Change of car-dependent lifestyles and its implications on policies - Focus on young adults -

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Outline

- Introduction
- Comparison among six countries
- Three potential factors in Japan
- Policy implications

Young people's mobility development in industrialized countries

- For decades: in line with the growth of per capita travel
  - Increasing motorization and car use

- More recently: changes in travel behavior
  - Decreasing car orientation and reduced overall travel
  - 'Peak Travel'

Objectives

- Identify important common denominators of the development across industrialized countries as well as highlights differences
- Identify factors for downward trend in Japan

Focus on young adults:

- More mobile than any other age group
- Shapes future travel demand
- More likely to change travel behavior in response to changing conditions

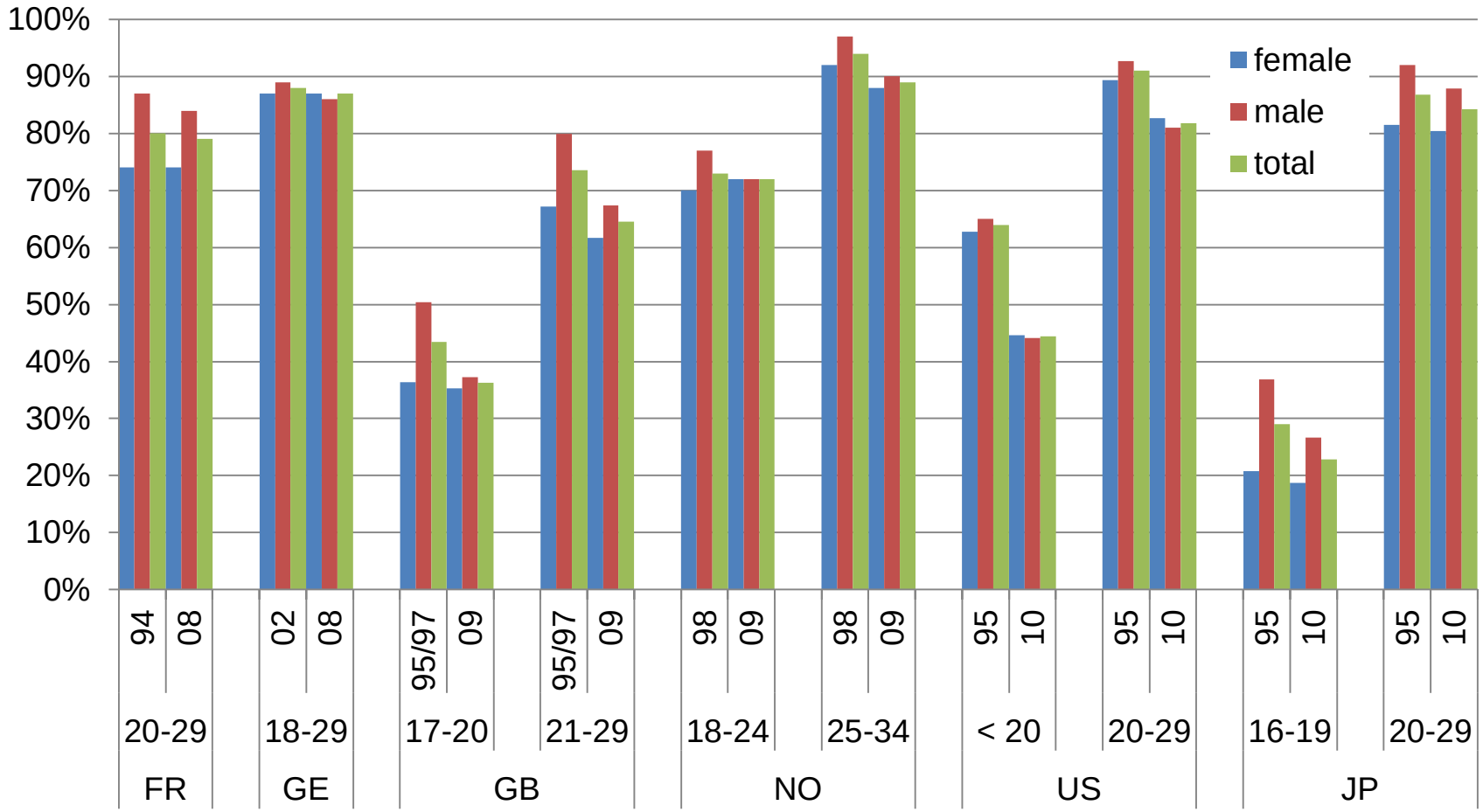
Comparison among six countries

Kuhnimhof, T., Armoogum, J., Buehler, R., Dargay, J., Denstadli, J.M. and Yamamoto, T. (2012). Men shape a downward trend in car use among young adults – Evidence from six industrialized countries, Transport Reviews, Vol. 32, 761-779.

Data

- Germany, Great Britain, France, Japan, Norway and USA
- 1970s to date
- National travel survey data
  - Nationwide Person Trip Survey for Japan: 41 cities
- Young adults: 20 to 29 years old

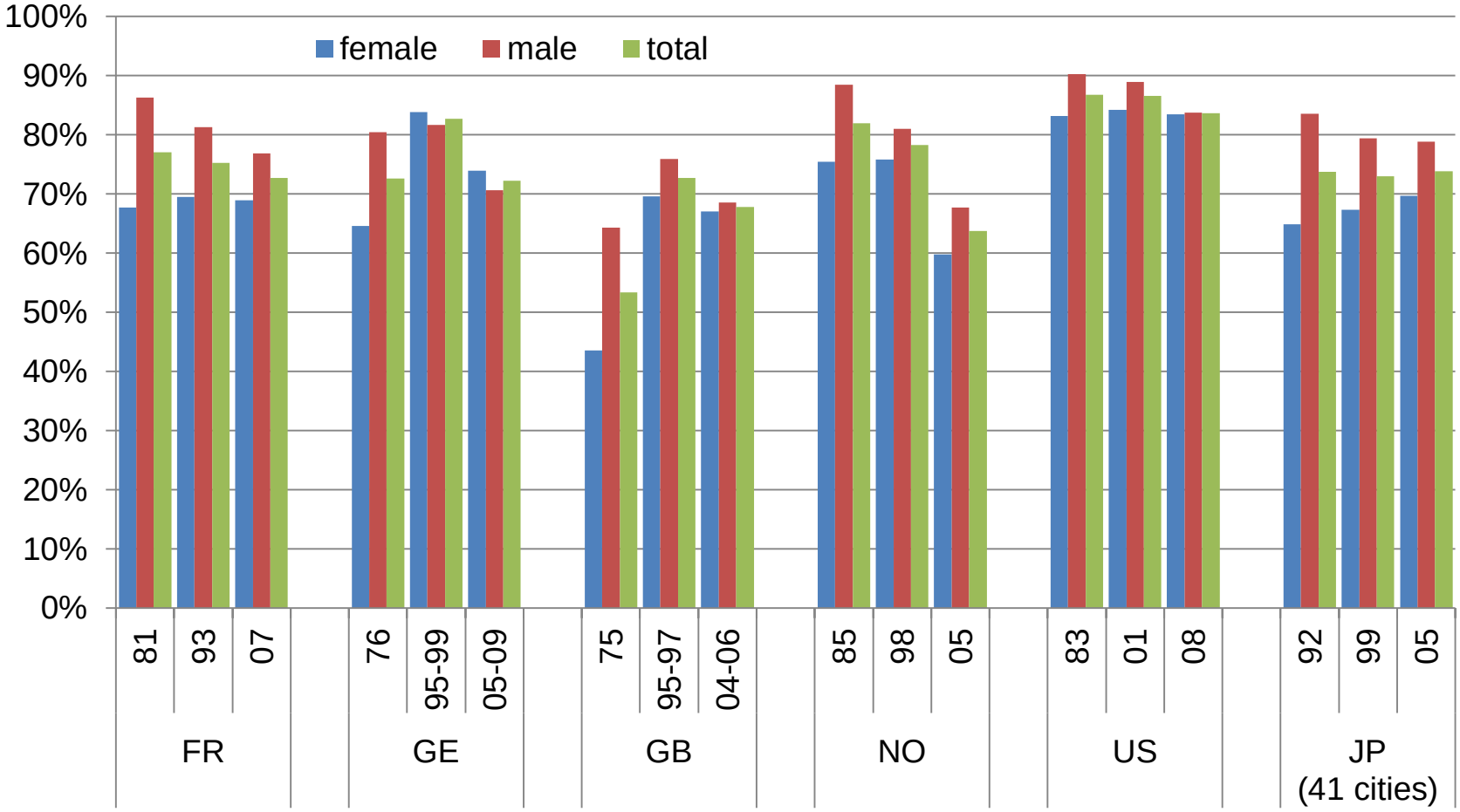
Driving license



- Decline especially for men

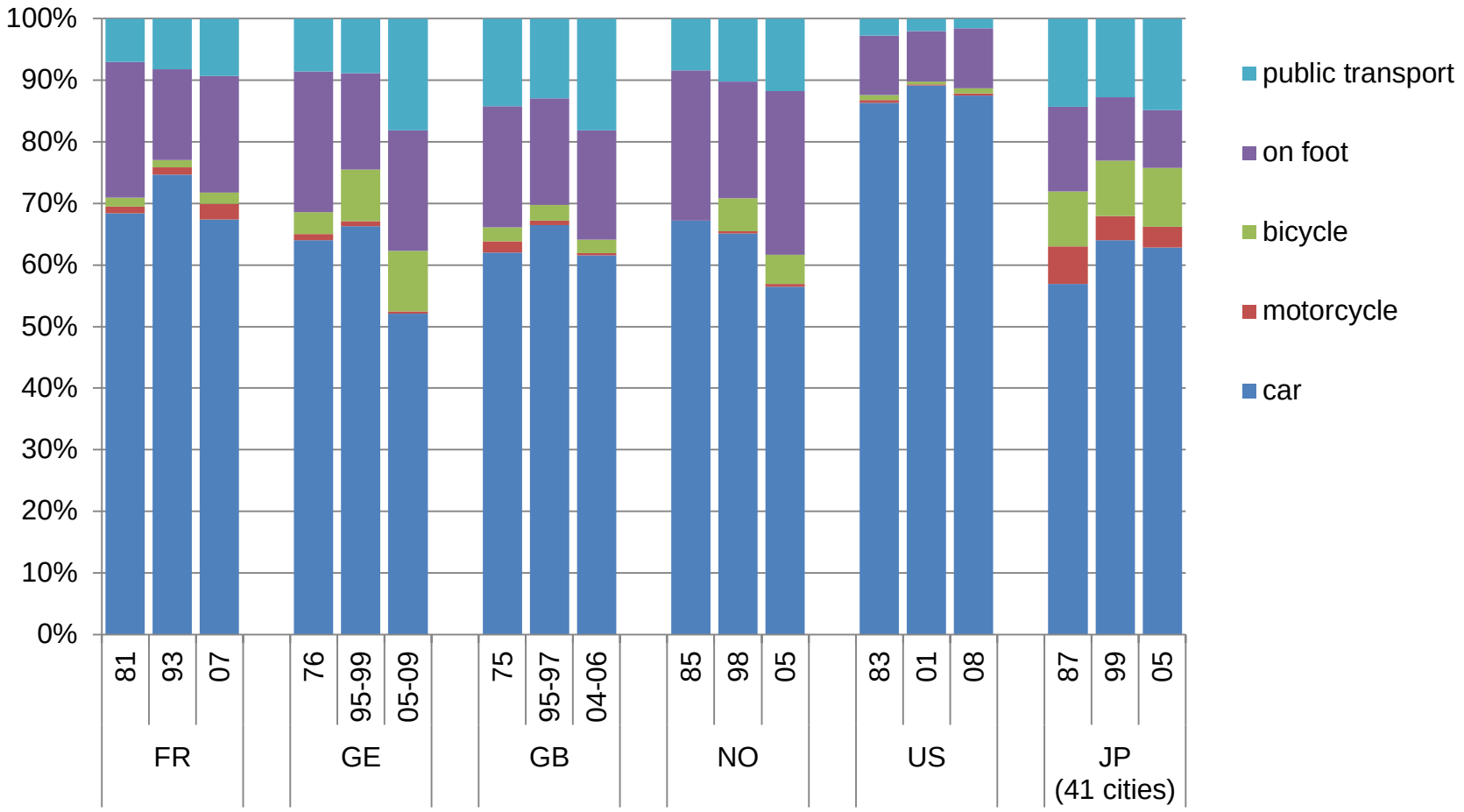
Car availability

- License holding & vehicle ownership in household



- Decline for men
- Increase for women in Japan

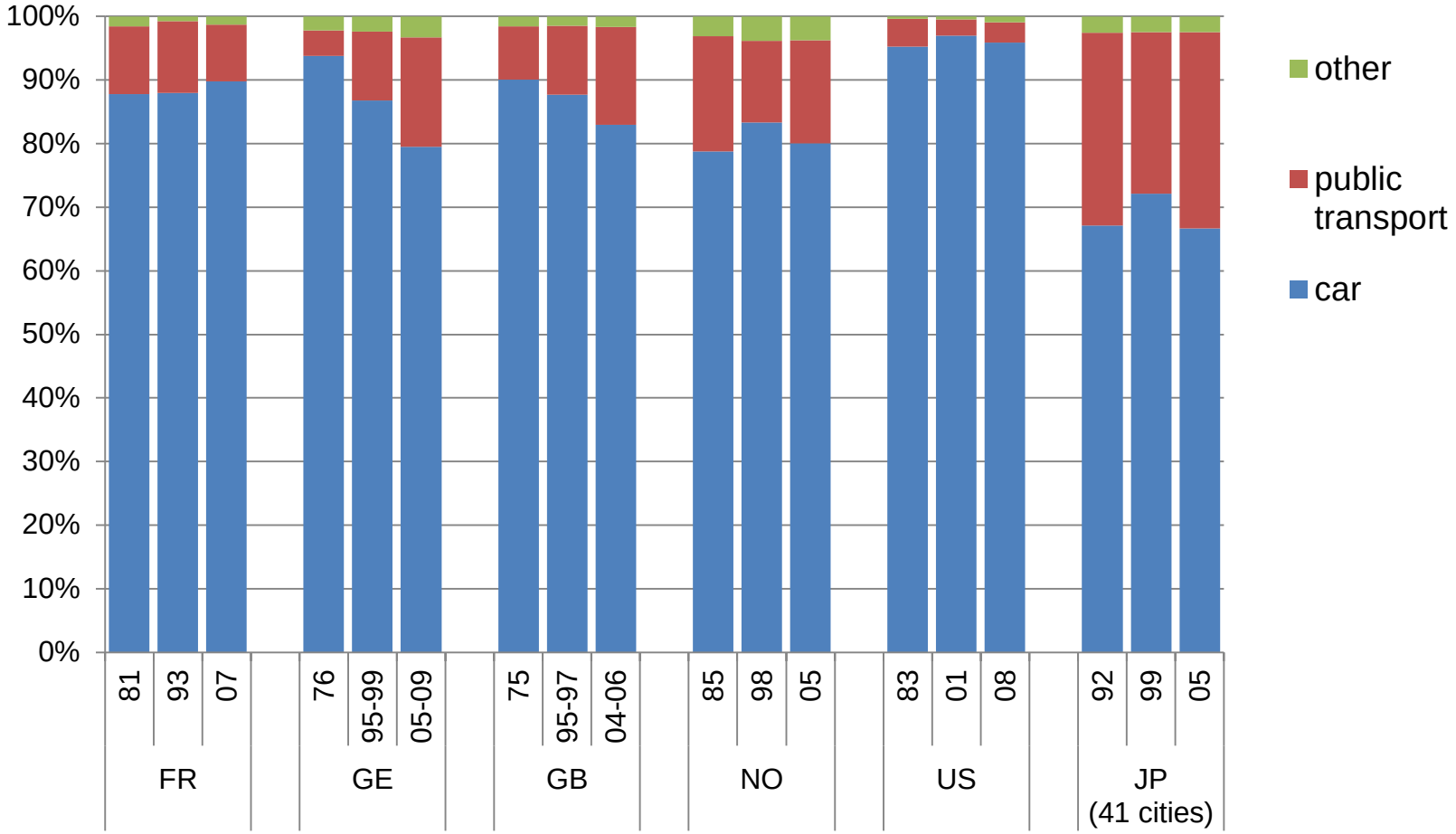
Modal split



- Car dominant in USA
- Car share has declined recently except Japan

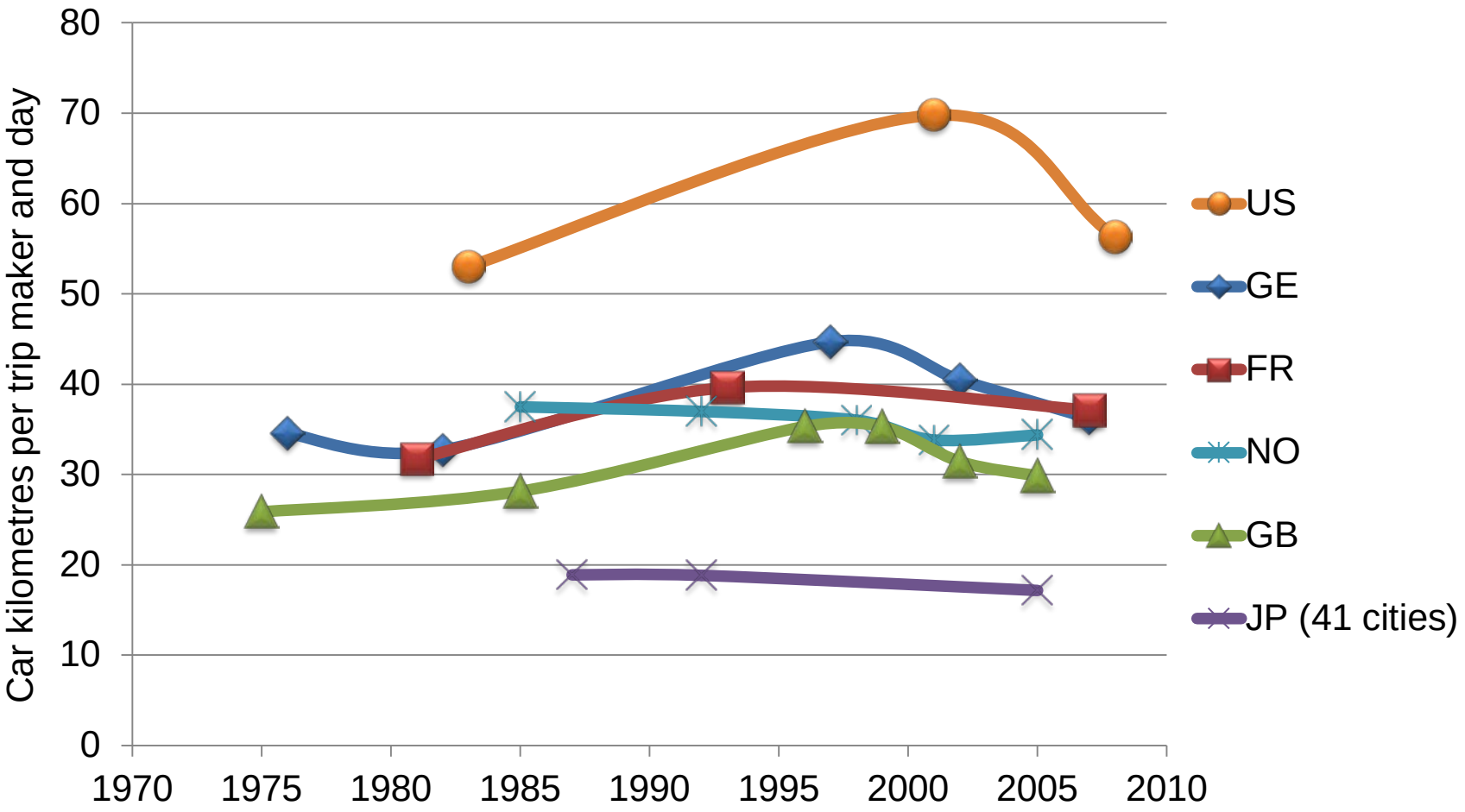
Multimodality

- Share of mileage by those with car availability



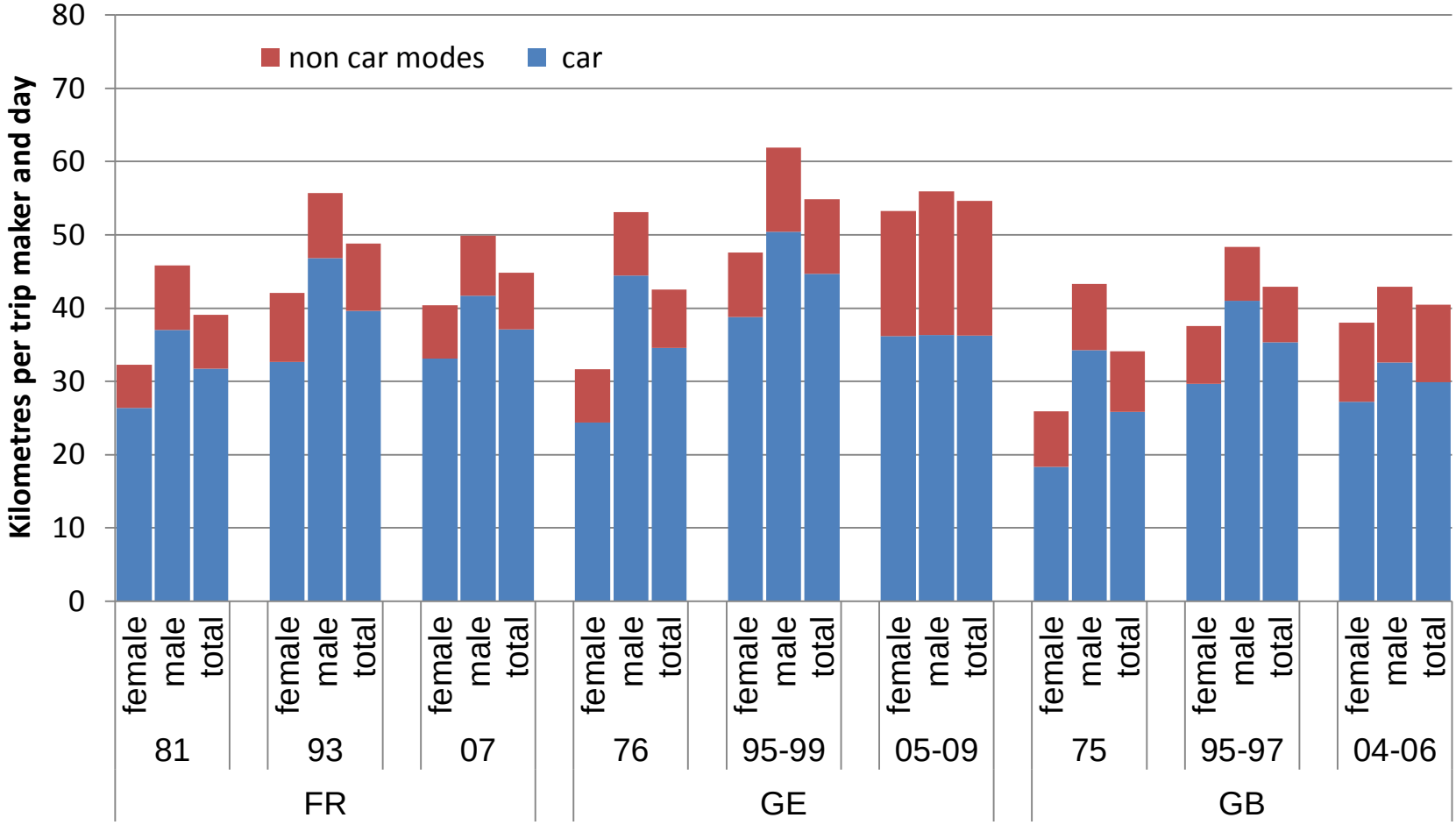
- No multimodality in USA
- High multimodality in Japan (partly by survey area)

Car mileage



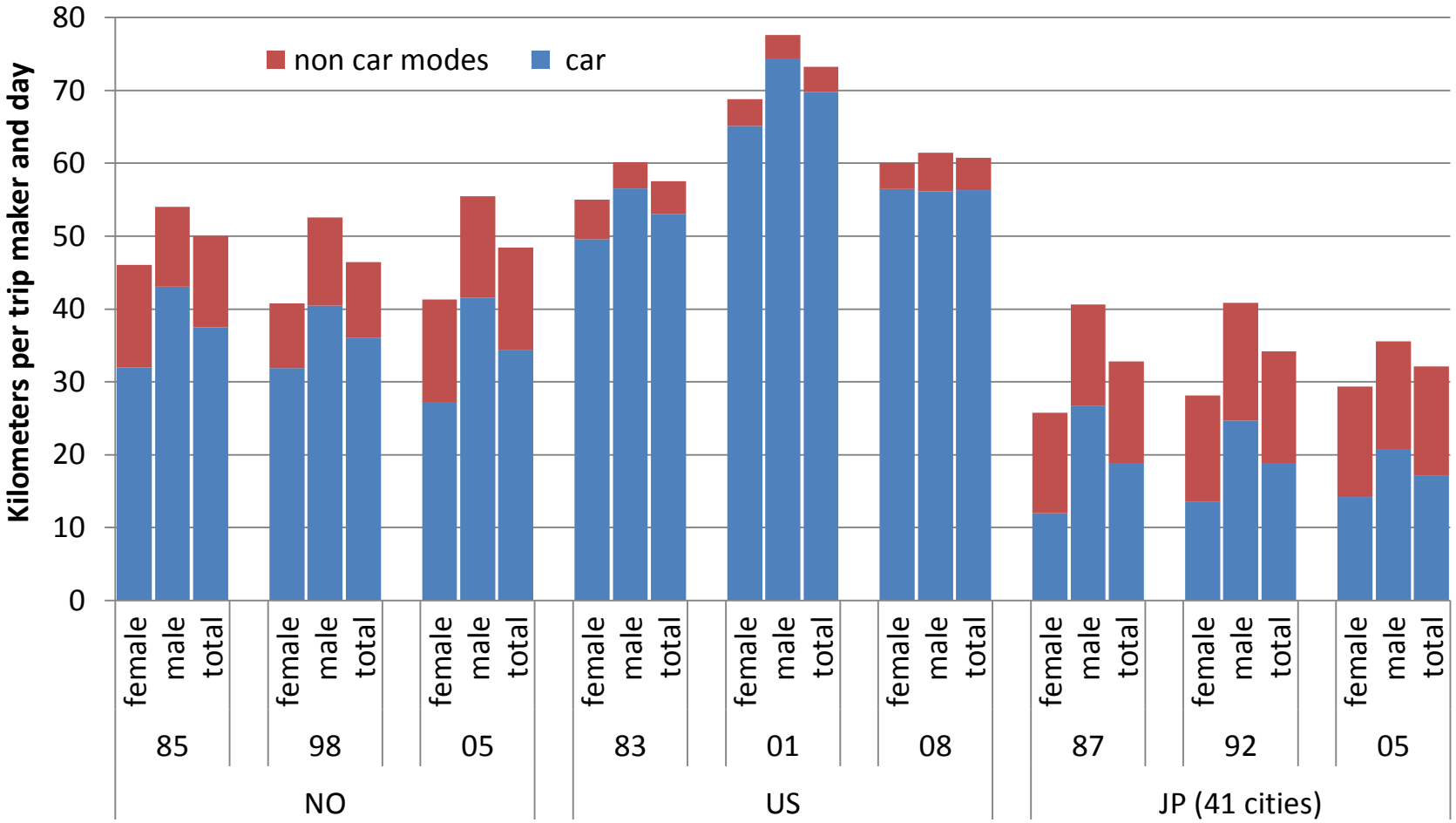
- Low in Japan (partly by survey area)
- Germany & Great Britain peaked in late 1990s
- Decline in 2008 for USA (high fuel price & economic crisis)

Car mileage & total mileage by gender



- Men reduced car mileage more strongly than women
- Only German shifted to alternative modes significantly

Car mileage & total mileage by gender



- Gender gap has narrowed significantly except Norway
- Car mileage of women continued to grow in France & Japan

Possible explanations

- Socio-economic changes
  - Increasing share of receiving tertiary education
  - Decreasing workforce participation
  - Increasing age for starting a family
  - Increasing share of urban population
- Factors with possible impacts
  - Fuel price increases except Japan
  - Policy measures discouraging driving
  - Developments in long-distance travel (LCC air & high speed rail)
  - Psychological factors: environmental awareness and pragmatism in mobility choice
  - Impact of ICT

Conclusions

- Access to cars has decreased, particularly for men
- Car mileage has also decreased, particularly for men
- In France, Japan and USA, decrease in car travel has led to lower overall mileages
- In Great Britain and Germany, decrease in car travel was compensated by increased use of alternative modes

Three potential factors in Japan

Miwa, Y. (2011). Study on change in car ownership behavior of young people, Master thesis, Department of Civil Engineering, Nagoya University (in Japanese)

Three potential factors and Data

Three potential factors (M1F1 Research Institute, 2007)

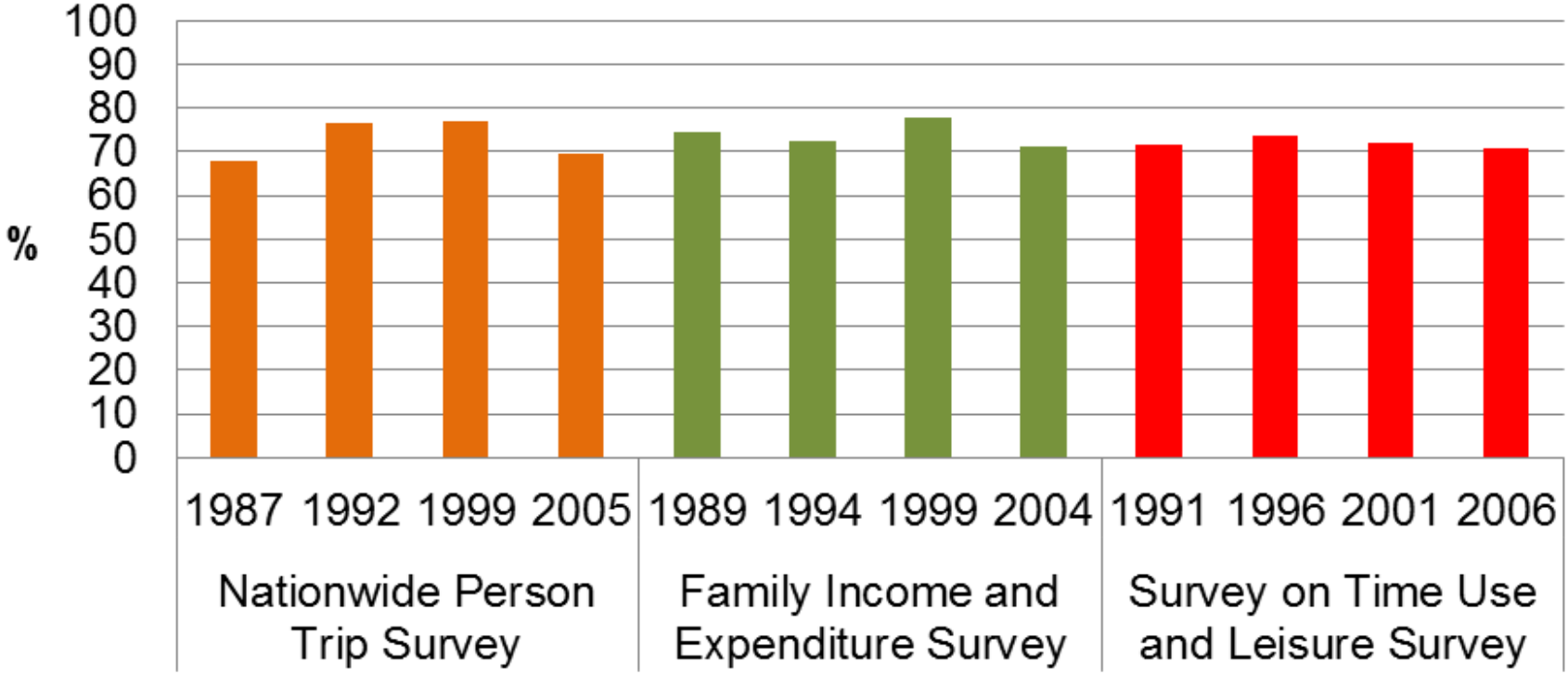
- Convenience of transit at metropolitan areas
- Financial constraint
- Diversification of hobby

Data

- Nationwide Person Trip Survey
- Family Income and Expenditure Survey
- Survey on Time Use and Leisure Activity

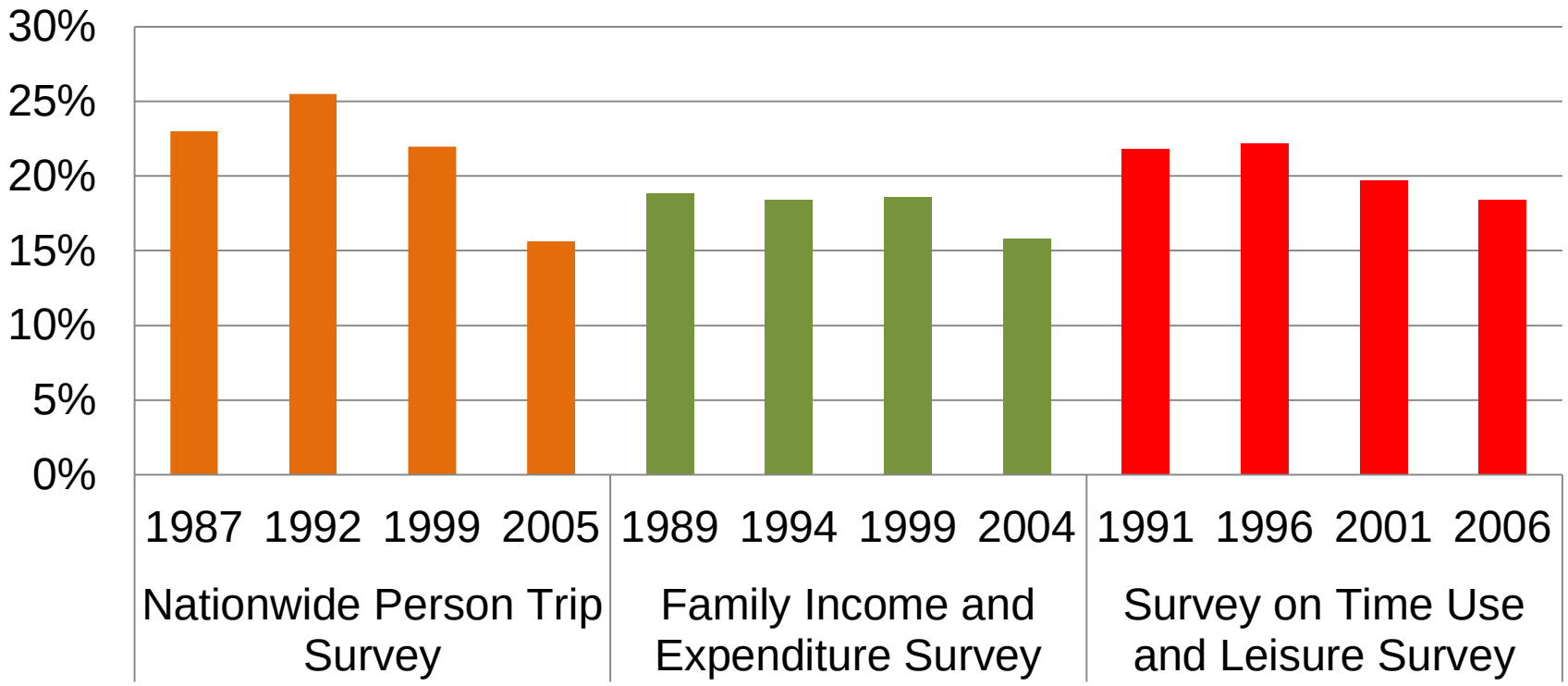
Household car ownership rates

- Household with household head of twenties



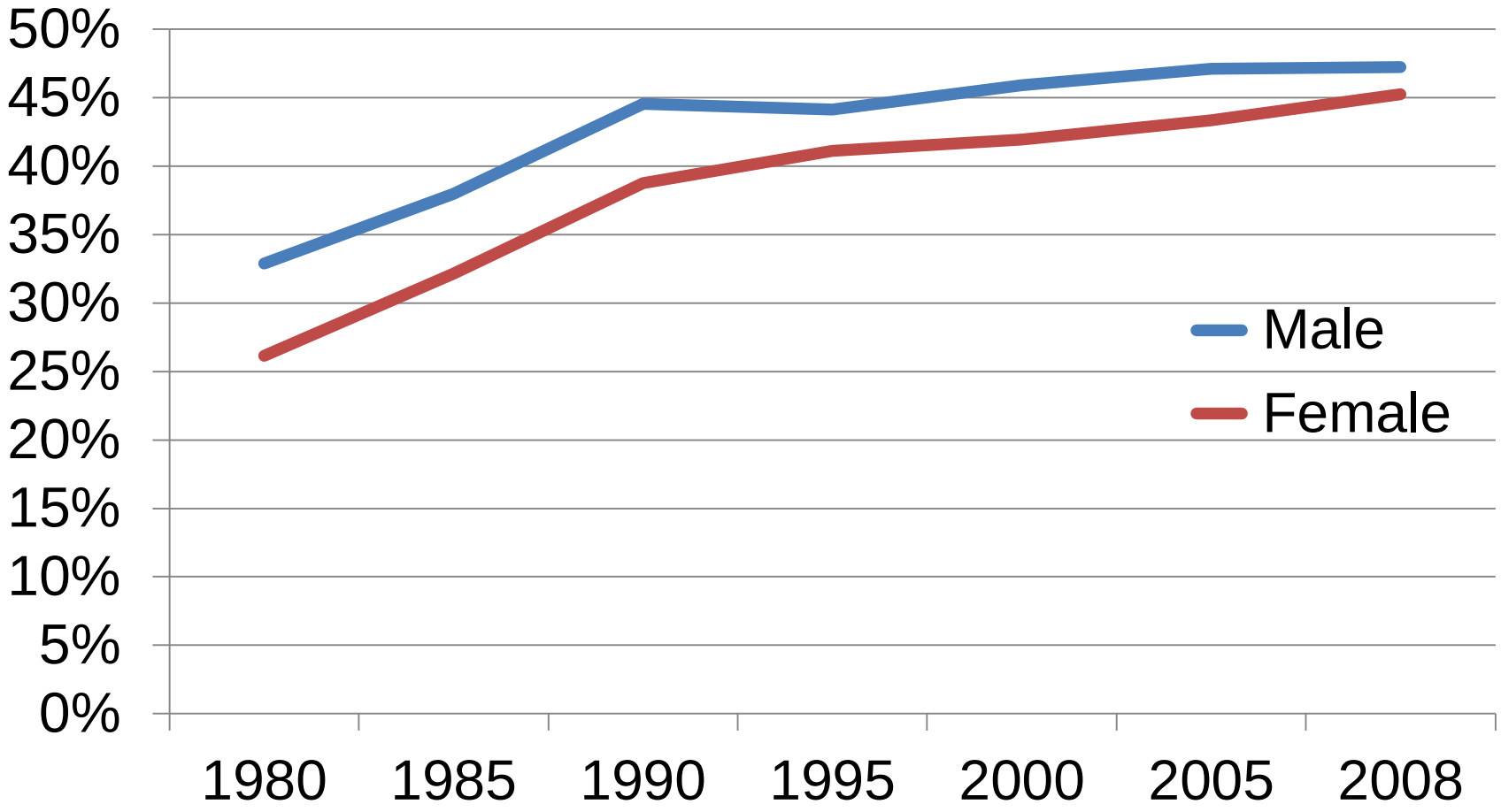
- Slight variation among surveys, but decreases in this century

Rate of household head in twenties



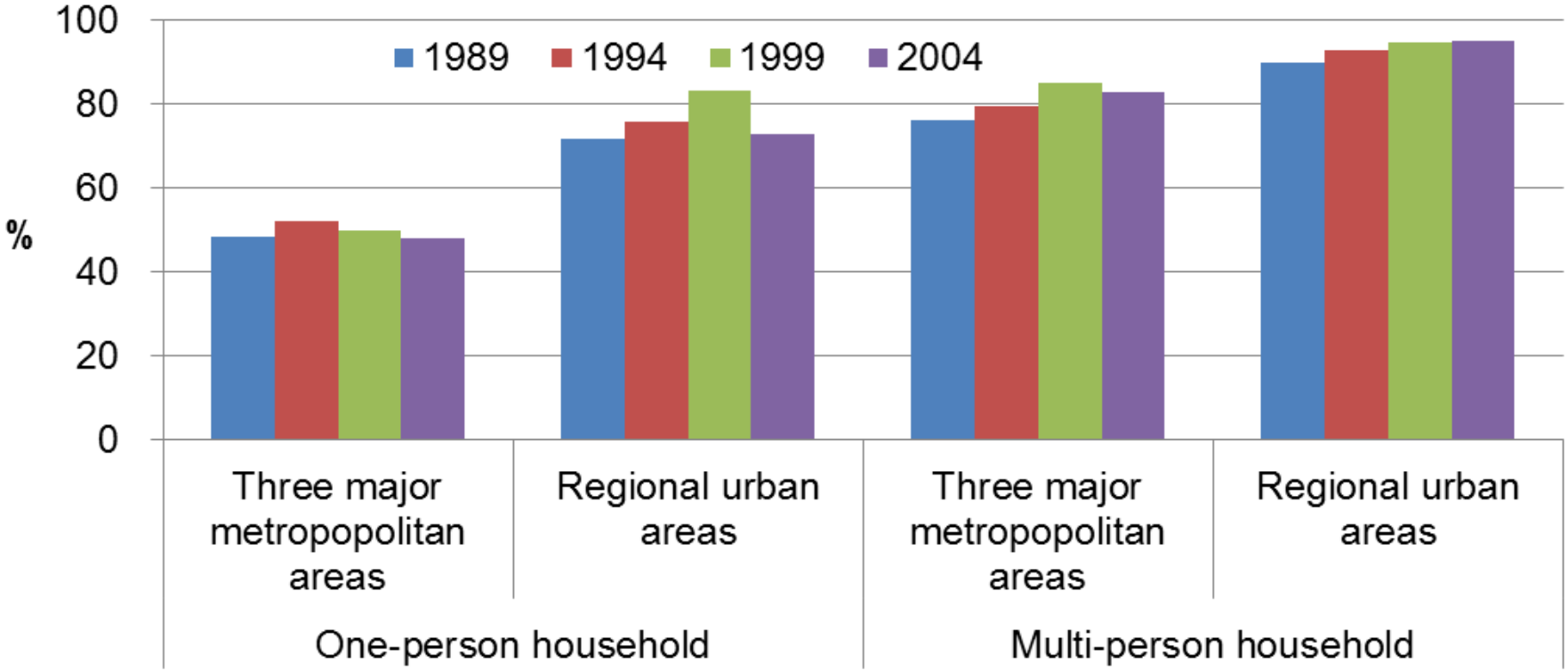
- Increasing age for starting a family

Share of unmarried people living with their parents (20 to 34 years old)



- Access to cars of parents?

Car ownership by region

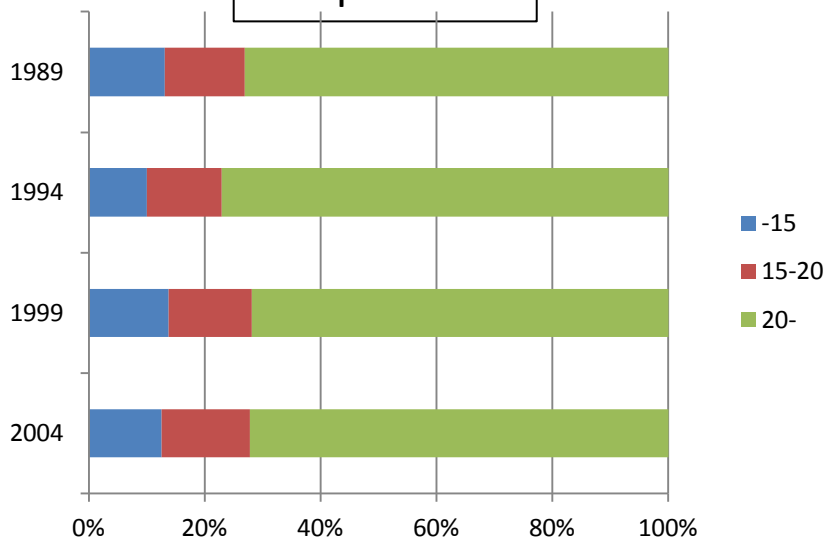


- Lower and decreasing at three major met. areas
  - Public transit & cost for parking space?

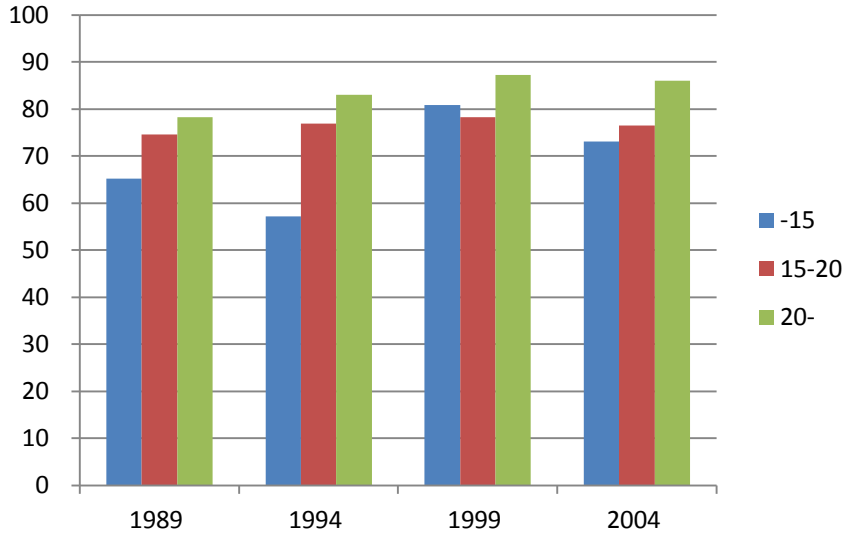
Car ownership of multi-person household by disposable income

Three major metropolitan areas

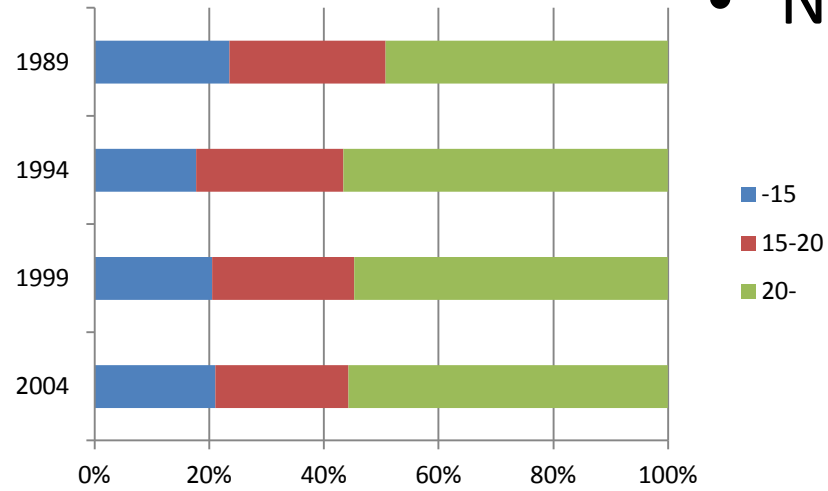
Sample share



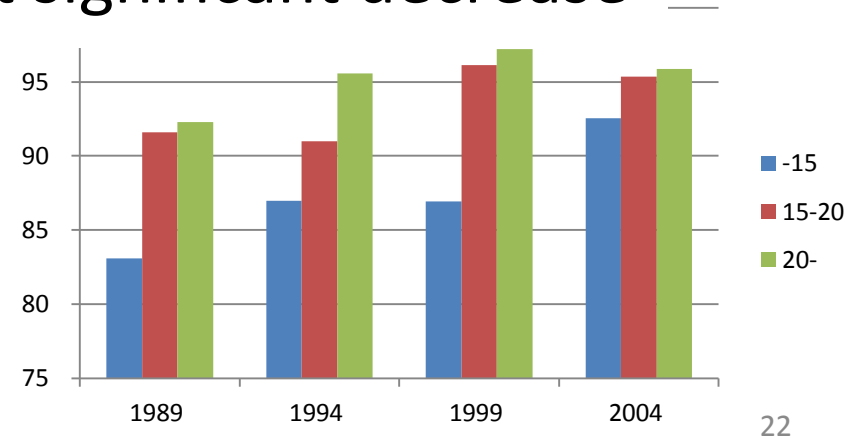
Car ownership rate by disposable income



Regional urban areas



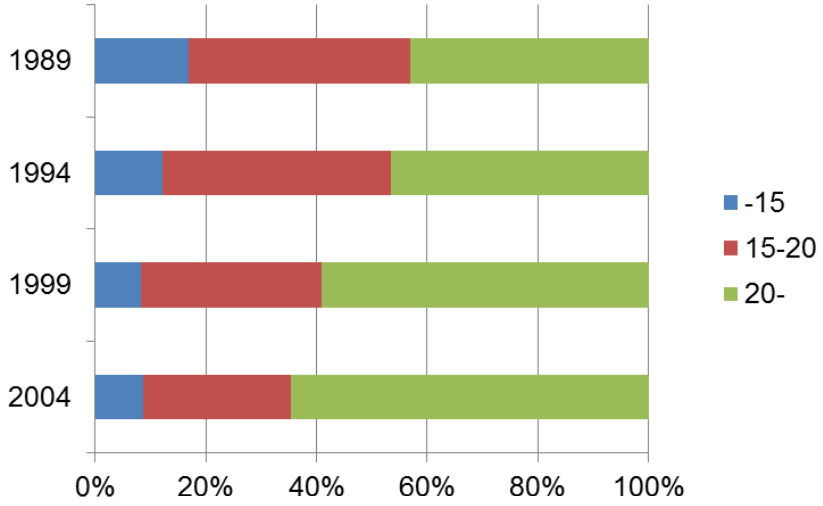
- Not significant decrease



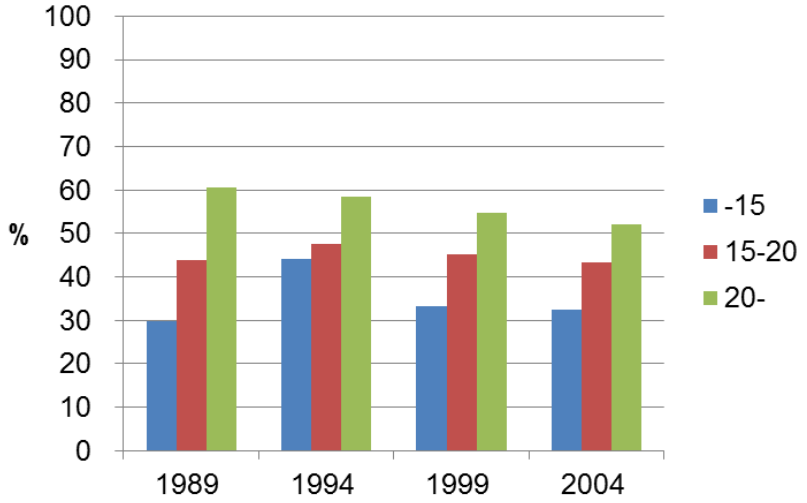
Car ownership of one-person household by disposable income

Three major metropolitan areas

Sample share

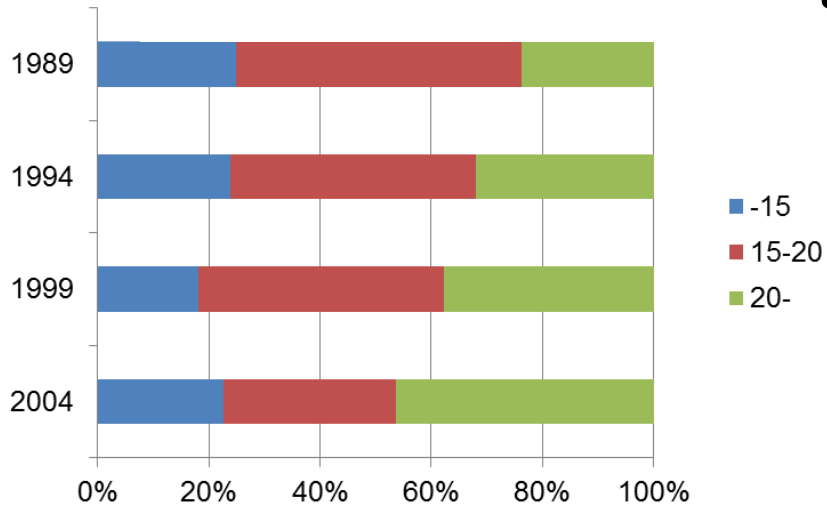


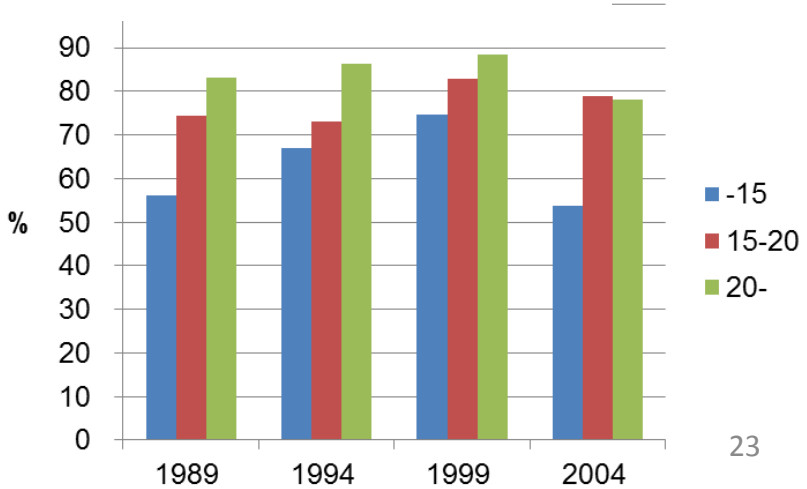
Car ownership rate by disposable income



- Decrease even in high income household

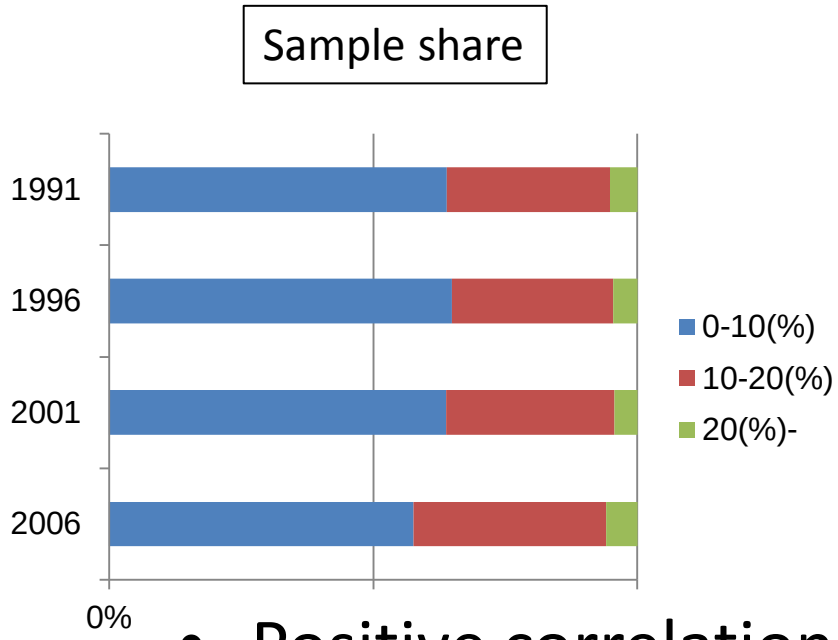
Regional urban areas

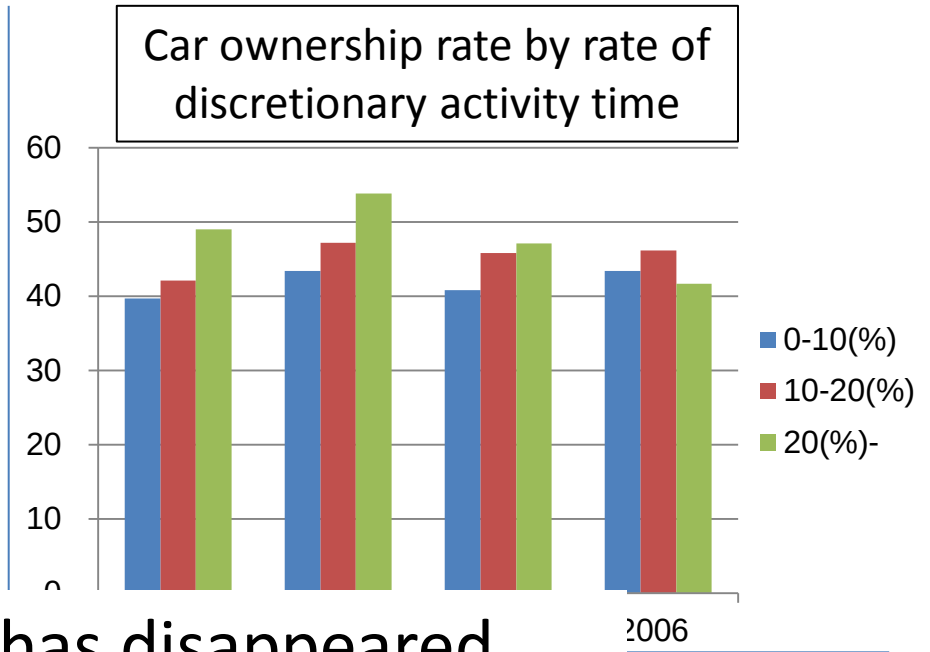




Car ownership by rate of out-of-home discretionary activity time on holiday

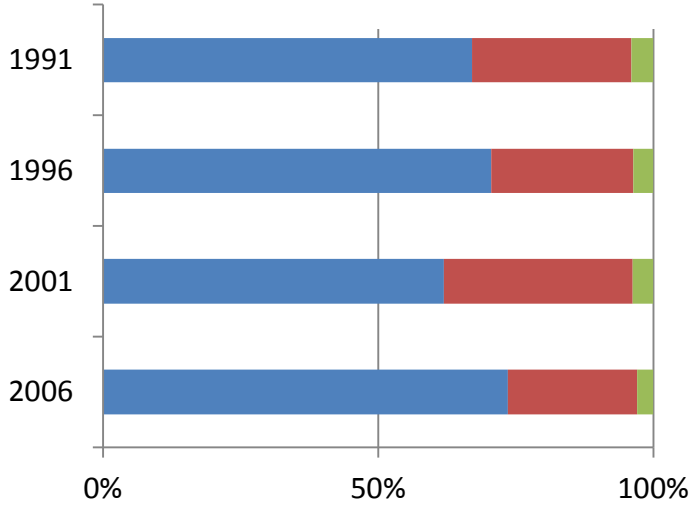
Three major metropolitan areas

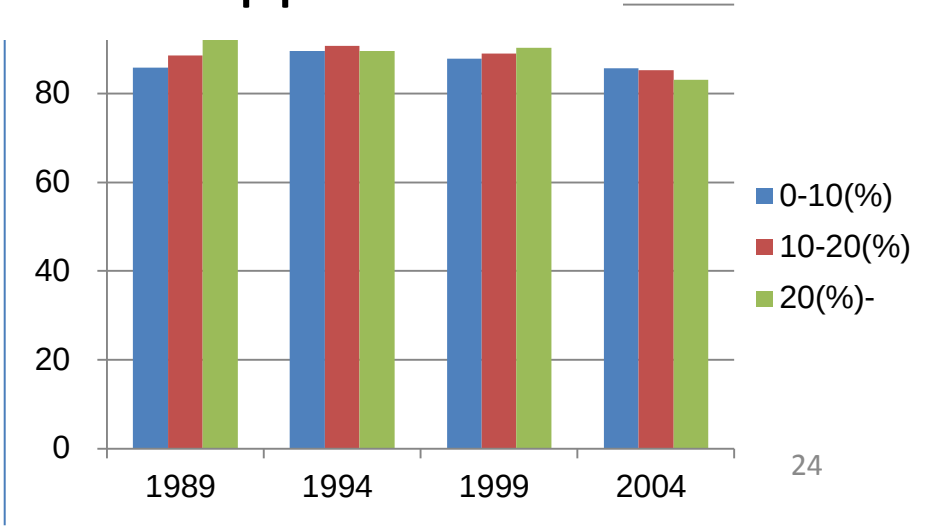




- Positive correlation has disappeared

Regional urban areas





Product & service interests ranking for young adults (JAMA, 2009)

	20 yrs ago (40s to 50s)		10 yrs ago (20s to 30s)		Current college students	
1	Fashion	35.7%	PC	50.7%	PC	62.1%
2	Domestic trip	34.0%	Fashion	47.7%	Fashion	53.9%
3	Eat out	32.0%	Telecom device	39.7%	Potable music player	50.6%
4	Book	31.7%	Domestic trip	37.3%	Telecom device	49.9%
5	Music	31.3%	Music	37.0%	Domestic trip	44.0%
6	Movie	27.2%	Eat out	33.7%	Music	43.7%
7	**Car**	**27.0%**	Overseas trip	32.7%	Book	42.9%
8	PC	25.7%	Potable music player	31.0%	Animation/Manga	42.0%
9	Overseas trip	23.7%	Book	31.0%	Game	38.4%
10	Audio	20.3%	**Car**	**25.3%**	Eat out	37.6%
					17 **Car**	**22.8%**

Conclusions

On three potential factors

- Convenience of transit at metropolitan areas
  - Consistent with data for one-person household
- Financial constraint
  - Not significant
- Diversification of hobby
  - Supported by data

Policy implications

- We do not know whether
  - this new generation of travelers maintains their novel travel patterns as they age, or
  - they simply return to the more auto-oriented mobility styles of their predecessors later in life

- Policy measures to encourage them to keep their travel patterns
  - At starting a family
  - Car availability without owning: carsharing