

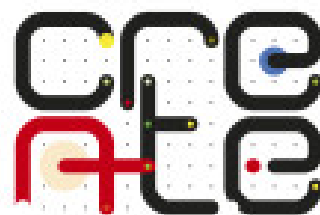
# Comparing European Cinema Markets

## Methodological Hurdles and Data Challenges

Julia Noordegraaf, Jolanda Visser, Jaap Boter,  
Daniel Biltereyst, Philippe Meers, Ivan Kisjes



UNIVERSITY OF AMSTERDAM



creative  
Amsterdam  
an E-Humanities  
perspective



# Overview

- Introduction Research Project
- Research Design
- Methods (GIS & statistics)
- Implications
- Conclusion

# European Cinema Statistics

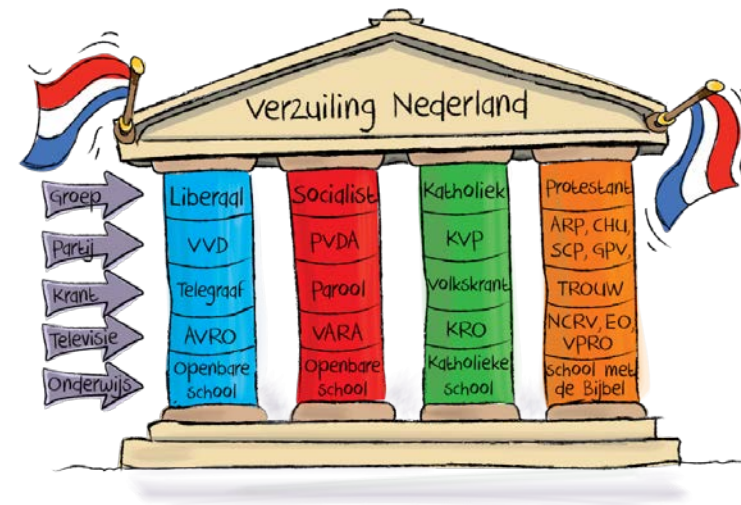
COUNTRY	YEAR	POPULATION (000)	FIXED CINEMAS					MOBILE UNITS		
			CINEMA HALLS			DRIVE-INS		SEATING CAPACITY PER 1000 INHA- BITANTS	NUMBER	
			NUMBER		SEATING CAPACITY (000)	NUMBER	CAPA- CITY		35 MM	16 MM
			35 MM	16 MM						
BELGIUM	1955	8 868	1 520	300	850.0	-	-	95.9	-	-
	1960	9 153	1 506	135	761.5	-	-	83.2	-	-
	1965	9 464	1 082	51	575.9	1	1.2	60.9	-	-
	1970	9 660	714	18	*370.6	-	-	38.4	-	-
	1975	9 796	562	6	*267.7	-	-	27.3	-	-
ITALY	1955	48 064	7 414	587	3465.4	...	...	72.1	...	...
	1960	49 642	10 441	→	...	...	...	...	...	...
	1965	51 990	10 868	3 075	5831.1	1	...	112.2	202	-
	1970	53 660	9 390	→	...	1	3.9	...	225	-
	1975	55 810	8 730	→	...	1	3.9	...	250	-
NETHERLANDS	1955	10 751	531	-	252.0	...	...	23.4	...	...
	1960	11 480	565	-	266.8	...	...	23.8	...	...
	1965	12 292	537	-	255.4	...	...	20.8	...	...
	1970	13 030	410	-	201.0	1	...	15.4	13	-
	1975	13 653	419	-	169.2	1	...	12.4	12	-
SWEDEN	1955	7 262	2 504	...	622.6	-	-	85.7	...	...
	1960	7 480	2 332	...	580.0	-	-	77.5	-	-
	1965	7 734	1 996	...	...	-	-	...	-	-
	1970	8 046	1 374	-	...	-	-	...	-	-
	1975	8 195	1 192	-	344.4	-	-	42.0	-	-
UNITED KINGDOM	1955	50 950	4 325	-	4020.8	...	...	78.9	...	...
	1960	52 373	2 771	-	2649.0	...	...	50.6	-	-
	1965	54 180	1 971	-	2012.6	...	...	37.1	-	-
	1970	55 410	1 529	-	1465.8	...	...	26.5	-	-
	1975	55 962	1 530	-	879.0	...	...	15.7	-	-
CZECHOSLOVAKIA	1955	13 093	1 658	1 582	936.2	-	-	71.5	235	→
	1960	13 654	3 590	→	1043.0	-	-	76.4	18	→
	1965	14 159	3 711	→	1079.0	-	-	76.2	-	-
	1970	14 330	2 051	1 429	1013.2	-	-	70.7	-	16
	1975	14 802	3 390	→	958.7	-	-	64.8	-	14

# Research Question

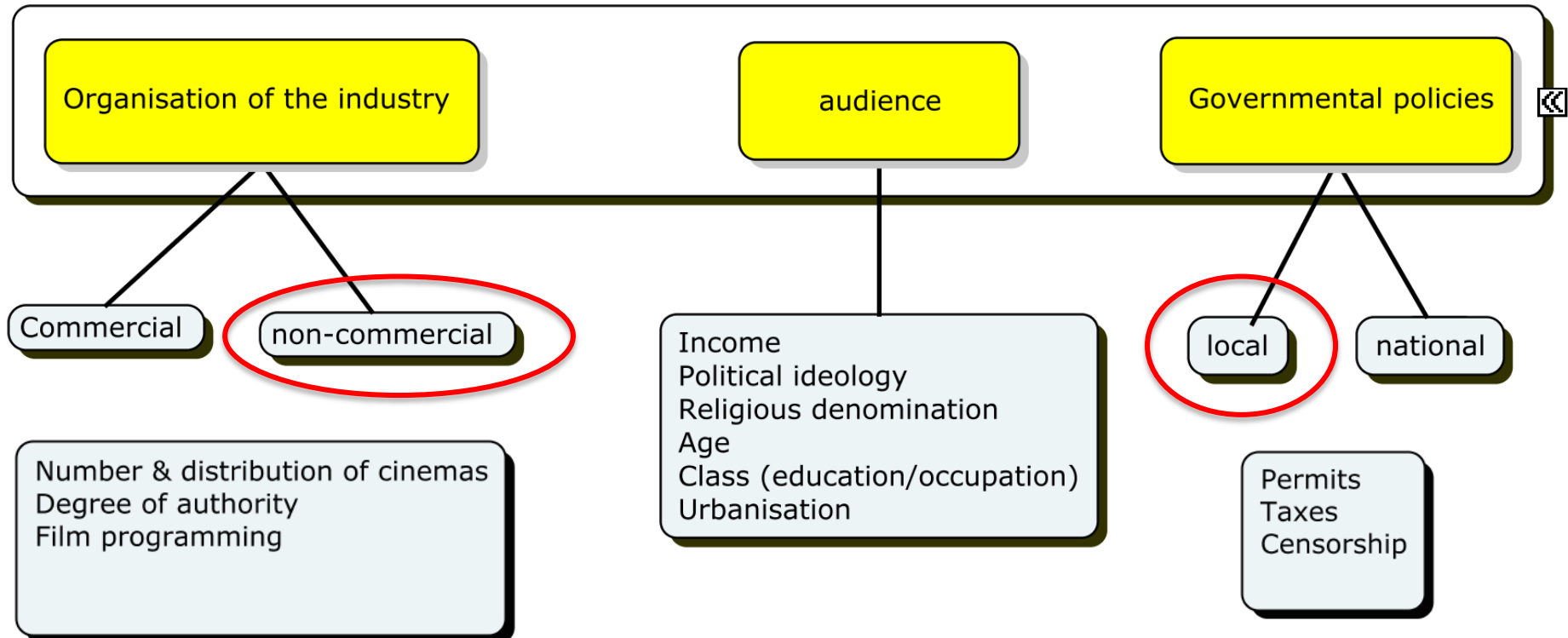
How can the differences in cinema markets between The Netherlands and Flanders be explained?

# Existing Explanations

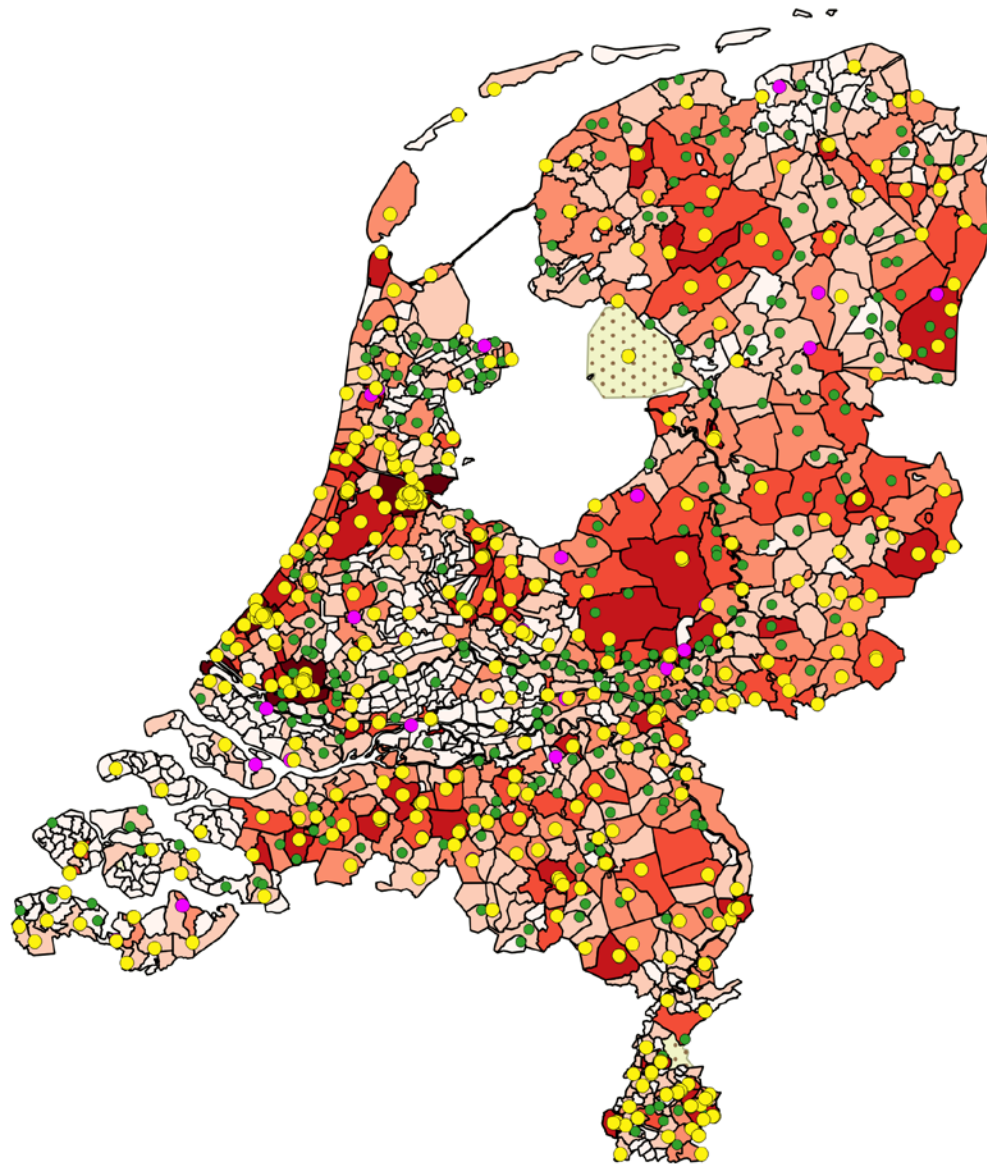
- Organisation of Industry  
NL Cinema Alliance cartel
- Stratification of Society  
Protestant, Catholic, Socialist & Liberal 'pillars'
- Class, income & cultural features



# Research Design



# Method I: GIS



**Figure 1: Cinema distribution and the numbers of expected cinema audiences**

## Legend

number of expected cinema audiences

- 0 - 10000
- 10000 - 25000
- 25000 - 50000
- 50000 - 100000
- 100000 - 2000000
- 2000000 - 46000000
- no census data available
- permanent A-cinemas
- permanent B-cinemas
- places claimed by travelling cinemas

25 0 25 50 75 100 km

# From GIS to Statistics

<b>Municipalities:</b>	Tickets sold in 1949	Expected audiences	
> 100.000	38.254.099	15.487.660	40%
50.000-100.000	9.032.134	4.346.597	48%
20.000-50.0000	9.348.792	6.081.496	65%
< 20.000	7.555.474	18.202.134	241%
The Netherlands total in 1949:	64.190.499	44.117.887	



# Method II: Multiple Regression Analysis

## Regression analysis

FITS A STRAIGHT LINE TO THIS MESSY SCATTERPLOT.  $x$  IS CALLED THE INDEPENDENT OR PREDICTOR VARIABLE, AND  $y$  IS THE DEPENDENT OR RESPONSE VARIABLE. THE REGRESSION OR PREDICTION LINE HAS THE FORM

$$y = a + bx$$





# Implications

- More fine-grained operationalization of research questions needed

# Research requirements

How to operationalize questions? Some examples:

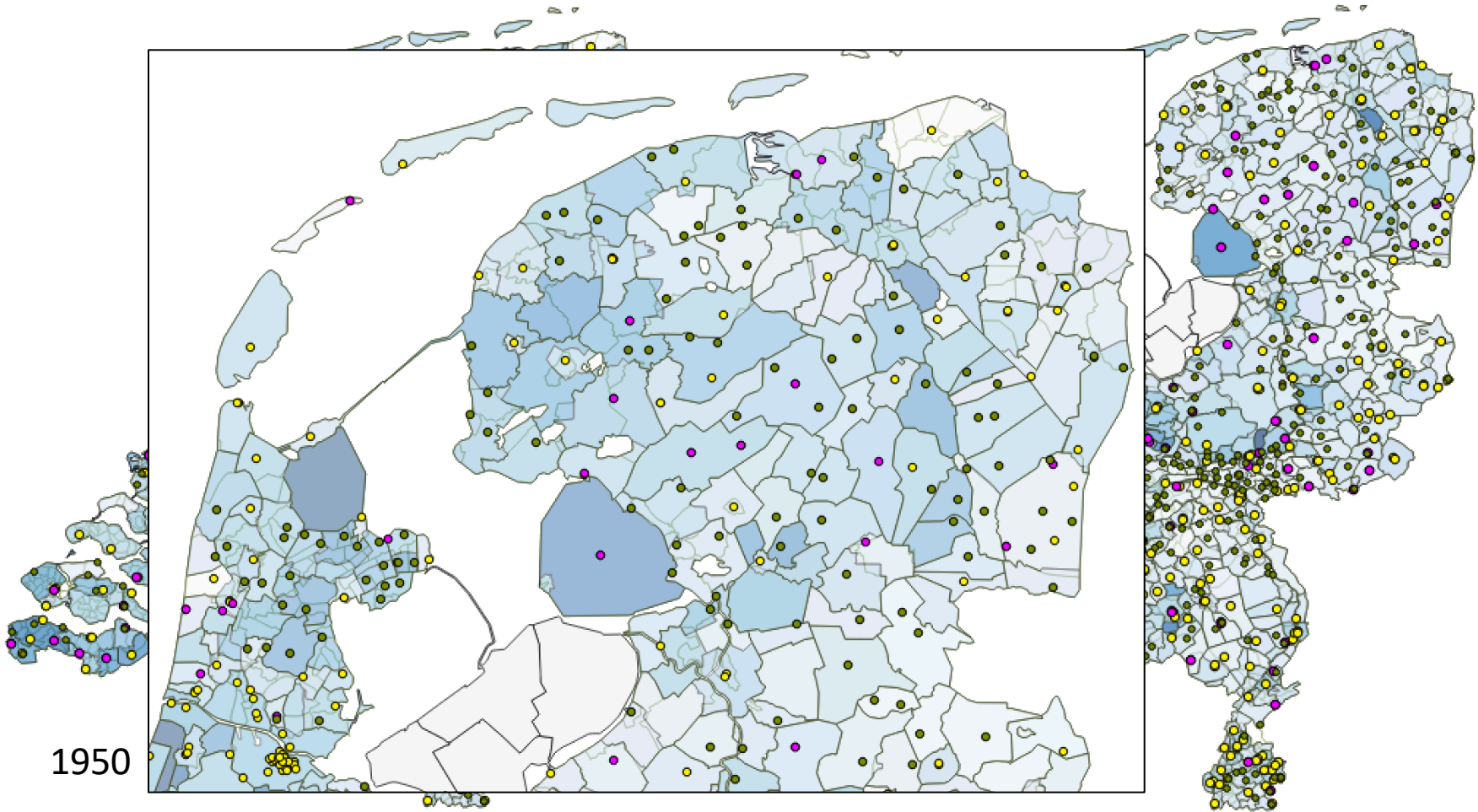
- Can the box office numbers (or seat per inhabitant) be related to:
  - Income
  - Religious denomination
  - Age
  - Class
- Are there commercial film screenings in a municipality? Can it be related to:
  - Composition of municipality council
  - Composition of board of Alderman and mayor



# Implications

- More fine-grained operationalization of research questions needed
- Data collection and harmonisation:
  - Digitization (e.g., permits Cinema Association)
  - Check definitions used (e.g., urbanization)
  - Merging & changing units of analysis (municipalities)

# Diachronic & Synchronic





# Implications

- More fine-grained operationalization of research questions needed
- Data collection and harmonisation:
  - Digitization (e.g., permits Cinema Association)
  - Check definitions used (e.g., urbanization)
  - Merging & changing units of analysis (municipalities)
- Transnational comparison
  - Translate diverging definitions (e.g., type of cinemas)
  - Account for different contexts

# Transnational Comparison

Cinema type definitions in NL:

- Permanent A: >156 days
- Permanent B: 31 – 124 days
- Mobile: < 31 days

# Definitions: Organisation of the Industry

Country	Date	Estimated population (thousands)	Category of cinema	Number	Seating capacity		
					Total	Average per cinema	Per 1 000 inhabitants
<u>EUROPE</u>							
Belgium	1952	8 730	35mm	1 444	769 000	533	88
	"	"	16mm	750	225 000	300	26
Netherlands	1 Jan.1955	10 670	35mm	522	243 000	466	23





# Conclusions

- Data requirements
  - Understanding provenance
  - Completeness, validity, consistency and accuracy
- Skills required
  - Computational (e.g. GIS, OCR, Excel)
  - Methodological (statistics)
- Multidisciplinary knowledge-base
  - History, economics, social sciences, political sciences, and geography