

Symposium: The Future of Personal Transport Vehicles in China

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**Issues Relating to Personal Vehicle
Expansion in China**

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Auto Industry Policy in China

- Designated as a “pillar” industry, an engine of the national economy.
- Foundation for the policy: sheer size of potential domestic market for personal vehicles, and rising personal incomes.

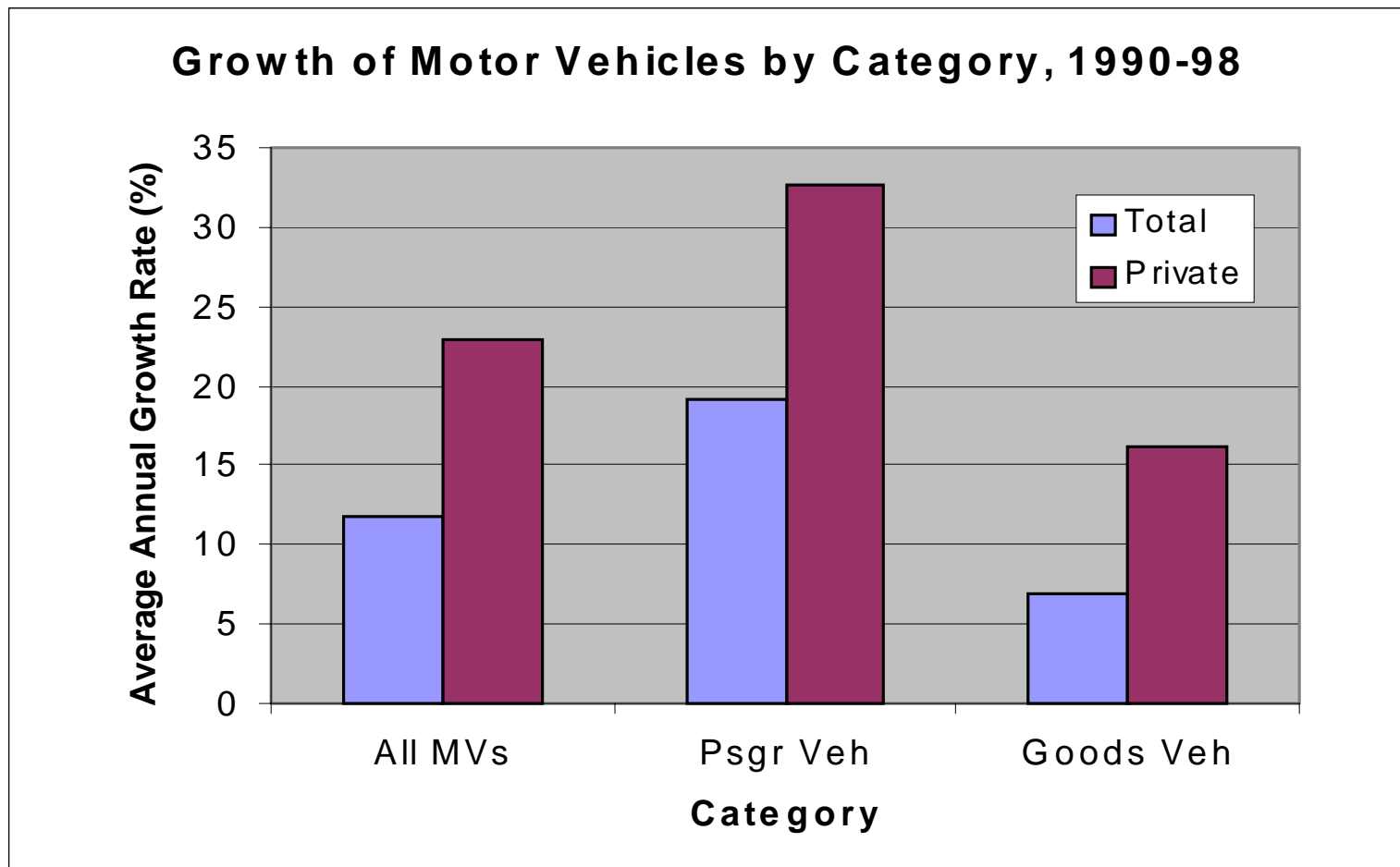
Various concerns arise ...

- Central government: auto industry for economic growth.
- Auto manufacturers: how to produce a popular family car that is competitive to foreign made cars before China's accession to WTO.
- Environmentalists: pollution, energy shortages, and land scarcity. (Their voice is growing strong.)
- Municipal governments: road infrastructure, parking space, land use, air quality, traffic accidents, transport equity issue, etc.

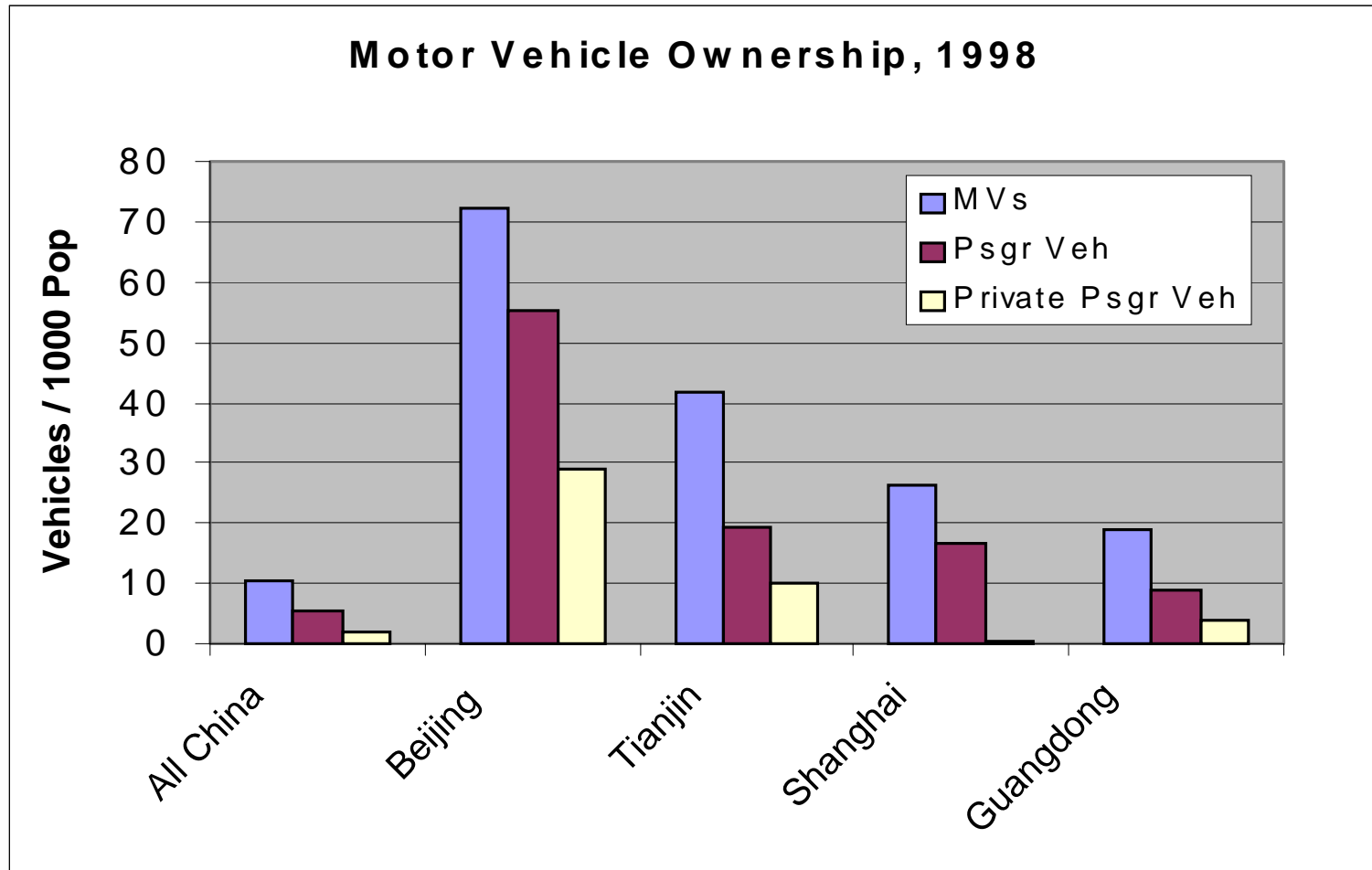
Political economy matters ...

- Personal vehicle expansion is a process of lifestyle changes, involving gainers and losers.
- Public policy and decision making in China is decentralizing.
- Technological and policy options to manage personal vehicle expansion should be explored in the context of political economy.

Growing motorization



Spatial distribution of motorization: An urban issue



Adverse impacts of motorization

- Emissions: 70% of air pollution in Beijing are from auto emissions.
- Congestion
- Road traffic accidents:
Fatalities in 1998:
Beijing (1,478), Shanghai (781),
Tianjin (851), and Chongqing (1,035).

“A macro policy without the support of micro environment”

- 1994 SPC study predicted that demand for passenger cars would reach 1.3 to 1.6 million in year 2000.
- Actual demand in 2000: 700,000 passenger cars.
- Some urban governments continue to exercise control on vehicle ownership and use.

Personal vehicle expansion: international empirical evidence

- Personal incomes are the most important determinant of private car ownership.
- Income elasticities of private car ownership: > 1.0 long run, and < 1.0 short run.
- Price elasticities of private car ownership, typically smaller than income elasticities, and < 1.0 (in absolute terms).

Provision of inter-city highways

- Paved roads expand as fast as incomes.
- Highway development in China
- Total length of expressways has reached 12,000 km by end of 2000.
- Inter-city highway financing is linked with auto ownership and use.

Urban transport problem is most complicated.

- Transport and land use.
- Motorization, congestion, public transit declines, bicycles.
- Can we build out of congestion?
- Impact of urbanization?

Evolution of urban land use pattern in China

- Municipality: central city and suburban counties.
- Compact form of land use suitable for walking and bicycling: a traditional form and a central planning model.
- Urban land market formation and housing market development.
- Rapid expansion of urban land use and declines in population density.

How do cities deal with motorization?

- Build, build, build (mainly roads).
- Metro development (financial sustainability?)
- Public transit reform and bus priority.
- Traffic management.
- Demand control.
- Congestion pricing?

Beijing vs. Shanghai

- Beijing: Over 1.5 million MVs, 4 ring roads.
- Shanghai: less than 600,000 MVs, 1 ring road, SN, EW, Metro, and much more ...

Scenarios for a smaller but good-sized city

- Central city residential population:
 - over 2 million, 13
 - 1 to 2 million, 24
 - 0.5 to 1 million, 48
 - 0.2 to 0.5 million, 205
- Some coastal cities, especially those with affluent suburban counties, might be highly susceptible for land use and lifestyle changes.

Summary

- Think small, plan carefully, and manage prudently.
- Auto ownership is different from auto use.
- Two questions to consider:
 - What is a popular family car?
 - What would be the impact on world fuel prices if car ownership reaches 100 million in China?