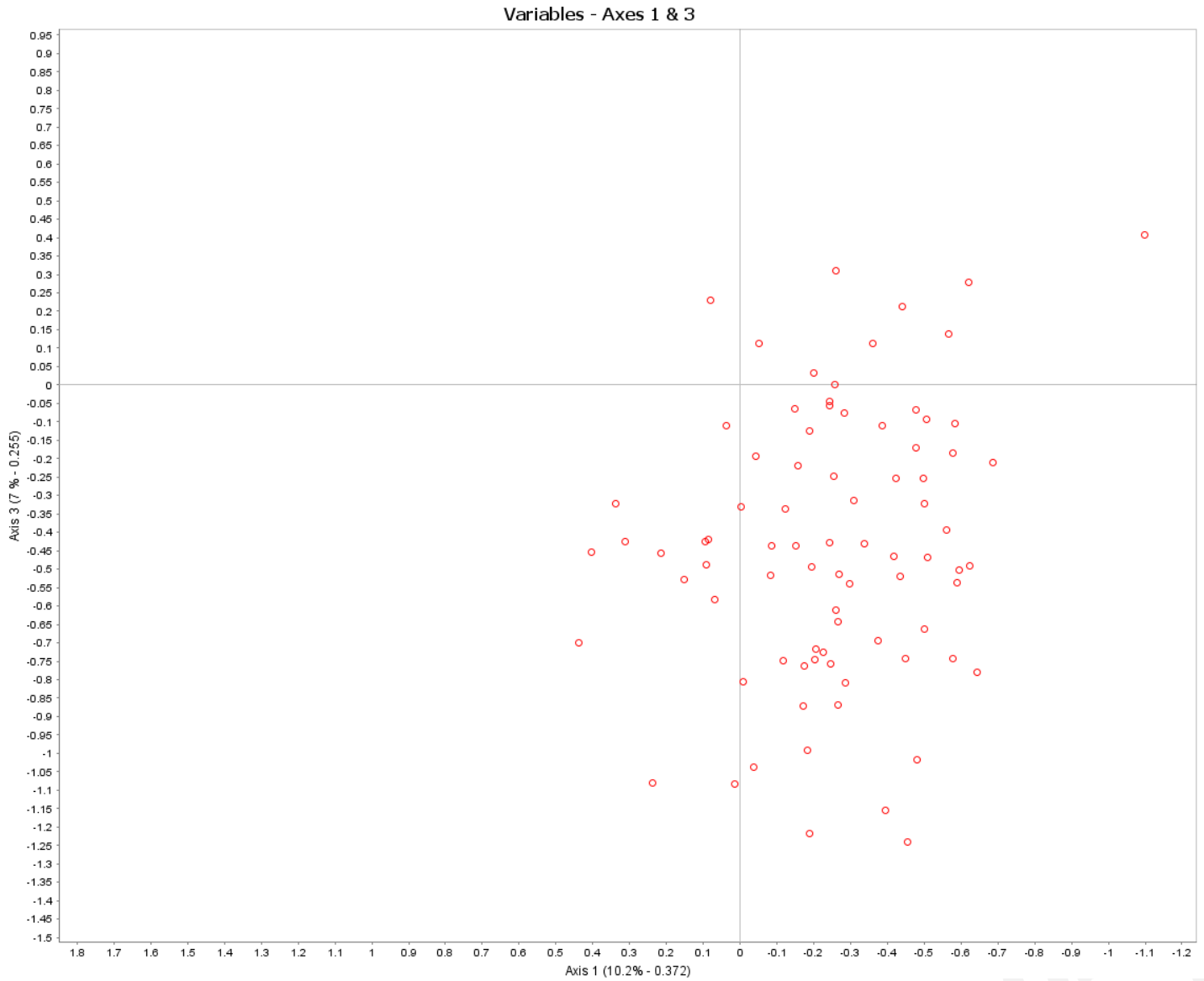
Swedish background and high volume of capital

Public sector and cultural capital

Results

Waldorf (Steiner) preschools, **Sweden**

Private sector and economic capital



Foreign background and low volume of capital

Swedish background and high volume of capital

Public sector and cultural capital

Some Conclusions

- Early work and very preliminary results
  - Analysing a national social space of preschools?
  - Theoretical and methodological issues to address.
- An overarching structure of enrolment
- The distribution and composition of families' capital
- Demographic, geographic, socio-economic and business-orientated conditions frame the providers' place in the market.
- Social distances between children in preschool are undoubtedly related to geography, housing and different providers.

Recruitment patterns

An early start? – Social stratification of children under five in Swedish preschool enrolment

Håkan Forsberg, Jenny Waddling & Andreas Alm Fjellborg

Sociological point of departure

Preschool enrolment as parents' first socialisation and educational strategy for their children

Analysing the social and ethnic recruitment of different Swedish preschool providers and how it reflects differences in early childhood socialisation on national, regional and local scales.

Parents' social position

- Bourdieusian social classification scheme (Bertilsson, Bergström and Börjesson) (Waddling et al, 2019)
- 39 social groups based occupation
- Swedish standard classification of occupations (SSYK), sector and education.
- Relates to International classification system ISCO-88

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Enrolment patterns to different preschool providers

	Occupation	n	%
1	Academics natural science	10,232	1.2
2	Art workers	6,361	0.7
3	Care attendants	52,852	6.2
4	Chief executive officers	3,277	0.4
5	Civil engineers	24,566	2.9
6	Compulsory edu teaching prof.	39,275	4.6
7	Craftsmen	9,425	1.1
8	Culture intermediaries	3,093	0.4
9	Economists, accountants	13,446	1.6
10	Farmers	7,150	0.8
11	Health care professions (not nurses)	13,157	1.5
12	Higher officials (private sector)	10,734	1.3
13	Higher officials (public sector)	4,421	0.5
14	IT-professionals	29,671	3.5
15	Journalists	1,915	0.2
16	Leading positions gov.	2,177	0.3
17	Mid-level civil servants (priv sector)	66,549	7.8
18	Mid-level civil servants (public sector)	47,721	5.6
19	Non-trained workers (Construction)	9,335	1.1
20	Non-trained workers (Industry)	37,874	4.4
21	Non-trained workers (Service)	36,611	4.3
22	Non-trained workers (Transports)	17,673	2.1
23	Nurses	31,493	3.7
24	Nursing assistants	28,161	3.3
25	Office employees (priv sector)	29,379	3.4
26	Office employees (public sector)	12,163	1.4
27	Physician, Vets, Dentists	21,391	2.5
28	Preschool teachers	24,750	2.9
29	Privately empl specialists	8,209	1.0
30	Technicians, engineers (private sector)	18,140	2.1
31	Technicians, engineers (public sector)	3,186	0.4
32	Trade employees	24,503	2.9
33	Trained workers (Construction)	17,121	2.0
34	Trained workers (Industry)	9,128	1.1
35	Trained workers (Service)	15,776	1.8
36	Trained workers (Transports)	9,072	1.1
37	University teachers, researchers	8,271	1.0
38	Upper secondary teachers	8,565	1.0
39	No information	137,643	16.1
	Total	**854,466**	**100.0**

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Providers

Occupation	Independent (14.4 %)	Municipal	Parent_coop	Staff_coop	Total
Privately empl specialists	25.5	65.2	7.4	2.1	100
Higher officials (private sector)	22.1	69.2	6.0	2.8	100
Chief executive officers	21.9	66.7	8.0	3.5	100
Art workers	21.8	67.4	7.9	2.9	100
Leading positions gov.	21.1	68.9	7.6	2.4	100
Mid-level civil servants (priv sector)	20.8	70.9	5.8	2.5	100
IT-professionals	19.9	72.2	5.5	2.5	100
University teachers, researchers	19.4	68.7	8.9	3.1	100
Journalists	18.7	71.4	7.0	2.9	100
Economists, accountants	18.6	73.8	4.9	2.6	100
Physician, Vets, Dentists	18.6	70.9	7.7	2.9	100
Academics natural science	17.7	72.7	7.3	2.4	100
Higher officials (public sector)	16.7	74.5	6.2	2.7	100
Civil engineers	16.4	75.0	6.1	2.5	100
Office employees (priv sector)	16.4	77.3	4.0	2.4	100
Culture intermediaries	15.6	75.8	6.0	2.6	100
Mid-level civil servants (public sector)	14.8	78.0	4.7	2.4	100
Upper secondary teachers	14.5	77.0	5.8	2.7	100
Technicians, engineers (public sector)	13.8	78.0	5.6	2.6	100
Technicians, engineers (private sector)	13.7	79.7	4.5	2.2	100
Compulsory edu teaching prof.	13.5	79.9	4.1	2.5	100
Trained workers (Service)	13.5	81.4	3.3	1.8	100
Health care professions (not nurses)	13.3	79.9	4.4	2.4	100
Nurses	13.2	80.6	3.9	2.4	100
Office employees (public sector)	12.9	81.7	3.4	2.0	100
Trade employees	12.2	83.0	3.1	1.7	100
Care attendants	11.9	84.3	2.2	1.6	100
Trained workers (Transports)	11.5	84.4	2.2	1.8	100
Preschool teachers	11.2	83.8	3.0	2.1	100
Non-trained workers (Service)	11.0	86.0	1.6	1.3	100
Trained workers (Construction)	11.0	84.3	2.8	2.0	100
Non-trained workers (Construction)	10.3	85.4	2.5	1.8	100
Craftsmen	10.1	85.1	2.9	1.9	100
Non-trained workers (Transports)	9.9	86.8	1.9	1.4	100
Farmers	9.6	83.6	4.4	2.5	100
Nursing assistants	9.3	87.6	1.8	1.2	100
Trained workers (Industry)	8.3	88.0	2.3	1.5	100
Non-trained workers (Industry)	7.6	89.2	2.1	1.2	100

Occupation	Independent	Municipal (79.7 %)	Parent_coop	Staff_coop	Total
Non-trained workers (Industry)	7.6	89.2	2.1	1.2	100
Trained workers (Industry)	8.3	88.0	2.3	1.5	100
Nursing assistants	9.3	87.6	1.8	1.2	100
Non-trained workers (Transports)	9.9	86.8	1.9	1.4	100
Non-trained workers (Service)	11.0	86.0	1.6	1.3	100
Non-trained workers (Construction)	10.3	85.4	2.5	1.8	100
Craftsmen	10.1	85.1	2.9	1.9	100
Trained workers (Transports)	11.5	84.4	2.2	1.8	100
Care attendants	11.9	84.3	2.2	1.6	100
Trained workers (Construction)	11.0	84.3	2.8	2.0	100
Preschool teachers	11.2	83.8	3.0	2.1	100
Farmers	9.6	83.6	4.4	2.5	100
Trade employees	12.2	83.0	3.1	1.7	100
Office employees (public sector)	12.9	81.7	3.4	2.0	100
Trained workers (Service)	13.5	81.4	3.3	1.8	100
Nurses	13.2	80.6	3.9	2.4	100
Compulsory edu teaching prof.	13.5	79.9	4.1	2.5	100
Health care professions (not nurses)	13.3	79.9	4.4	2.4	100
Technicians, engineers (private sector)	13.7	79.7	4.5	2.2	100
Mid-level civil servants (public sector)	14.8	78.0	4.7	2.4	100
Technicians, engineers (public sector)	13.8	78.0	5.6	2.6	100
Office employees (priv sector)	16.4	77.3	4.0	2.4	100
Upper secondary teachers	14.5	77.0	5.8	2.7	100
Culture intermediaries	15.6	75.8	6.0	2.6	100
Civil engineers	16.4	75.0	6.1	2.5	100
Higher officials (public sector)	16.7	74.5	6.2	2.7	100
Economists, accountants	18.6	73.8	4.9	2.6	100
Academics natural science	17.7	72.7	7.3	2.4	100
IT-professionals	19.9	72.2	5.5	2.5	100
Journalists	18.7	71.4	7.0	2.9	100
Mid-level civil servants (priv sector)	20.8	70.9	5.8	2.5	100
Physician, Vets, Dentists	18.6	70.9	7.7	2.9	100
Higher officials (private sector)	22.1	69.2	6.0	2.8	100
Leading positions gov.	21.1	68.9	7.6	2.4	100
University teachers, researchers	19.4	68.7	8.9	3.1	100
Art workers	21.8	67.4	7.9	2.9	100
Chief executive officers	21.9	66.7	8.0	3.5	100
Privately empl specialists	25.5	65.2	7.4	2.1	100

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Providers

Occupation	Independent	Municipal	Parent_coop (3.9 %)	Staff_coop	Total
University teachers, researchers	19.4	68.7	8.9	3.1	100
Chief executive officers	21.9	66.7	8.0	3.5	100
Art workers	21.8	67.4	7.9	2.9	100
Physician, Vets, Dentists	18.6	70.9	7.7	2.9	100
Leading positions gov.	21.1	68.9	7.6	2.4	100
Privately empl specialists	25.5	65.2	7.4	2.1	100
Academics natural science	17.7	72.7	7.3	2.4	100
Journalists	18.7	71.4	7.0	2.9	100
Higher officials (public sector)	16.7	74.5	6.2	2.7	100
Civil engineers	16.4	75.0	6.1	2.5	100
Culture intermediaries	15.6	75.8	6.0	2.6	100
Higher officials (private sector)	22.1	69.2	6.0	2.8	100
Upper secondary teachers	14.5	77.0	5.8	2.7	100
Mid-level civil servants (priv sector)	20.8	70.9	5.8	2.5	100
Technicians, engineers (public sector)	13.8	78.0	5.6	2.6	100
IT-professionals	19.9	72.2	5.5	2.5	100
Economists, accountants	18.6	73.8	4.9	2.6	100
Mid-level civil servants (public sector)	14.8	78.0	4.7	2.4	100
Technicians, engineers (private sector)	13.7	79.7	4.5	2.2	100
Farmers	9.6	83.6	4.4	2.5	100
Health care professions (not nurses)	13.3	79.9	4.4	2.4	100
Compulsory edu teaching prof.	13.5	79.9	4.1	2.5	100
Office employees (priv sector)	16.4	77.3	4.0	2.4	100
Nurses	13.2	80.6	3.9	2.4	100
Office employees (public sector)	12.9	81.7	3.4	2.0	100
Trained workers (Service)	13.5	81.4	3.3	1.8	100
Trade employees	12.2	83.0	3.1	1.7	100
Preschool teachers	11.2	83.8	3.0	2.1	100
Craftsmen	10.1	85.1	2.9	1.9	100
Trained workers (Construction)	11.0	84.3	2.8	2.0	100
Non-trained workers (Construction)	10.3	85.4	2.5	1.8	100
Trained workers (Industry)	8.3	88.0	2.3	1.5	100
Trained workers (Transports)	11.5	84.4	2.2	1.8	100
Care attendants	11.9	84.3	2.2	1.6	100
Non-trained workers (Industry)	7.6	89.2	2.1	1.2	100
Non-trained workers (Transports)	9.9	86.8	1.9	1.4	100
Nursing assistants	9.3	87.6	1.8	1.2	100
Non-trained workers (Service)	11.0	86.0	1.6	1.3	100

Occupation	Independent	Municipal	Parent_coop	Staff_coop (2.0 %)	Total
Chief executive officers	21.9	66.7	8.0	3.5	100
University teachers, researchers	19.4	68.7	8.9	3.1	100
Art workers	21.8	67.4	7.9	2.9	100
Physician, Vets, Dentists	18.6	70.9	7.7	2.9	100
Journalists	18.7	71.4	7.0	2.9	100
Higher officials (private sector)	22.1	69.2	6.0	2.8	100
Higher officials (public sector)	16.7	74.5	6.2	2.7	100
Upper secondary teachers	14.5	77.0	5.8	2.7	100
Culture intermediaries	15.6	75.8	6.0	2.6	100
Technicians, engineers (public sector)	13.8	78.0	5.6	2.6	100
Economists, accountants	18.6	73.8	4.9	2.6	100
Civil engineers	16.4	75.0	6.1	2.5	100
Mid-level civil servants (priv sector)	20.8	70.9	5.8	2.5	100
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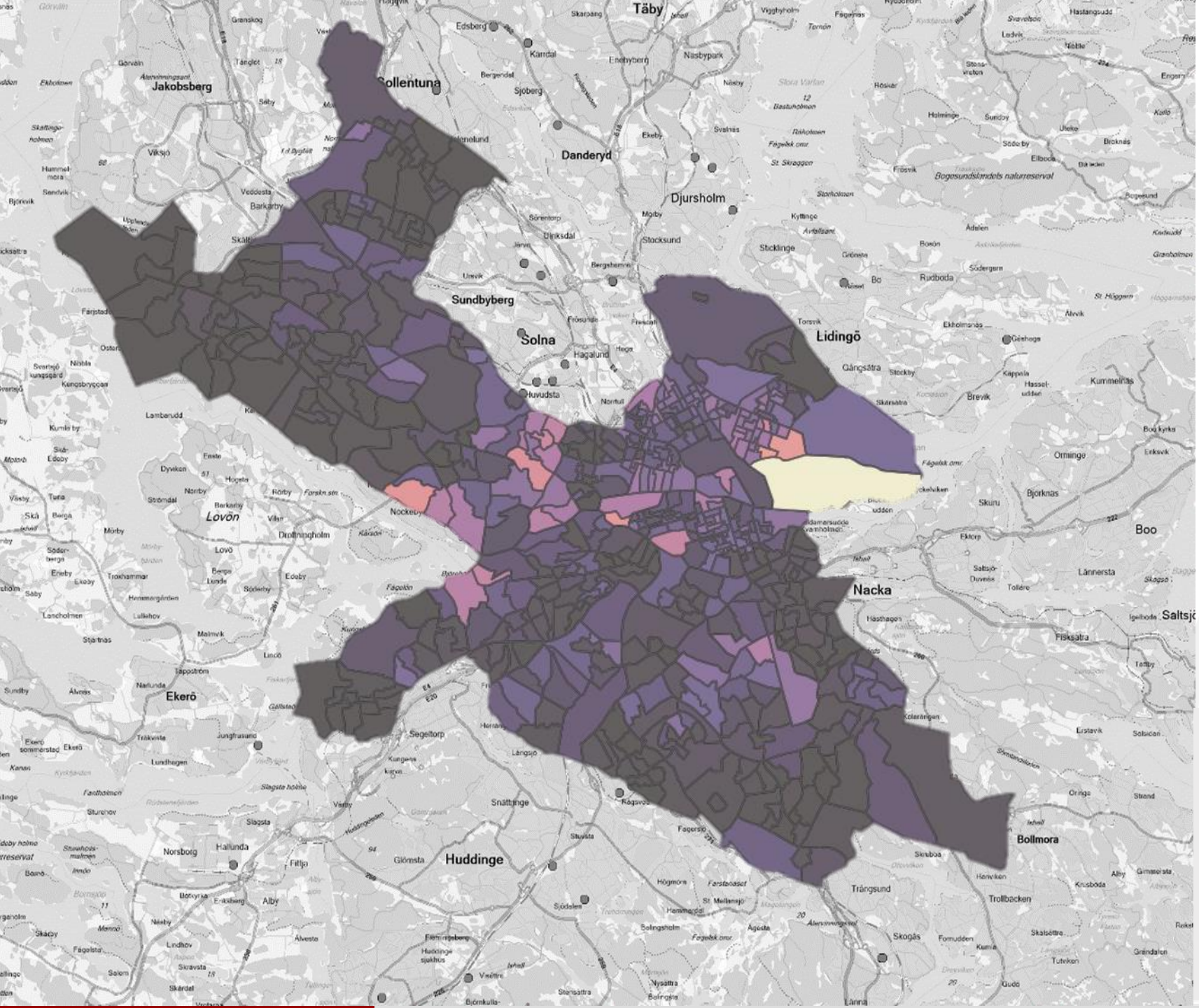
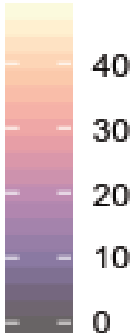
Leading positions gov.	21.1	68.9	7.6	2.4	100
Academics natural science	17.7	72.7	7.3	2.4	100
Mid-level civil servants (public sector)	14.8	78.0	4.7	2.4	100
Health care professions (not nurses)	13.3	79.9	4.4	2.4	100
Office employees (priv sector)	16.4	77.3	4.0	2.4	100
Nurses	13.2	80.6	3.9	2.4	100
Technicians, engineers (private sector)	13.7	79.7	4.5	2.2	100
Privately empl specialists	25.5	65.2	7.4	2.1	100
Preschool teachers	11.2	83.8	3.0	2.1	100
Office employees (public sector)	12.9	81.7	3.4	2.0	100
Trained workers (Construction)	11.0	84.3	2.8	2.0	100
Craftsmen	10.1	85.1	2.9	1.9	100
Trained workers (Service)	13.5	81.4	3.3	1.8	100
Non-trained workers (Construction)	10.3	85.4	2.5	1.8	100
Trained workers (Transports)	11.5	84.4	2.2	1.8	100
Trade employees	12.2	83.0	3.1	1.7	100
Care attendants	11.9	84.3	2.2	1.6	100
Trained workers (Industry)	8.3	88.0	2.3	1.5	100
Non-trained workers (Transports)	9.9	86.8	1.9	1.4	100
Non-trained workers (Service)	11.0	86.0	1.6	1.3	100
Non-trained workers (Industry)	7.6	89.2	2.1	1.2	100
Nursing assistants	9.3	87.6	1.8	1.2	100

Förskola efter klassfraktioner

Huvudmannaskap	Sverige		Övremedelklass (ekonomi)		Övremedelklass (utbildning)		Medelklasserna		De lägre medelklasserna		Arbetarklasserna	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Kommunal	401,444	80	27,221	66.0	25,621	71.4	95,505	77.3	162,629	82.6	90,468	87.0
Vinstdrivande	54,459	10.9	8,767	21.3	5,114	14.3	14,973	12.1	17,732	9.0	7,873	7.6
Icke-vinstdrivande	27,157	5.4	2,510	6.0	2,663	7.4	7,434	6.0	10,419	5.3	4,131	4.0
Föräldrakooperativ	18,544	3.7	2,733	6.6	2,499	7.0	5,619	4.6	6,175	3.1	4,131	1.4
Totalt	501,604	100	41,231	100	35,897	100	123,531	100	196,955	100	106,603	100

Percentage of children in parent cooperatives





Map: Jenny Waddling

Regional and local preschool markets

Providers

Provider	*independent*	*municipal*	*parent_coop*	*staff_coop*	*Total*
Sweden	*14.3*	*79.8*	*3.9*	*2.0*	*100*
Stockholm	29.4	63.9	4.7	2.1	100
Gothenburg	12.1	84.2	3.0	0.7	100
Malmö	11.3	85.0	2.2	1.5	100
Uppsala	22.6	65.4	10.4	1.7	100

Regional and local preschool markets

Providers by foreign background

	Swedish or Foreign background	*Independent*	*Municipal*	*Parent_coop*	*Staff_coop*
Sweden	Foreign	13.7	83.5	1.6	1.1
	Swedish	14.4	78.8	4.5	2.3
Stockholm	Foreign	31.2	64.9	2.2	1.5
	Swedish	28.6	63.6	5.5	2.3
Gothenburg	Foreign	11.1	85.1	1.7	2.1
	Swedish	7.8	82.8	8.0	1.4
Malmö	Foreign	7.8	91.0	0.6	0.6
	Swedish	13.9	80.5	3.4	2.1
Uppsala	Foreign	23.7	70.2	5.0	1.0
	Swedish	22.2	63.9	12.0	1.9

Segregation, preschool and housing

Even in preschools – analysing the preschool and neighbourhood segregation gap in Swedish municipalities

Andreas Alm Fjellborg & Håkan Forsberg

Point of departure

The aim of our study is to examine the occurrence of segregation on preschool level and the extent to which it reflects the social and ethnic composition of the neighbourhoods

Why? Segregation is not particularly in focus in earlier research on school segregation (exception: Drange & Telle 2020 Oslo, Norway).

Point of departure

We focus on three aspects of school enrolment that may also have an impact on preschool segregation

I.) Ethnic and socio-economic segregation

II.) Private options on the municipal market and how this affects levels of segregation

Why study segregation in preschools?

Not studied particularly often from a perspective on segregation, probably due to data limitations.

The preschool is, to many people, the first contact with the educational system in Sweden.

Attending preschools is important:
-Linguistic development
-Health
-School results and future salary levels
-Access to information on future school choice
- Racial bias tends to develop around the age of 4-5 years of age.

"Äppellundens förskola i Kivik" by cwasteson is licensed under CC BY 2.0

The nuts and bolts of our data sources and analytical strategy

Variable	Categories	N	%
Parents' educational background	Low education (Primary/Upper sec. education)	187 654	36.5
	Mid Education (Post-secondary education/Higher Edu. < 4 years)	113 846	22.1
	High Education (Higher education > 4 years)	200 592	39
	Missing educational information	12 719	2.4
Ethnic background	Foreign background (born abroad or having two foreign-born parents)	115 998	22.5
	Swedish background (born in Sweden of at least one Swedish-born parent)	398 538	77.4
	Missing data	275	0.1
Gender	Boys	265 394	51.6
	Girls	249 417	48.4
Disposable income	Low income (decile 1-3)	154 703	30.1
	Mid income (decile 4-7)	205 772	40
	High income (decile 8-10)	154 336	30
Total N		**514 811**	**100**

Table 2. Share of pre-schoolers across preschools by composition of ethnic background and income.

		Low income concentration					
Pre-school composition (%)		0-19	20-39	40-59	60-79	80-100	Total N
Swedish background concentration	0-19	0.0	1.4	12.5	57.0	29.1	19 377
	20-39	0.3	3.4	37.0	45.6	13.8	33 075
	40-59	2.0	21.2	54.3	21.7	0.8	47 279
	60-79	15.2	50.2	30.8	3.6	0.2	95 065
	80-100	55.7	37.7	6.1	0.4	0.1	320 015
	Total N	**193 857**	**179 968**	**88 941**	**41 095**	**10 950**	**514 811**
		Mid income concentration					
Pre-school composition (%)		0-19	20-39	40-59	60-79	80-100	Total N
Swedish background concentration	0-19	40.4	53.9	5.5	0.1	0.1	19 377
	20-39	19.6	65.1	15.1	0.1	0.1	33 075
	40-59	4.2	68.2	27.3	0.2	0.0	47 279
	60-79	4.2	44.5	49.2	2.1	0.0	95 065
	80-100	9.7	27.5	50.7	11.6	0.5	320 015
	Total N	**51 182**	**194 583**	**227 900**	**39 308**	**1 838**	**514 811**
		High income concentration					
Pre-school composition (%)		0-19	20-39	40-59	60-79	80-100	Total N
Swedish background concentration	0-19	97.6	2.3	0.0	0.0	0.0	19 377
	20-39	95.2	4.0	0.5	0.2	0.0	33 075
	40-59	75.4	20.4	2.7	1.4	0.0	47 279
	60-79	43.6	39.0	13.0	4.2	0.2	95 065
	80-100	23.2	37.7	21.6	13.2	4.2	320 015
	Total N	**201 838**	**169 312**	**82 905**	**47 051**	**13 705**	**514 811**

Source: Authors' calculations using data from Statistics Sweden.

The nuts and bolts of our analytical strategy

- Aim is to explore levels of segregation and to explain potential gaps between neighbourhood and preschool segregation

- We use the isolation index (e.g. the likelihood of meeting peers from the same group). (also tested with the Dissimilarity index – in many respects similar results but we argue that the dissimilarity index is theoretically less relevant if consequences for individuals are focused).

- OLS-regressions (DV: preschool/neighbourhood segregation index)
- Isolation index (I) $\sum_{i=1}^{N} = [(n_{ia}/N_a) * (n_{ib}/n_i)]$

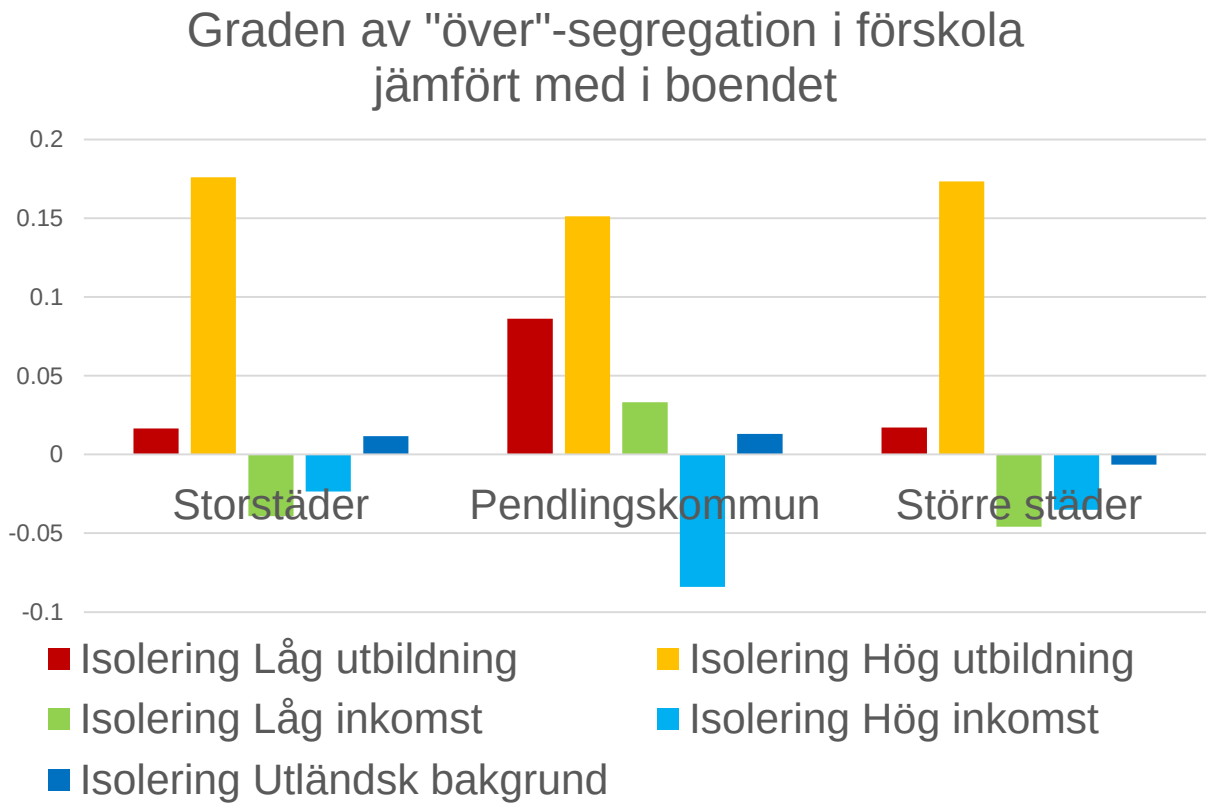
- Compares various types of municipalities. Neighbourhood are defined as the DeSO-area (Demographic statistic output area (SCB 2017).

Hur ser segregationen i förskolan ut?

Preschools characterized by high levels of children with low-income parents also are preschools with high shares of foreign background children.

A lot of the variation can be explained by residential segregation. The concentration of high income families in the housing market is quite strong.

However, we can observe that children with highly educated parents are more isolated in preschools compared to their residential area. It thus seems that there are a high degree of conscious choice clustering this group on the preschool markets.



Some findings

- Our findings shows variations between segregation at the neighbourhood level and in preschools.
  - In some cases preschool segregation is on par with neighbourhood segregation
  - In some cases higher levels of segregation are found in preschools
  - Some measures are smaller in metropolitan areas, for example low-income isolation in preschools compared to neighbourhoods

- It is notable that higher isolation of children from highly educated backgrounds stands out. Potentially this is an effect of low residential segregation by educational attainment but rather economic factors affecting residential segregation. But preferences among parents with a specific levels of income but different levels of education could affect preschool choice and cluster more highly educated parents' children in certain preschools.

- Having more private options in the preschool market increases segregation (analysing educational background and income distribution). (not for all)

- The share of foreign background population does not increase the isolation in preschools compared to neighbourhoods by income levels or foreign background – there is not more segregation due to higher shares of foreign background population – positive correlation for the low education group.

- Isolation of children from highly educated families tends to be larger in preschools than in neighbourhoods in all types of municipalities

- Thus, we conclude that the preschool choice and the preschool markets do allow for a stronger isolation by those with high education

Commuting patterns of preschool children in metropolitan Stockholm

Regional Science Policy & Practice, 2021.

Andreas Alm Fjellborg & Håkan Forsberg

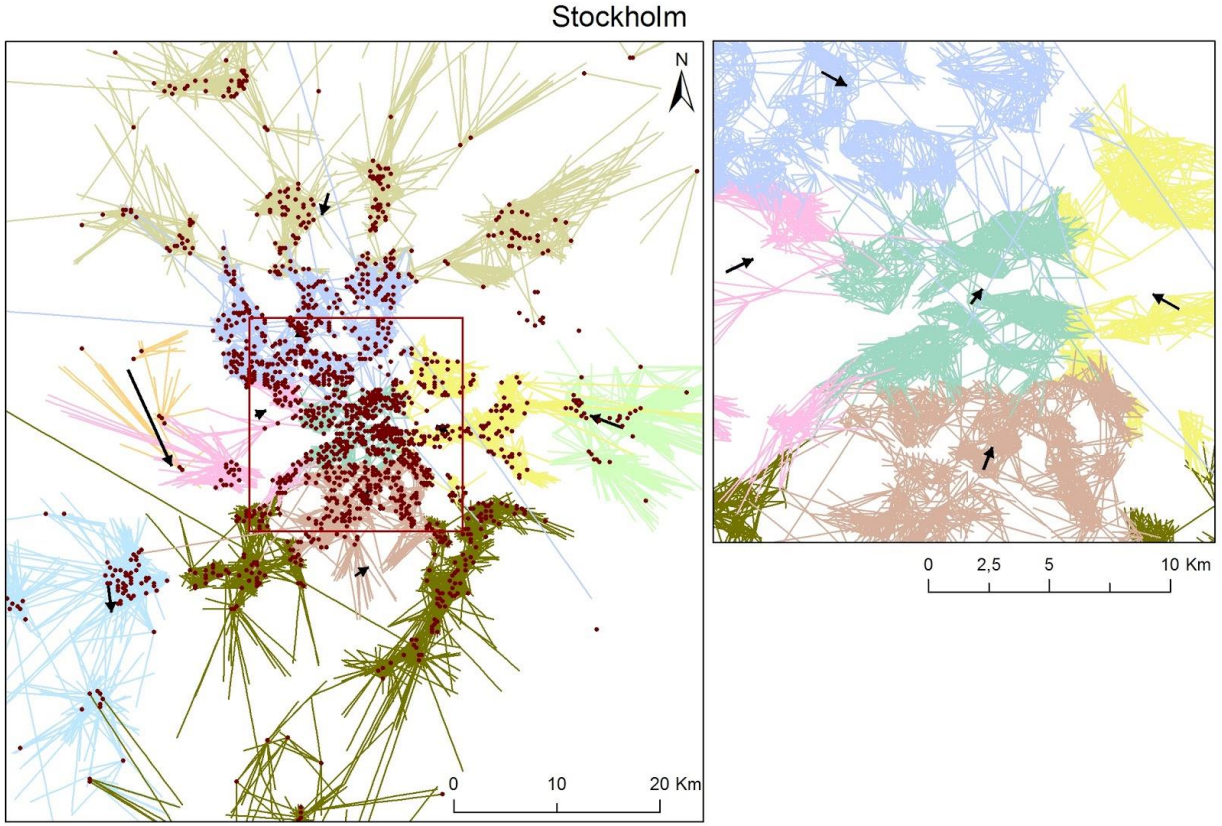
Point of departure

Our initial inquiries on choice of preschool and commuting

What makes parents opt out from their closest preschool and have their children commute to a preschool further away from home?

We also ask how common such commuting patterns are, and to what extent the family's cumulative assets, the preschool's composition of resources and the local preschool market's supply and geographical distribution can explain parts of the variation in urban preschool enrolment.

Results



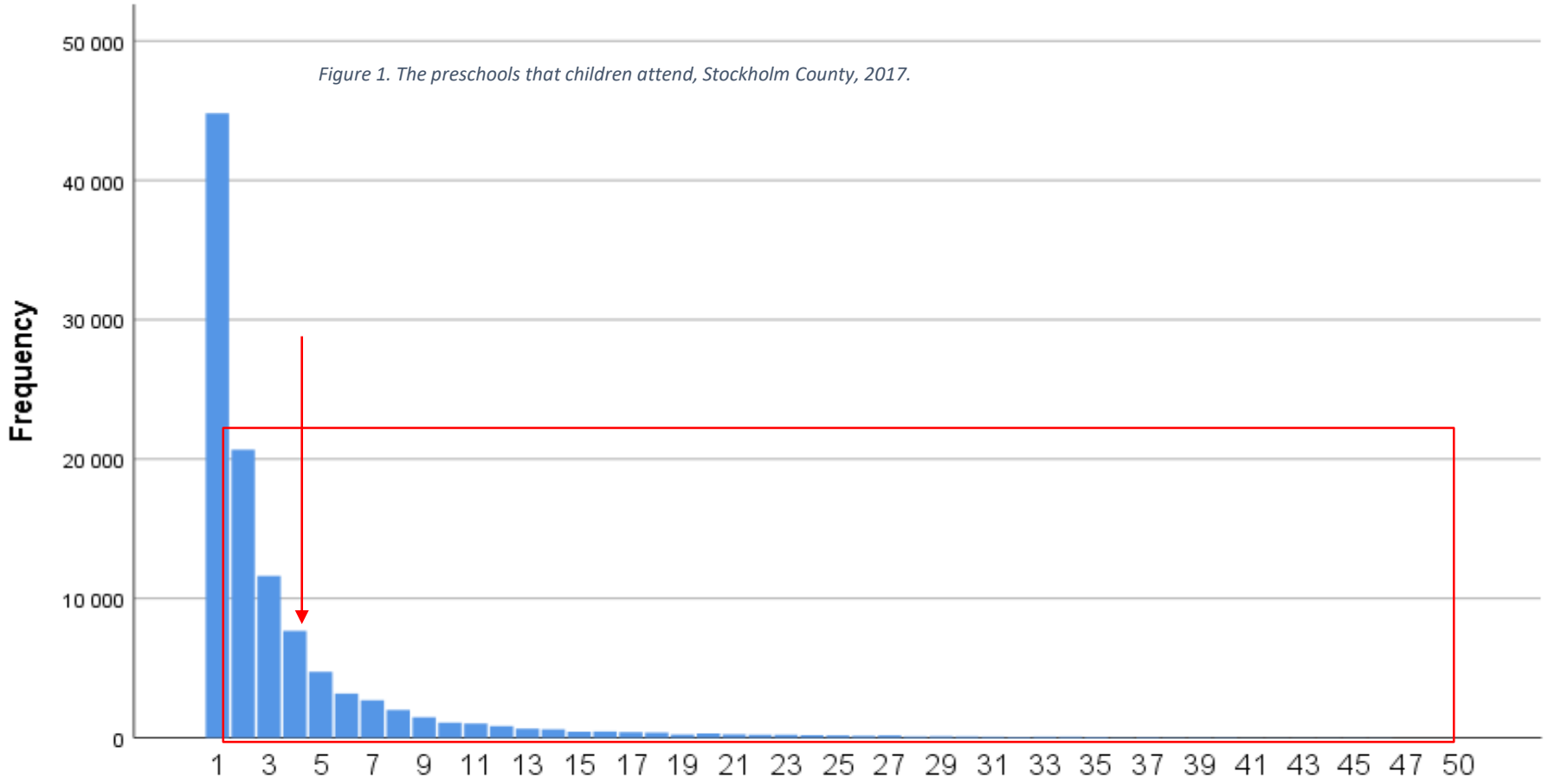
Map: Lines between all childrens home and preschool coordinates.

Data: SCB registers with every child under the age of 6. Information on home coordinate and location of preschool (250 by 250 meters), demographic, socioeconomic and Country of Birth information on parents and children. Composition of preschool attendees and all background information on preschool teachers and other employed

Here a subset of this database comprising all children in Greater Stockholm 2016.

Who commutes?

Figure 1. The preschools that children attend, Stockholm County, 2017.



Source: The SEC-database, Uppsala University. Authors' calculations

- Near and rank functions on coordinate data in GIS. Closest 50 preschools.

Preferences for different types of preschools among the population

Deskriptiv statistik om förskoletyper, Sverige 2017

	Preschool type							
	Parental cooperative		Other cooperatives		For-profit		Public	
	N	%	N	%	N	%	N	%
Working class	231	1.3	250	1.5	3 883	22.6	12 835	74.6
Lower middle class	1 355	3.4	670	1.7	10 203	25.4	27 959	69.6
Middle class	1 457	4.7	548	1.8	9 256	29.9	19 731	63.7
Upper middle class (education)	537	5.7	183	2	2 814	30.1	5 821	62.2
Upper middle class (income)	672	6.9	255	2.6	2 893	29.9	5 868	60.6
Low income neighbourhood	733	2.1	678	1.9	7 322	20.6	26 727	75.4
Mid income neighbourhood	1 543	4.3	710	2	8 890	24.6	24 981	69.2
High income neighbourhood	1 976	5.5	518	1.4	12 837	35.8	20 506	57.2
Total	4 252	4	1 906	1.8	29 049	27	72 214	67.2

Källa: Fjellborg & Forsberg 2021

Parental cooperatives and for-profit preschools tends to attract middle and upper middle class families. These preschools are also over-represented in areas where these groups tend to live (i.e. high and mid-income neighborhoods. Public preschools are overrepresented among families with lower income levels and in nhoods with low levels of income.

Commuting/preschool choice have effects

N children for each preschool teacher in the closest preschool compared to the preschool where children are enrolled, mean for Sweden in 2017.

	Closest	Enrolled	Diff.
Working class	18.21	18.47	0.25
Lower middle class	17.65	16.57	-0.08
Middle class	17.02	16.88	-0.14
Upper middle class (education)	16.58	16.51	-0.06
Upper middle class (income)	16.97	16.65	-0.32

Källa: Fjellborg & Forsberg 2021

Particularly the education fraction of the upper middle class choose preschools with more teachers per child compared to the closest.
It is only among the working class that enrollment in the closest would yield a better outcome.

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”Commuting” increases social inequalities

Commuters tend to have: Swedish background, lower income/rather than high, and differs from their neighborhood (i.e. having Swedish background and living in an area with higher levels of foreign background families.

Commuting is lower in areas where many are employed. And commuting is reduced when the teacher to child ratio is higher (more teachers per child) in the closest preschool.

Higher social status among foreign background households increases commuting propensity more compared to the relation between high/low resources within the Swedish background group. Perhaps native households have already converted higher social status to more desirable housing locations where also higher status preschools tend to be located.

Lower social status households within the foreign background group are relatively more ”stuck” in their neighborhood compared to their Swedish background counterparts.

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"Too cute to trash =)" by Jens Rost is licensed under CCBY-SA 2.0

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Conclusions

- Levels of segregation on the preschool market are affected by the commuting and free school choice.
- The location of different preschools matter. Attend the closest preschool is most common.
- The choice is socially stratifying, avoidance of some types of preschools within some geographical contexts are clear. Those with higher educational capital are those exercising this possibility to a higher degree.
- Foreign background households commute their children, especially those with higher educational capital, a convergence strategy when choices on the housing market are restricted.

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What's next?

- Study if "markets" affect segregating choices using individual level data. (outcomes levels of segregation, clustering by education, income, ethnic background).
- Relate to scalable neighbourhoods.

Thank you for listening!

Articles/drafts from the project

1. Westberg, Johannes, and Esbjörn Larsson. 2020. “Winning the War by Losing the Battle? The Marketization of the Expanding Preschool Sector in Sweden.” Journal of Education Policy 0 (0). Routledge: 1–18. doi:10.1080/02680939.2020.1861338.
2. Fjellborg, Andreas Alm, and Håkan Forsberg. 2021. “Commuting Patterns of Preschool Children in Metropolitan Stockholm.” Regional Science Policy & Practice, March, rsp3.12401. doi:10.1111/rsp3.12401.
3. Andreas Alm Fjellborg & Håkan Forsberg (Under review) Even in preschools – analysing the preschool and neighbourhood segregation gap in Swedish municipalities.
4. Håkan Forsberg, Jenny Waddling & Andreas Alm Fjellborg (to be submitted). An early start? – Social stratification of children under five in Swedish preschool enrolment.
5. Esbjörn Larsson, Ida Lidegran & Mette Ginnerskov Dahlberg, Den familjära förskolan. Bildningsborgerskapets tidiga val för sina barn.
6. Andreas Alm Fjellborg & Håkan Forsberg (early draft): Preschool enrolment and segregating choice on diverse and homogenous preschool market.

Manus till artikel 3 kan erhållas från hakan.forsberg@edu.uu.se