

## Preferred citation

---

Beige, S. (2006) A comparison of residential mobility in a retrospective survey and the Swiss Household Panel, Presentation, 3rd International Conference of Panel Data Users in Switzerland, Neuchâtel, February 2006.

# A comparison of residential mobility in a retrospective survey and the Swiss Household Panel

S. Beige

IVT  
ETH Zurich

IPUC 2006

 *Institut für Verkehrsplanung und Transportsysteme*  
*Institute for Transport Planning and Systems*

**ETH**

Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

# Residential mobility in two longitudinal surveys

---

Retrospective survey concerning long-term spatial mobility during the life course:

- Location of residence places and corresponding moving behaviour
- Ownership of mobility tools
- Data from a twenty year period (1985 – 2004)

Swiss Household Panel "Living in Switzerland":

- Stability and change as well as the living conditions of the population
- Data from the first five waves of the panel (1999, 2000, 2001, 2002 and 2003)

Longitudinal perspective on residential mobility:

- Identifying dynamic developments over time
- Linking different dimensions of life together
- Taking resident and mobile people into account at the same time

# Questionnaire of the retrospective survey

---

## Self-completion questionnaire:

- Household form
- Person form

## Life course calendar:

- Important events of the personal and familial history
- Moving behaviour
- Location of residence places
- Location of education and employment places
- Ownership and usage of different mobility tools

# Life course calendar of the retrospective survey

	1985	1986	1987	1988	1989	1990	1991	1992	
<b>Information about your family history</b>									
Please indicate important family events (e.g. birth of siblings, moving out of your parents` house, marriage, divorce, birth of children, deaths in the family, retirement, etc.)									
Number of persons in your household	— 4 —		— 1 —		— 2 —		— 3 —		— 4 —
<b>Information about your places of residence</b> (Please fill in further information on page 8)									
Please number the places of residence	— 1st place —		— 2nd place —		— 3rd place —		— 4th place —		
<b>Information about your ownership of cars and public transport tickets</b>									
Availability of a car: always available									
Availability of a car: partially available									
Availability of a car: never available									
Ownership of a half-fare discount ticket									
Ownership of a national annual ticket									
Ownership of a regional annual or monthly ticket									
<b>Information about your places of education and employment</b>									

# Comparison of the households in the two surveys

---

	Retrospective survey	Swiss Household Panel	Deviation
Number of persons in the household	2.2	2.5	+ 0.3
Number of adults in the household	1.8	1.9	+ 0.1
Monthly income of the households	8227 Fr.	8453 Fr.	+ 226 Fr.
Number of rooms in the accommodation	4.0	4.2	+ 0.2
Rented accommodation:			
Share of rented accommodation	60.9%	54.2%	– 6.7%
Costs as rent per month	1587 Fr.	1319 Fr.	– 268 Fr.
Owned accommodation:			
Share of owned accommodation	21.3%	44.7%	+ 23.4%
Costs as rental value per year	20639 Fr.	19121 Fr.	– 1518 Fr.

---

N = 780 households

N = 3227 households

# Comparison of the persons in the two surveys

---

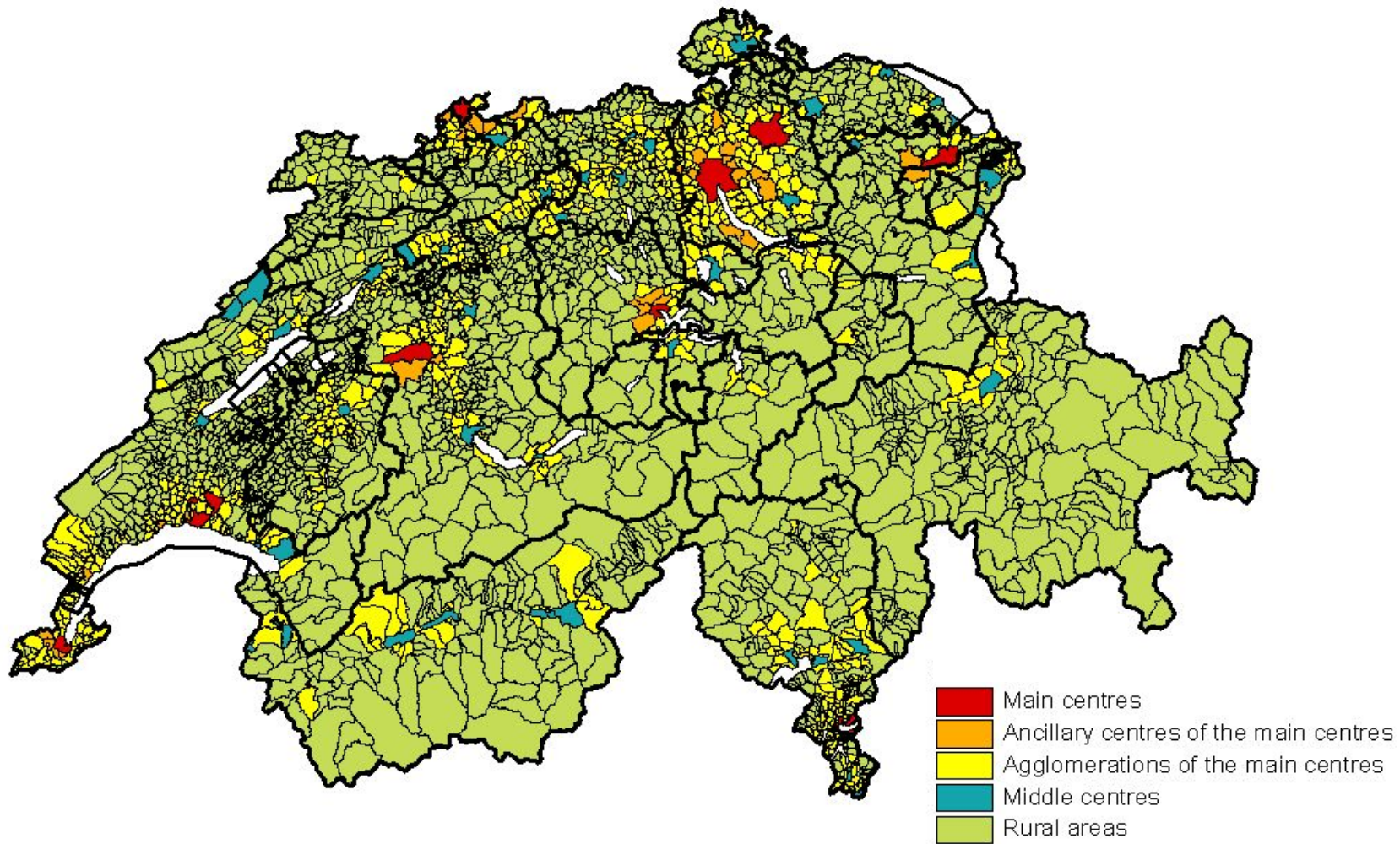
	Retrospective survey	Swiss Household Panel	Deviation
Gender of the persons:			
Male	48.3%	48.5%	+ 0.2%
Female	51.7%	51.5%	- 0.2%
Average age of the persons	47.4 years	46.8 years	- 0.6
Occupation of the persons:			
In education	3.0%	7.4%	+ 4.4%
Full-time employed	43.9%	42.5%	- 1.4%
Part-time employed	25.4%	19.3%	- 6.1%
Job-seeking	1.2%	1.6%	+ 0.4%
Home duties	6.4%	10.1%	+ 3.7%
Retired	20.0%	18.6%	- 1.4%
Monthly income of the persons	5326 Fr.	5271 Fr.	- 55 Fr.

N = 1166 persons

N = 4900 persons

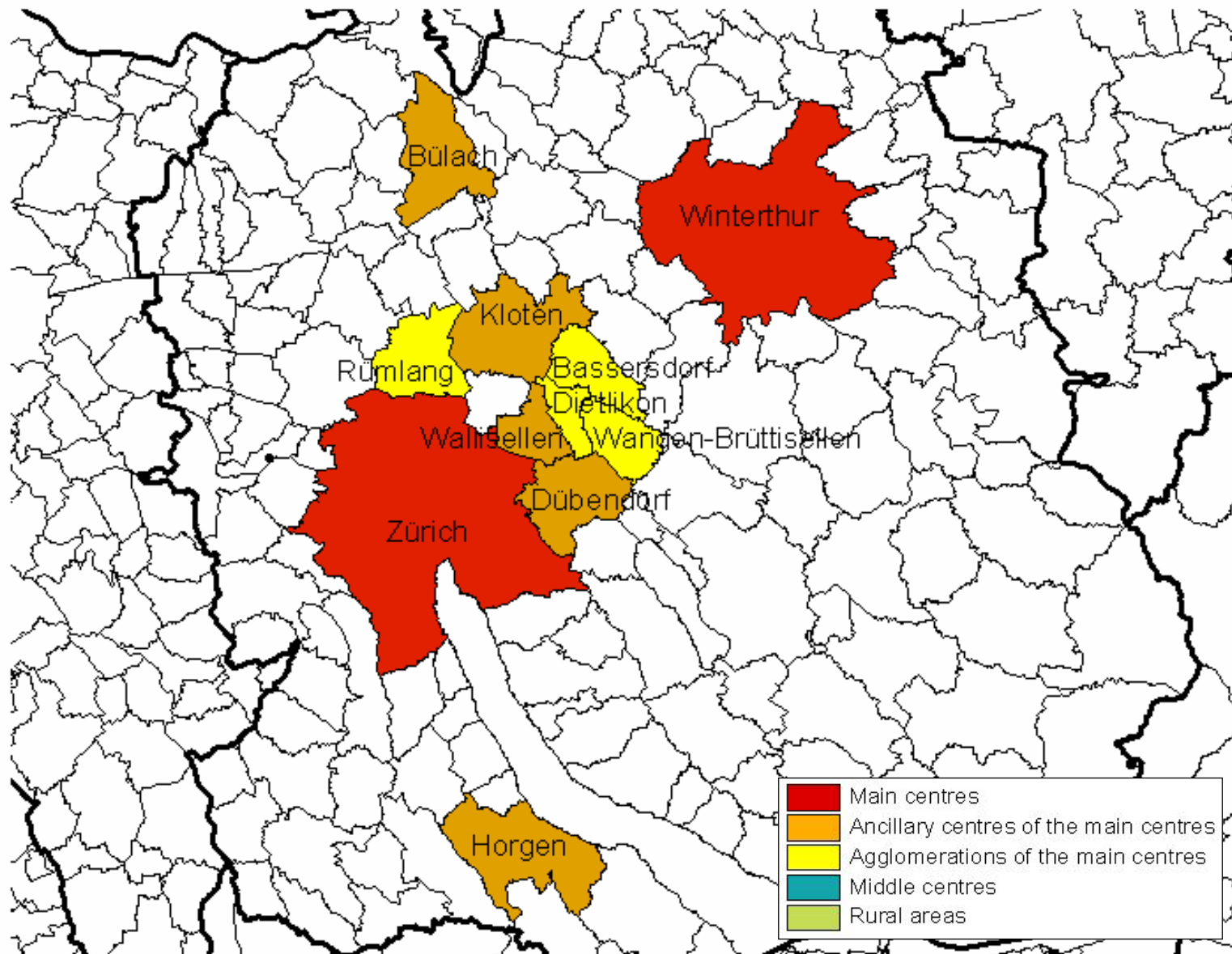
# Spatial classification of municipalities

---



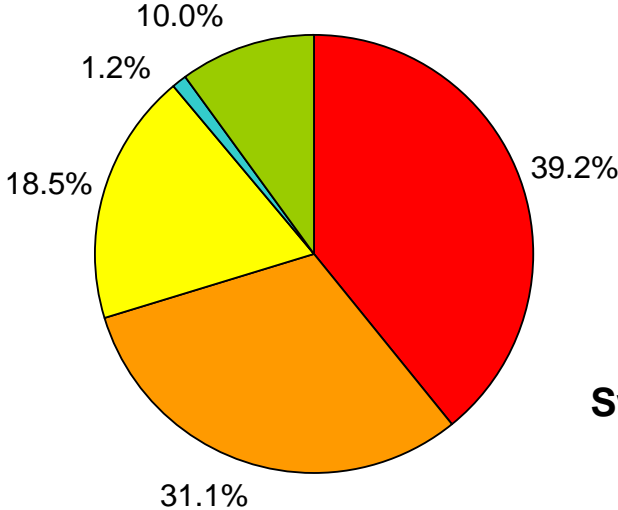


# Spatial classification of study areas

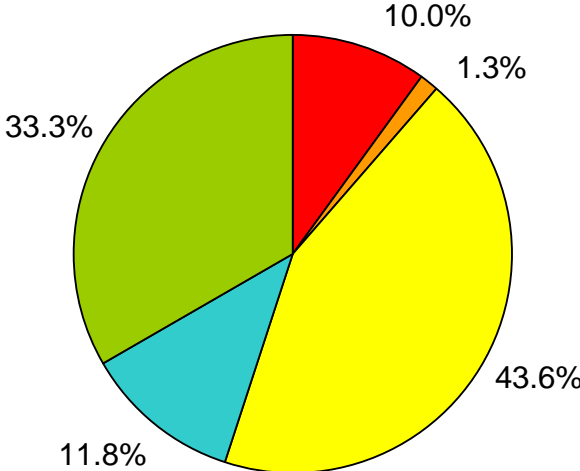


# Share of respondents in regard to spatial classification

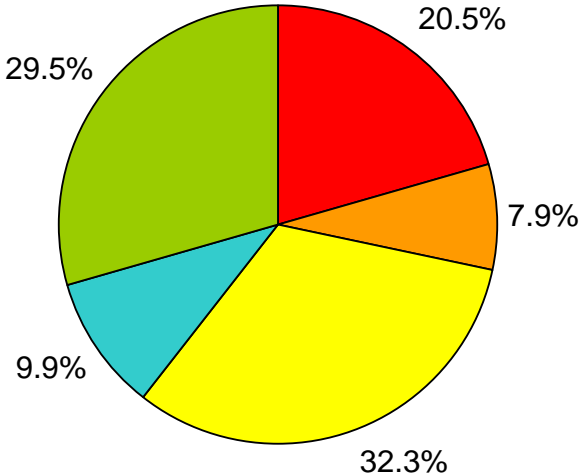
**Retrospective survey**



**Swiss Household Panel**

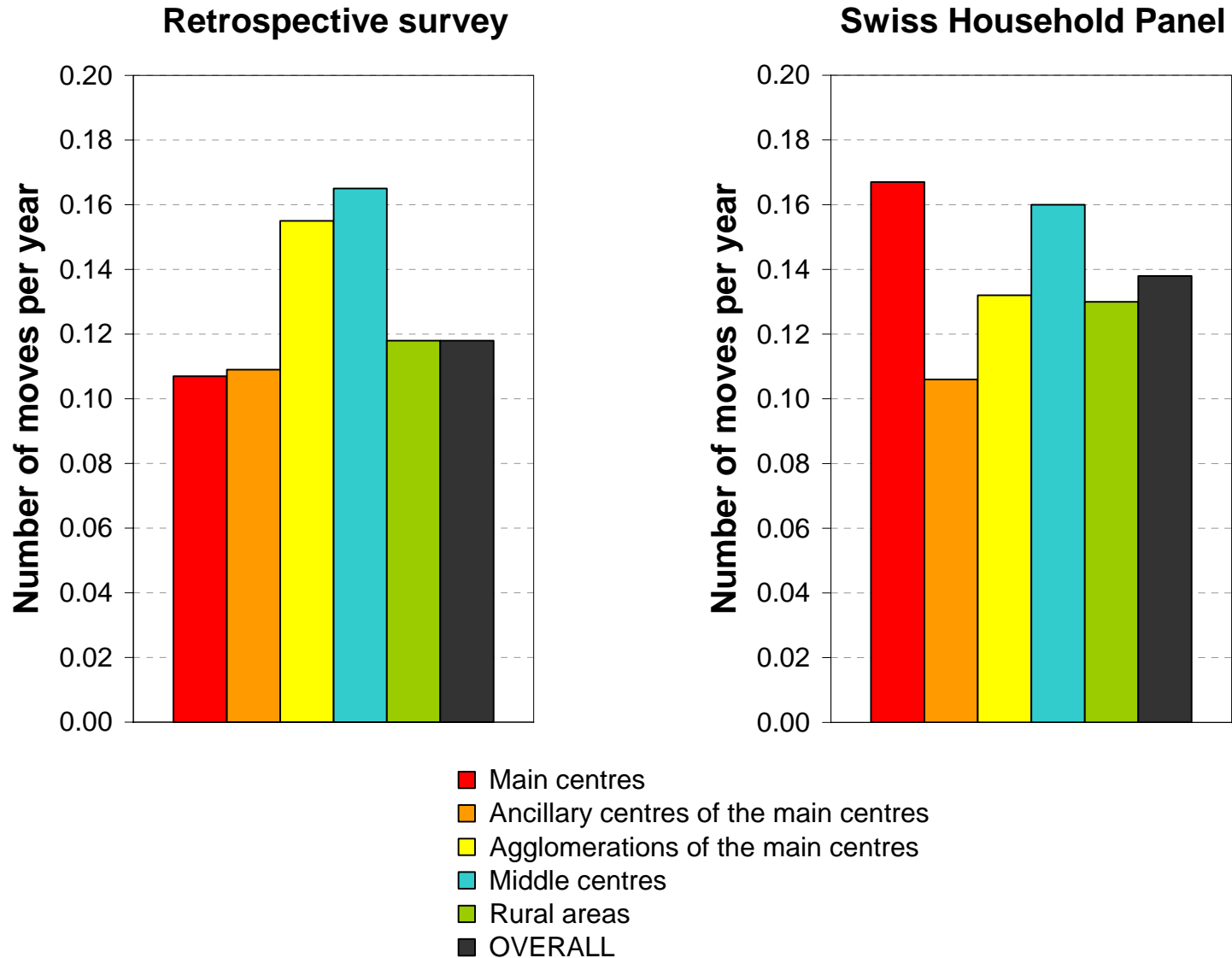


**Swiss population 2000**

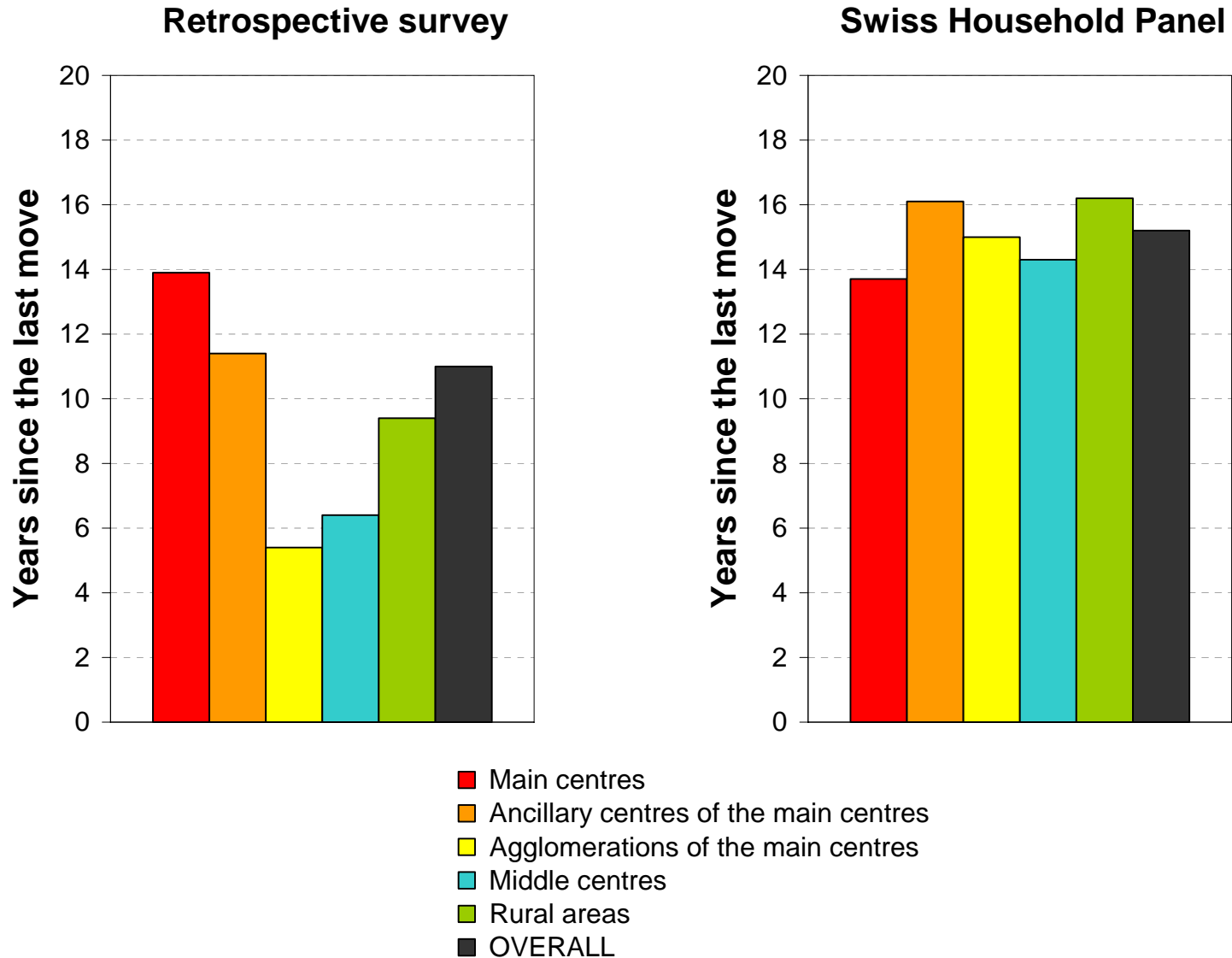


- Main centres
- Ancillary centres of the main centres
- Agglomerations of the main centres
- Middle centres
- Rural areas

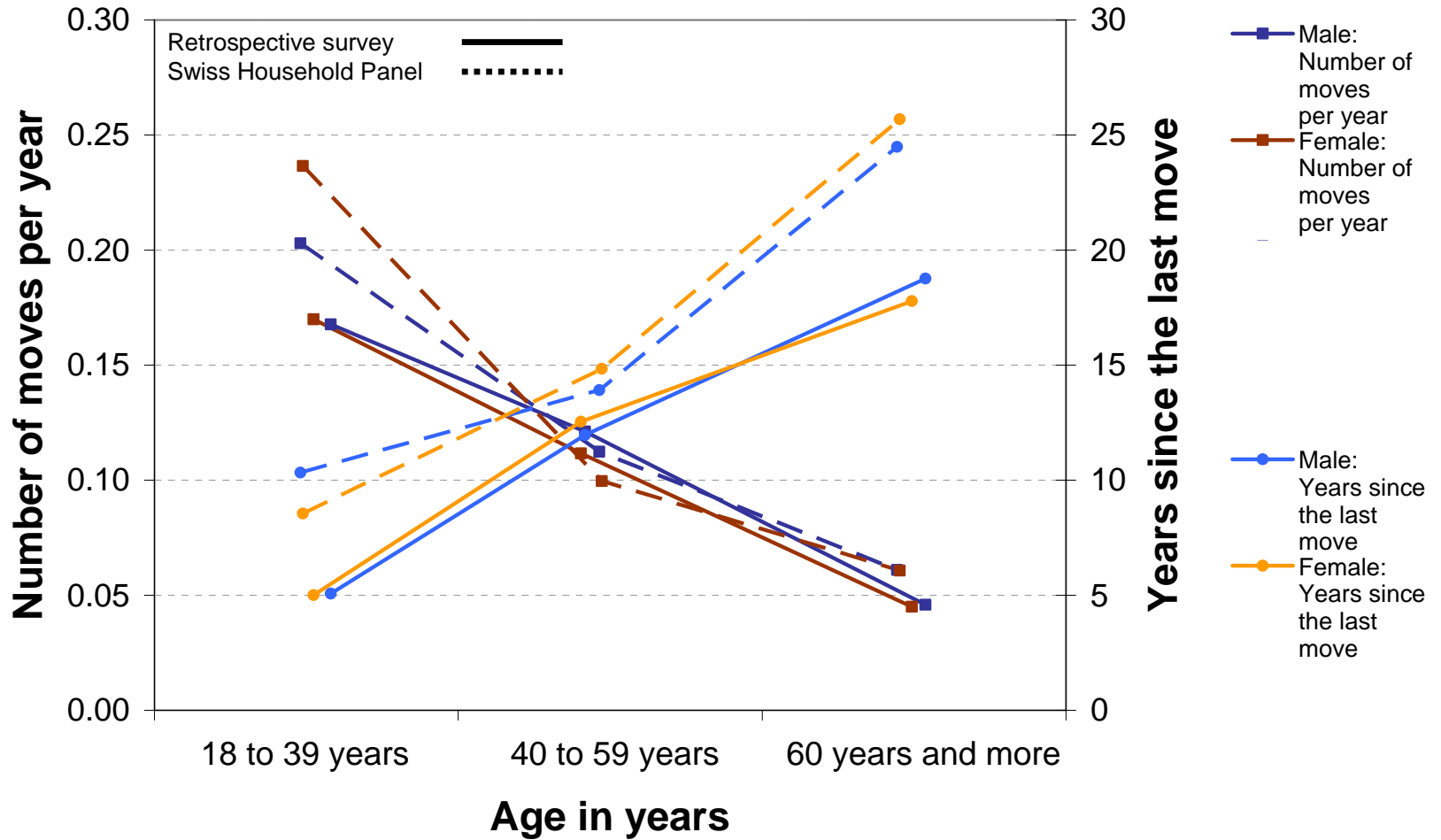
# Residential mobility in regard to spatial classification (I)



# Residential mobility in regard to spatial classification (II)



# Residential mobility in regard to gender and age



# Variance analysis for the residential mobility

---

Influencing variable	Number of moves per year		Years since the last move	
	F-value	Significance	F-value	Significance
Participation in the retrospective survey	9.672	0.002	15.448	0.000
Spatial classification	2.855	0.022	1.728	0.141
Participation in the retrospective survey *				
Spatial classification	0.793	0.530	7.237	0.000
Gender: Male	2.536	0.111	6.270	0.012
Age in years	350.109	0.000	810.020	0.000
Nationality: Swiss national	0.045	0.833	3.652	0.056
Occupation	33.439	0.000	53.141	0.000
Monthly income of the persons	0.234	0.629	31.392	0.000
Spatial classification * Gender	3.123	0.014	1.783	0.129
Spatial classification * Nationality	4.788	0.001	3.253	0.011
Intercept	591.467	0.000	27.129	0.000

N = 5379 persons  
 $R^2$  (adjusted) = 0.114

N = 5351 persons  
 $R^2$  (adjusted) = 0.314

# Summary concerning the comparison of the two surveys

---

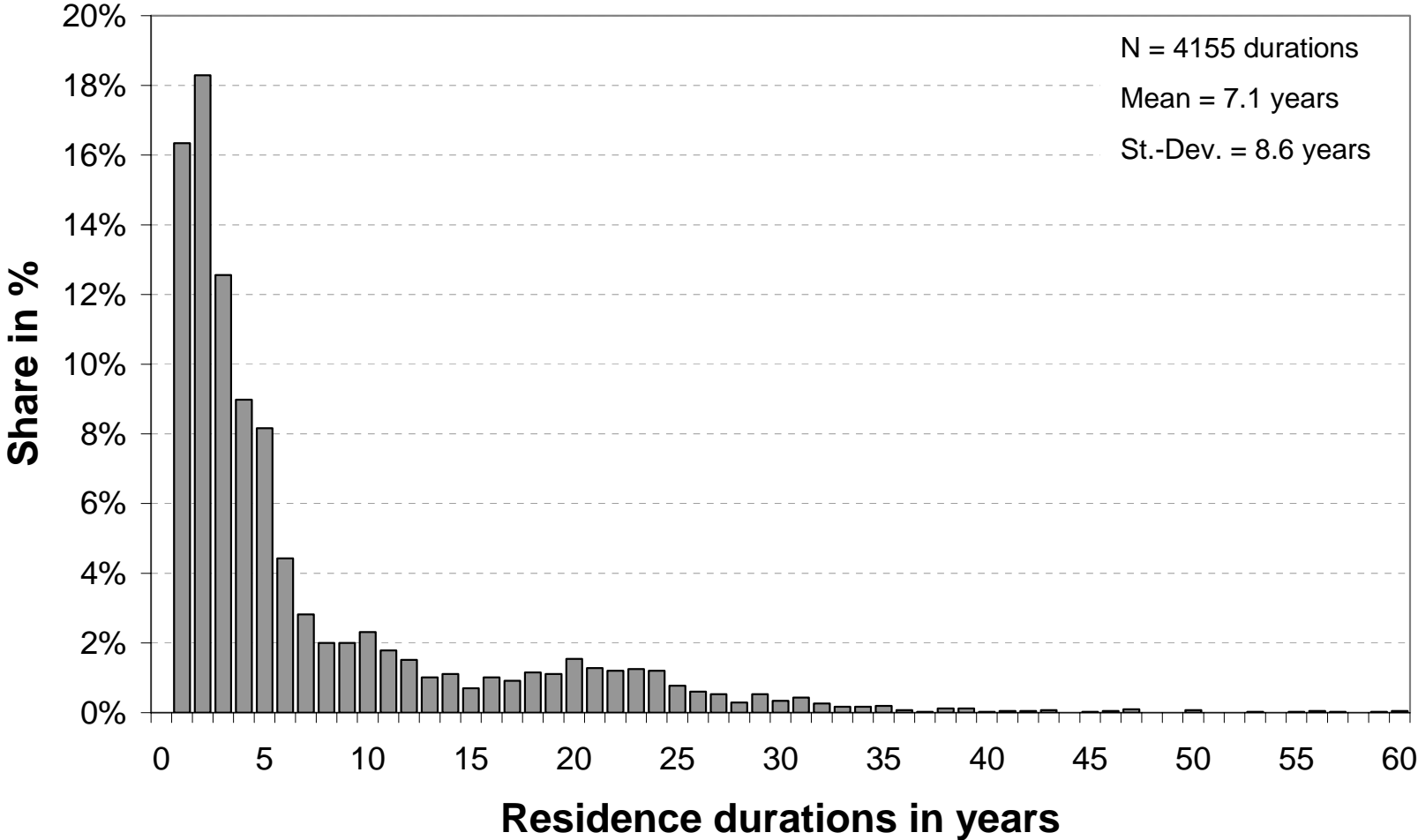
## Households and persons:

- Overall only small deviations
- Larger differences in regard to the spatial classification

## Residential Mobility:

- Larger differences between the two longitudinal surveys
- More moves per year in the Swiss Household Panel
- Longer time since the last move in the Swiss Household Panel

# Residence durations in the retrospective survey





# Hazard modelling for the residence durations

---

Influencing variable	Parameter	Significance	Hazard ratio
Average age in years * average age in years	- 0.001	0.000	0.999
Average number of persons in the household	- 0.200	0.000	0.818
Average driving licence ownership	+ 0.384	0.000	1.468
Average car ownership	- 0.155	0.050	0.857
Average national annual season ticket ownership	+ 0.305	0.001	1.356
Average regional annual/monthly season ticket ownership	+ 0.148	0.016	1.160
Average half-fare discount ticket ownership	+ 0.138	0.011	1.148
Change of another residence place during the period	+ 0.435	0.000	1.545
LN (accessibility of residence place by public transport)	- 0.109	0.000	0.897
German speaking region (referential category)		0.000	
French speaking region	+ 0.618	0.000	1.855
Italian speaking region	- 0.637	0.006	0.529
Change of education place during the period	- 0.387	0.000	0.679
Share of time in education	+ 0.349	0.000	1.418
Change of employment place during the period	- 0.192	0.000	0.826
Duration of employment at the beginning of the period	- 0.015	0.040	0.985
Average travel distance to employment by public transport	+ 0.004	0.000	1.004

N = 3120 durations (2133 uncensored, 987 censored)

R<sup>2</sup> (generalised) = 0.293

# Directions of moving in regard to spatial classification

Previous residence	Type 1	Type 2	Type 3	Type 4	Type 5	Abroad	Un- known	OVER- ALL
Residence								
Main centres	<b>36.1%</b>	4.8%	10.9%	3.1%	6.5%	6.5%	32.0%	100.0%
Ancillary centres of the main centres	14.0%	<b>26.7%</b>	18.5%	1.4%	5.7%	5.0%	28.7%	100.0%
Agglomerations of the main centres	11.8%	12.2%	<b>29.9%</b>	3.5%	5.3%	3.2%	34.2%	100.0%
Middle centres	7.1%	6.1%	16.3%	<b>26.5%</b>	12.2%	3.1%	28.6%	100.0%
Rural areas	6.4%	5.3%	14.6%	6.2%	<b>29.0%</b>	3.4%	35.2%	100.0%
Abroad	7.3%	4.6%	6.3%	2.0%	1.7%	<b>37.1%</b>	41.1%	100.0%
Unknown	10.1%	1.9%	6.7%	2.5%	3.2%	6.9%	68.6%	100.0%
OVERALL	17.0%	10.1%	16.5%	4.2%	8.0%	7.2%	37.0%	100.0%

# References

---

Beige, S. and K. W. Axhausen (2005) Feldbericht der Befragung zur langfristigen räumlichen Mobilität, *Arbeitsberichte Verkehrs- und Raumplanung*, **315**, Institut für Verkehrsplanung und Transportsysteme (IVT), ETH Zürich, Zürich.