

Hong Kong's Health Spending – 1989 to 2033



Gabriel M Leung

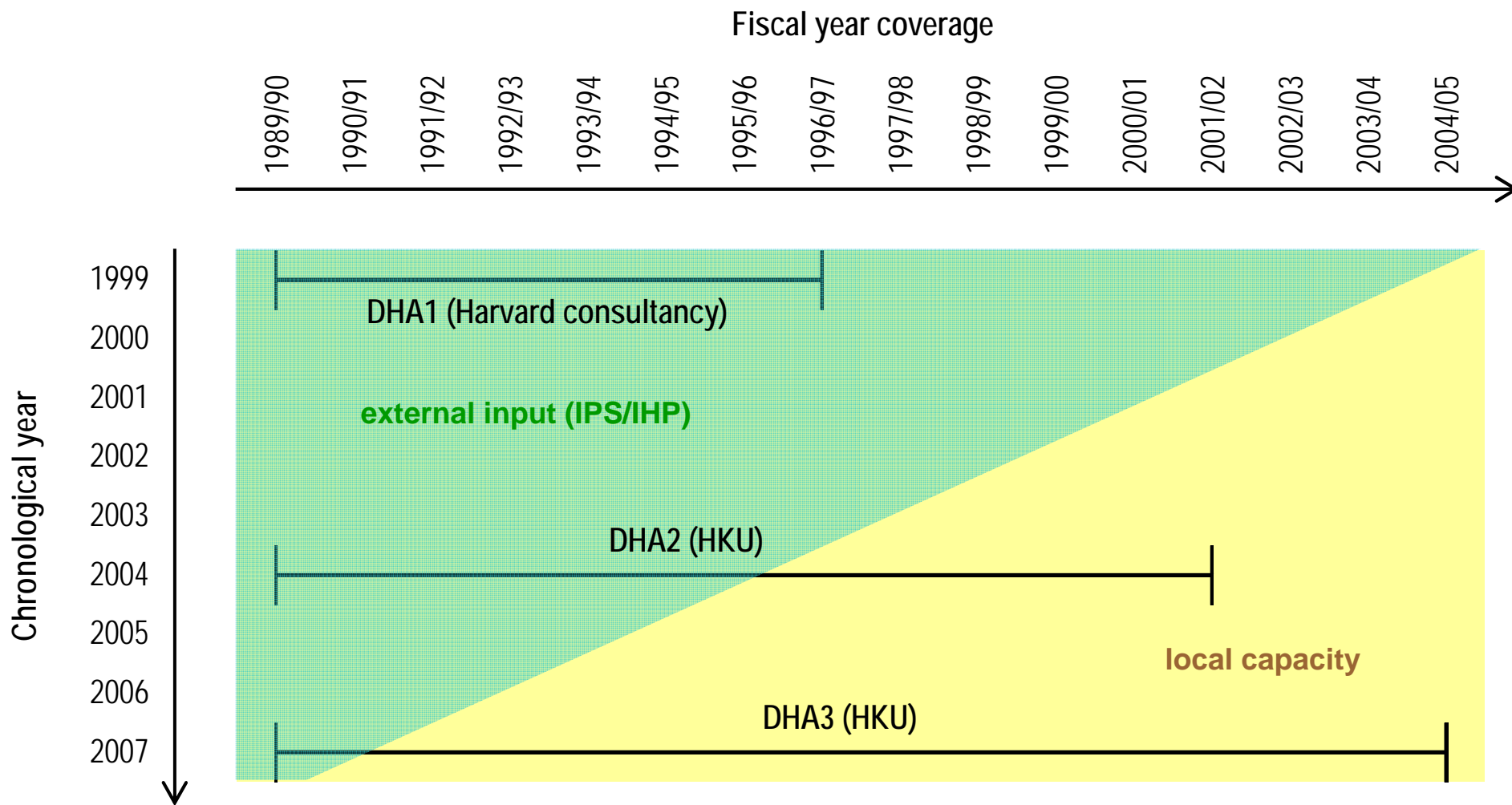
**School of Public Health
The University of Hong Kong**

What are Domestic Health Accounts?

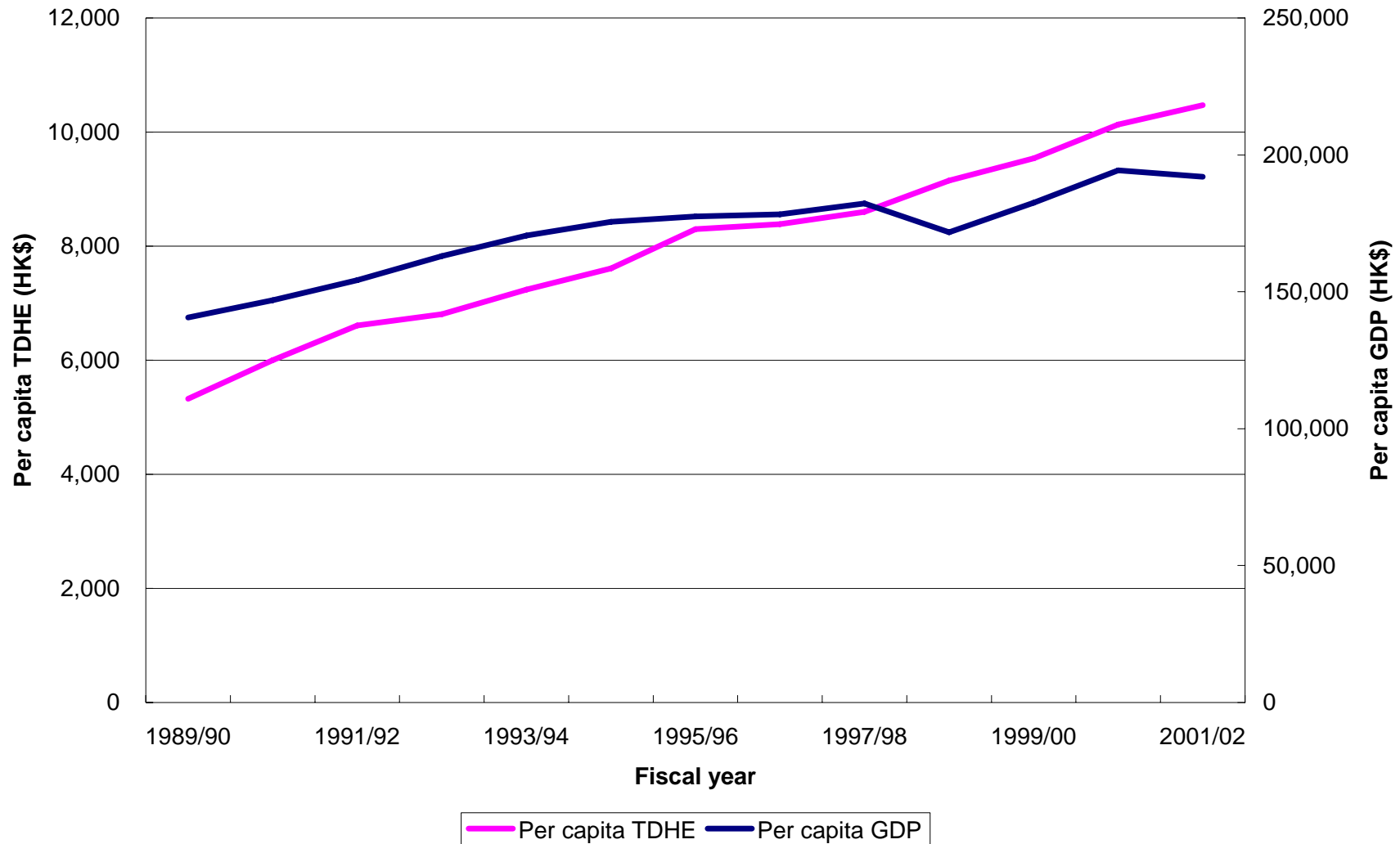
- Methodology used to determine a territory's health expenditure patterns
 - OECD's *System of Health Accounts*
 - compatible with other macroeconomic statistics eg National Income Accounts
- Describe the flow of funds through a health system
 - Who finances health care?
 - How much do they spend?
 - Where do their health funds go, i.e., what is the distribution among providers and ultimately among services provided?
 - Who benefits from this health expenditure pattern?

The 3 Principal Dimensions

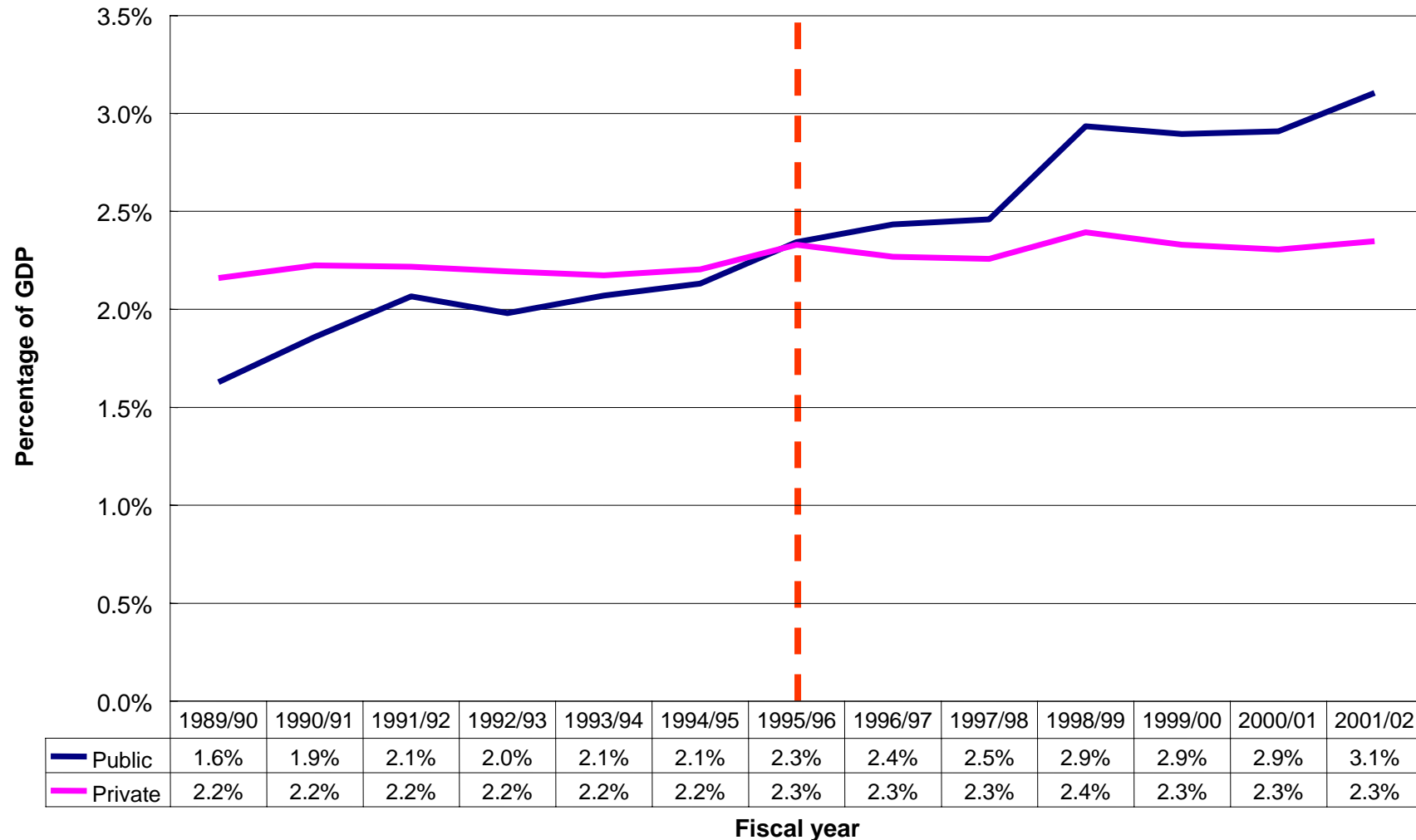
- Financing Sources: provide health funds
 - Answer “where does the money come from?” e.g., GGR, households, external sources
- Providers: are end users of health care funds, entities that actually provide / deliver the health service
 - Answer “Where did the money go?” e.g., hospitals, clinics, pharmacies
- Functions: are actual services delivered
 - Answer “What type of service was actually produced?” e.g., curative care, preventive care, medical goods



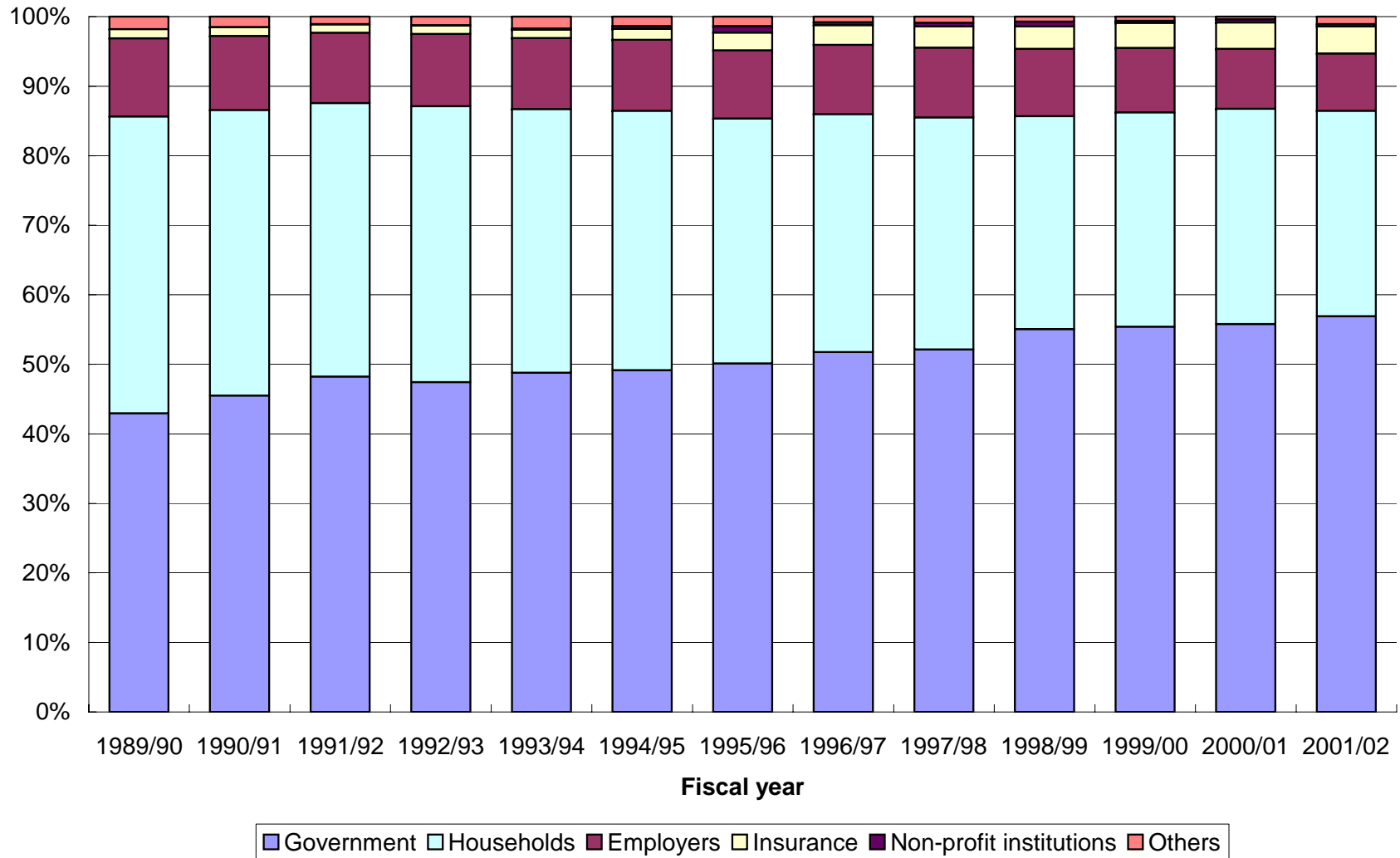
Trends in Health Spending Compared with GDP Per Capita



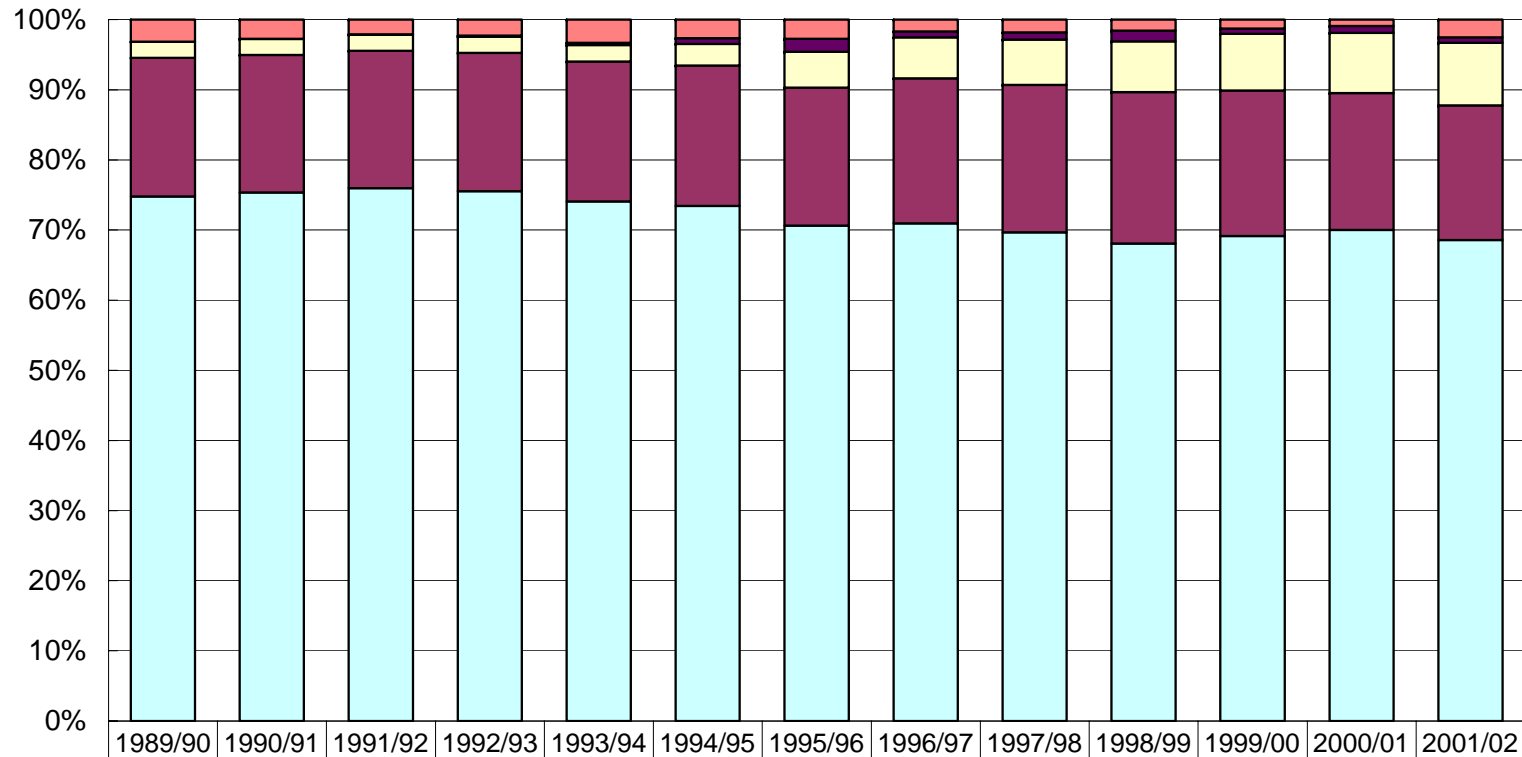
Public and Private Spending as a % of GDP



Mix of Health Financing

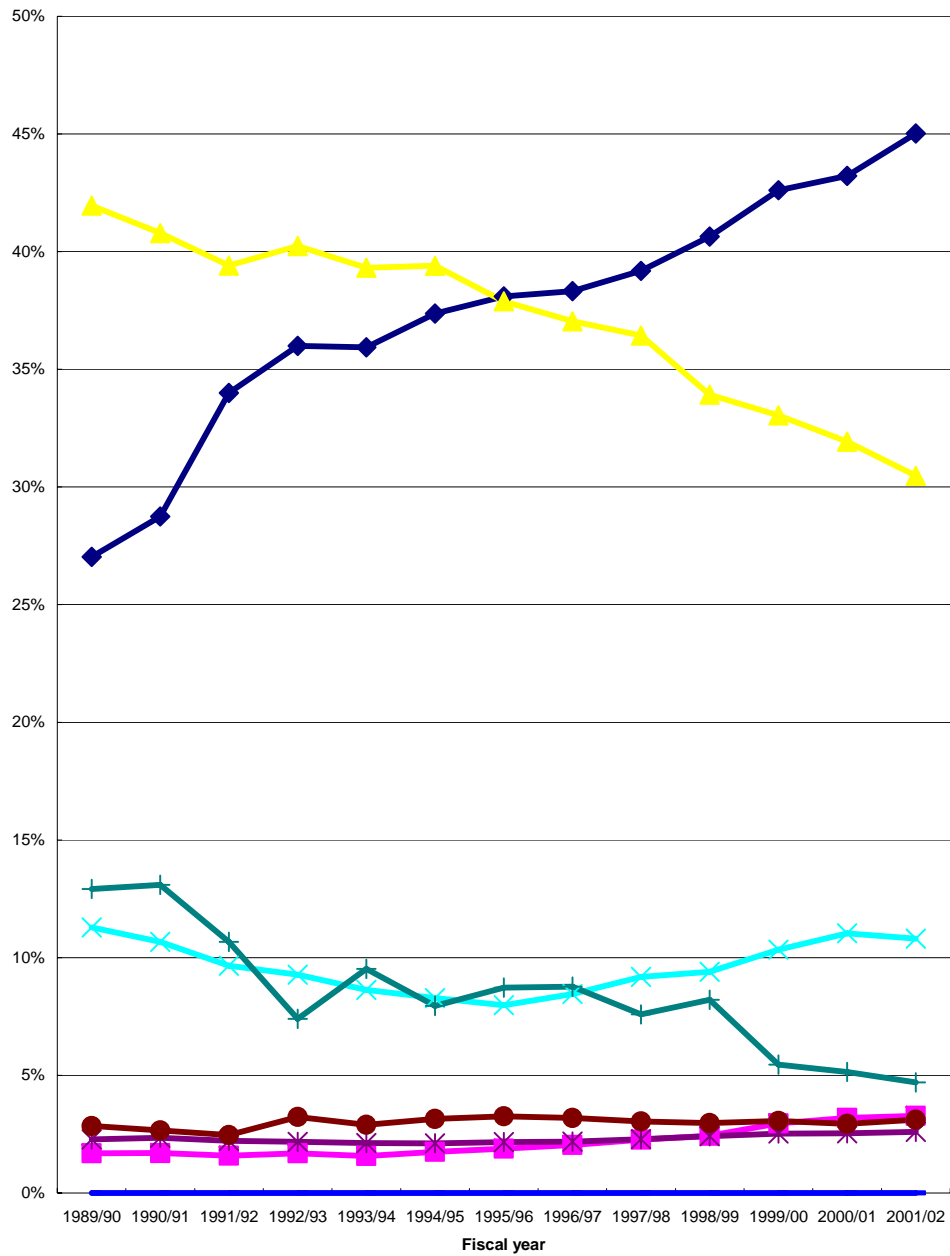


Private Spending by Source

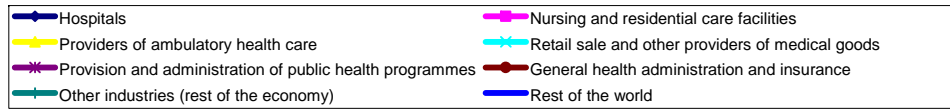


Others	3%	3%	2%	2%	3%	3%	3%	2%	2%	2%	1%	1%	3%
Non-profit institutions	0%	0%	0%	0%	0%	1%	2%	1%	1%	2%	1%	1%	1%
Insurance	2%	2%	2%	2%	2%	3%	5%	6%	6%	7%	8%	9%	9%
Employers	20%	20%	20%	20%	20%	20%	20%	21%	21%	22%	21%	20%	19%
Households	75%	75%	76%	76%	74%	73%	71%	71%	70%	68%	69%	70%	69%

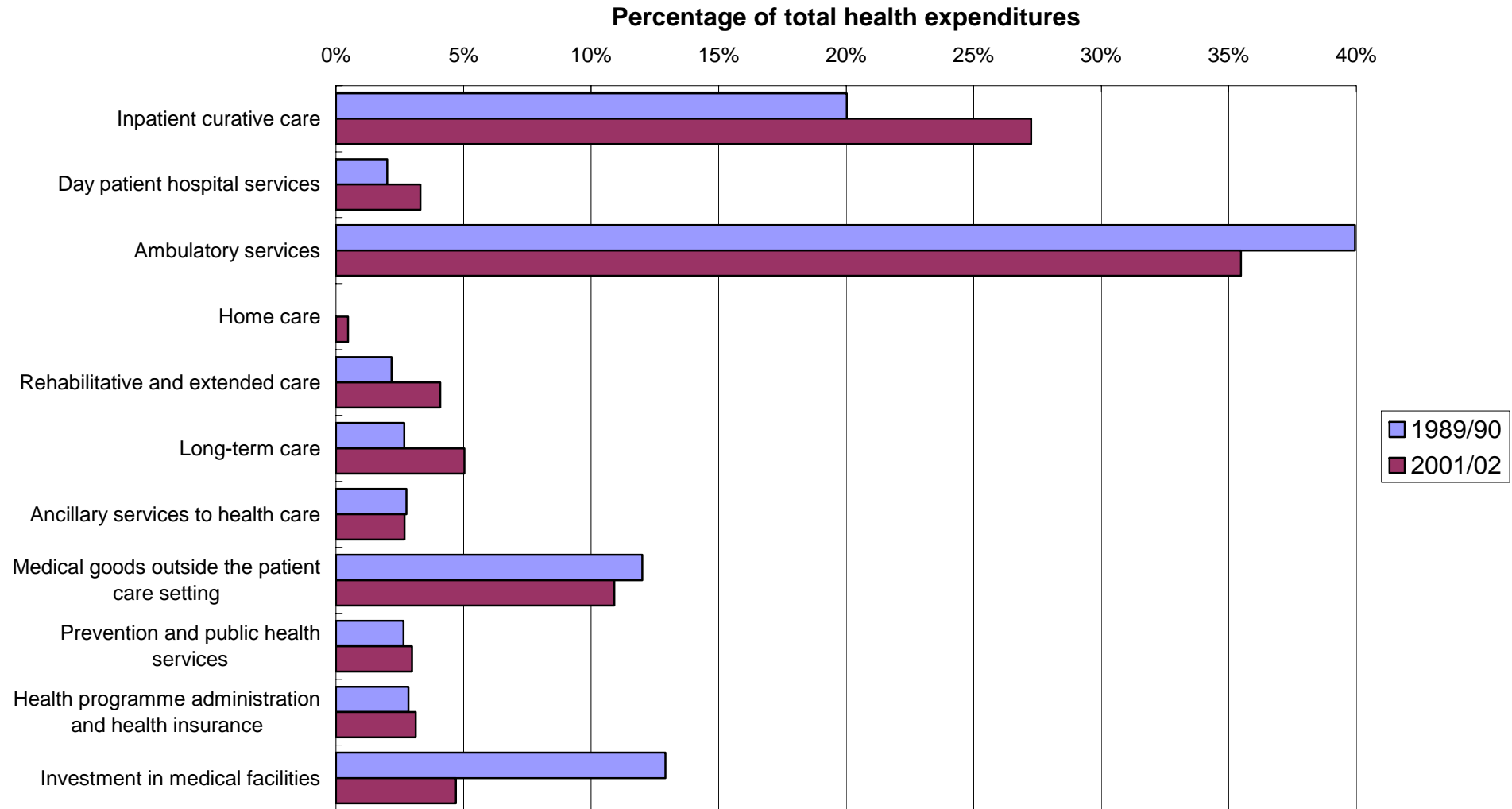
Fiscal year



Total health expenditure by provider, 1989/90 and 2001/02



Total health expenditures by function, 1989/90 and 2001/02



ORIGINAL ARTICLE

GM Leung 梁卓偉
KYK Tin 田耀基
RYT Yeung 楊宇霆
R Rannan-Eliya
ESK Leung 梁巖秀娟
DWS Lam 林慧珊
SV Lo 羅思偉

Domestic health expenditure in Hong Kong: 1989/90 to 2001/02

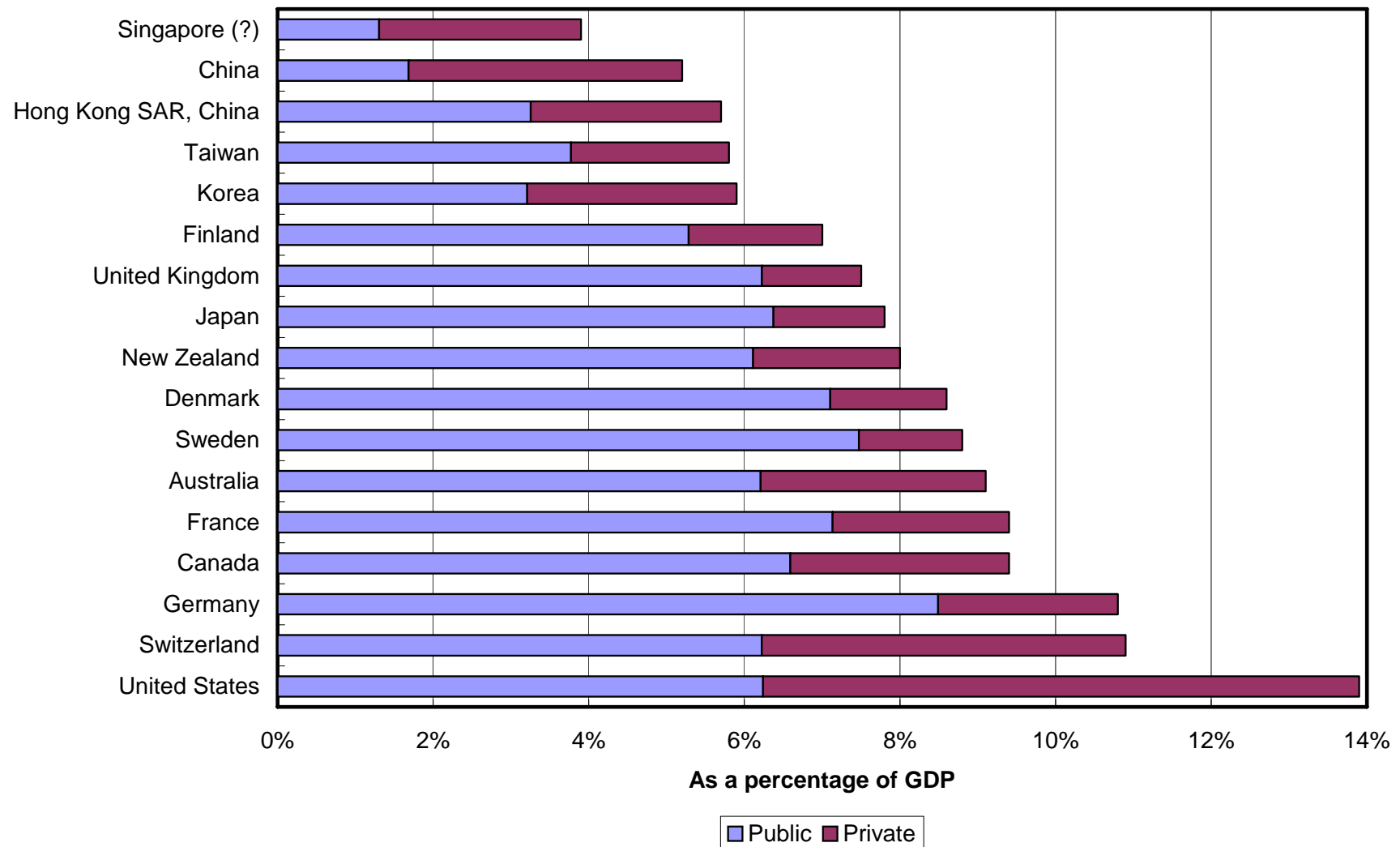
1989/90至2001/02年度香港本地醫療衛生開支

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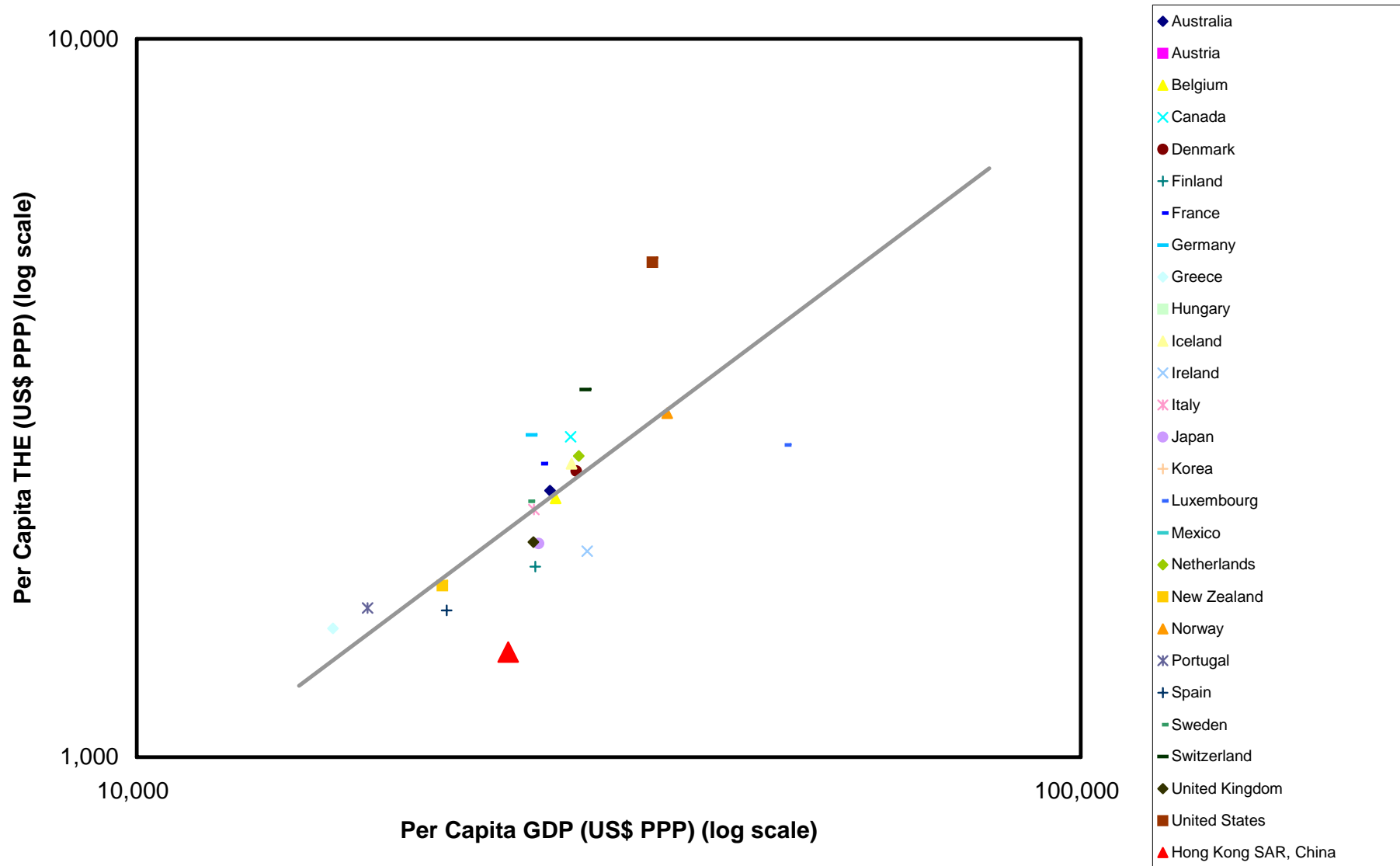
Hong Kong Med J 2006;12:47-55

<http://www.hwfb.gov.hk/statistics/en/dha.htm>

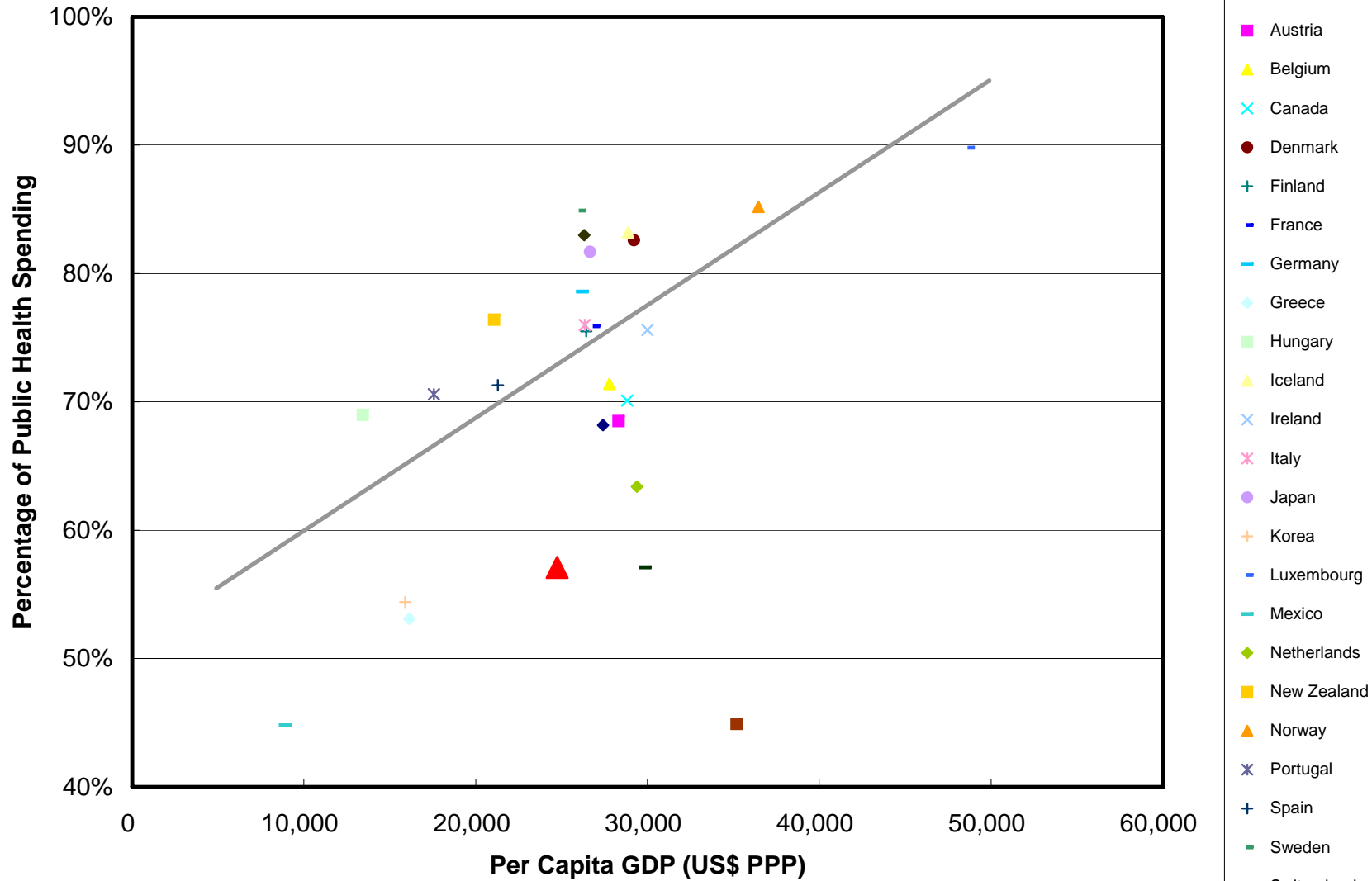
Total Expenditures on Health of OECD Countries and Hong Kong, 2001



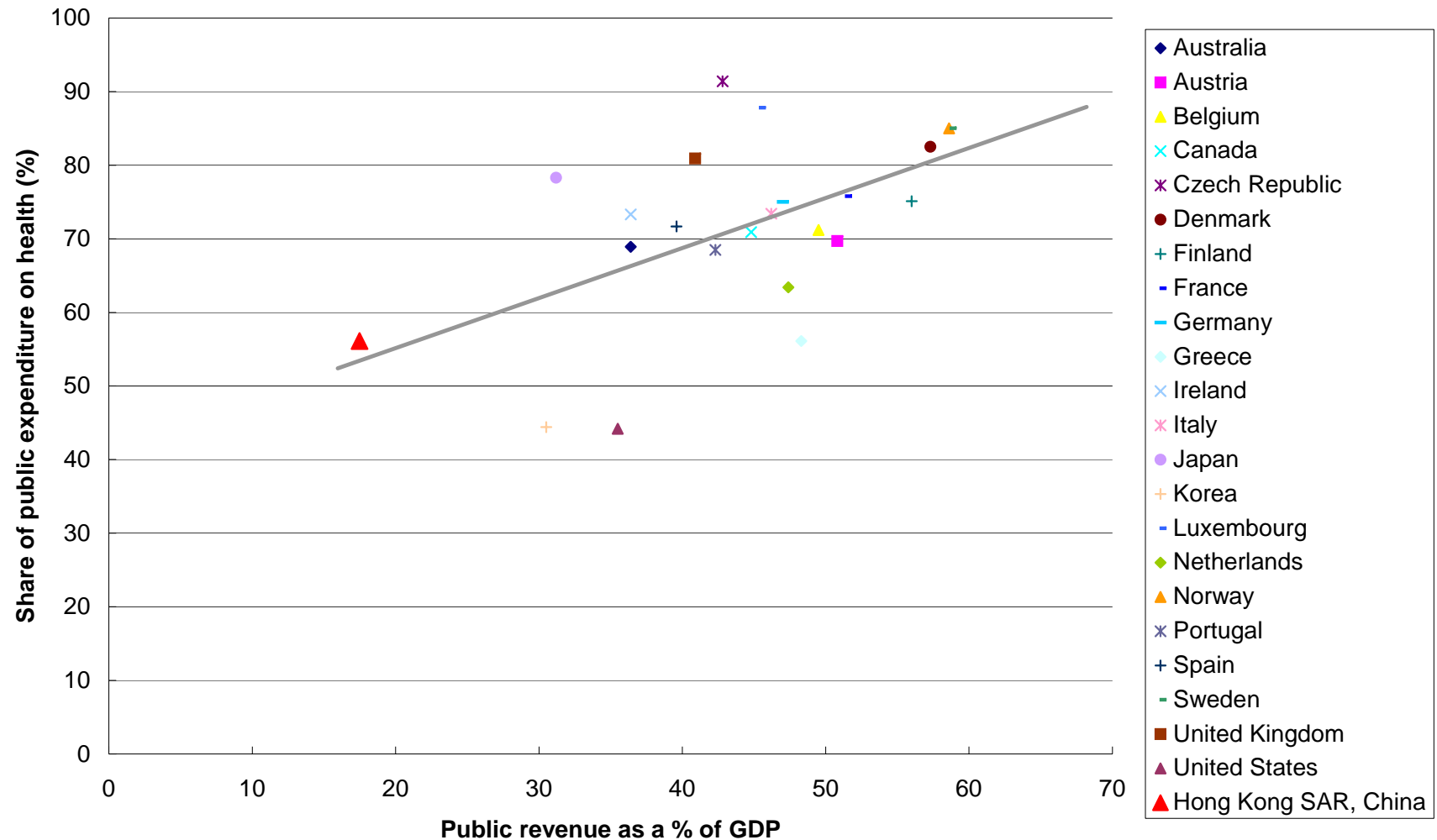
Most countries use the fruits of economic development to invest in health...



...mostly through public financing



...but compare the different levels of public revenue between countries



Projection method

- Wanless projection method of the UK Treasury
- Key cost drivers
 - Age
 - Sex
 - Unit cost*

*incorporating the impact of certain key drivers of health care expenditure such as public's expectations, technological changes and potential productivity gains

- Activity level** (or volume)

**implied by demographic change and assuming that age-sex-specific use and quality of care remain constant

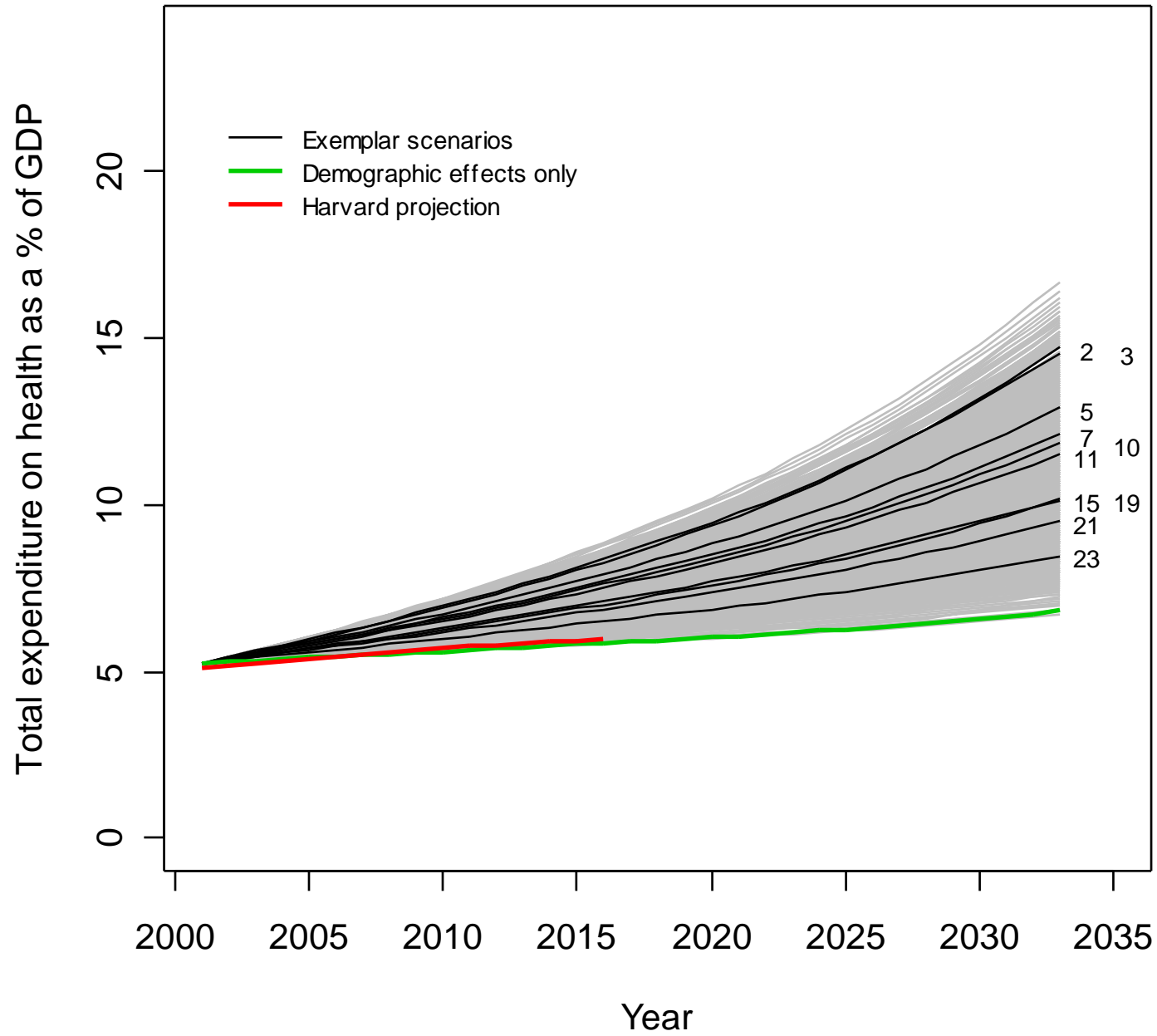
Input parameters

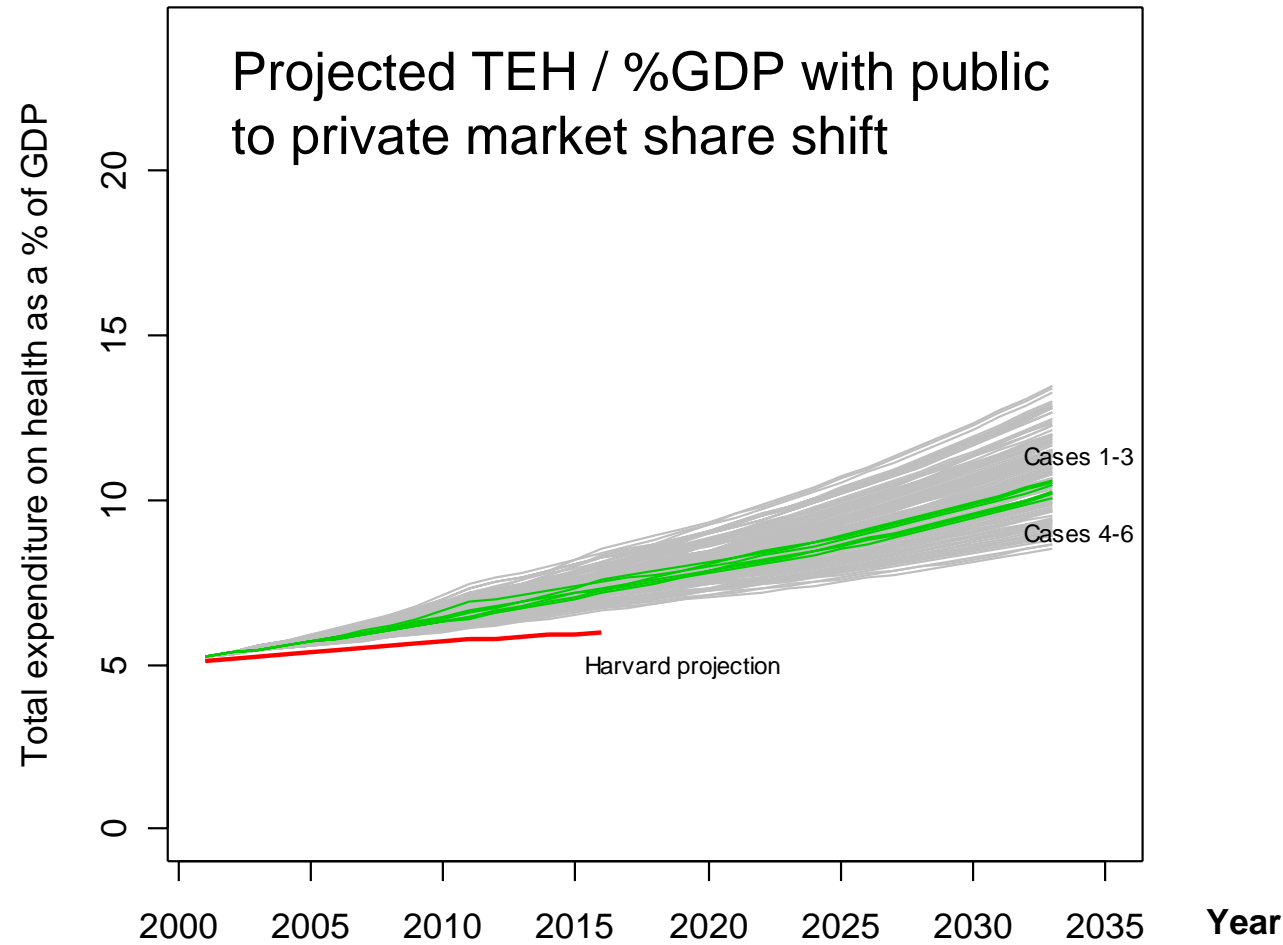
Parameter	Growth (% per annum)		
	Base case	Demographic change only	Sensitivity range
Public inpatient activity	0.2	0	-1, 0, 1
Private inpatient activity	0.2	0	-1, 0, 1
Public outpatient activity	0.2	0	-1, 0, 1
Private outpatient activity	0.2	0	-1, 0, 1
Cost of public care	0.8	0	0.5, 2
Charge of private care	1.6	0	1, 2.5
Other health expenditure	1.2	0	1, 2

Notes:

1. GDP growth as per FSTB internal projections
2. Parameter assumptions are based on Huber M (1999). Health expenditure trends in OECD countries, 1970-1997. *Health Care Financing Review* 21(2):99-117 and OECD Economics Department Working Paper No. 477 *Projecting OECD Health and Long-term Care Expenditures: What are the Main Drivers?* (2006)

Projected TDEH / %GDP

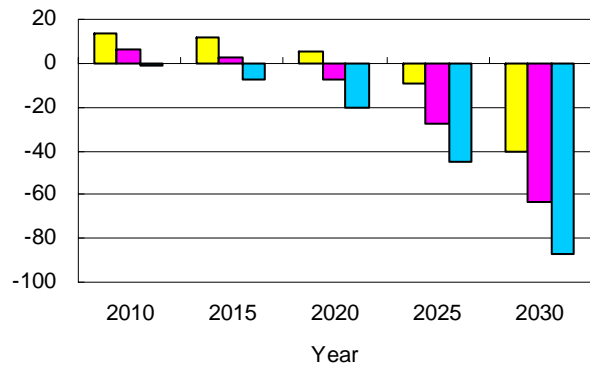




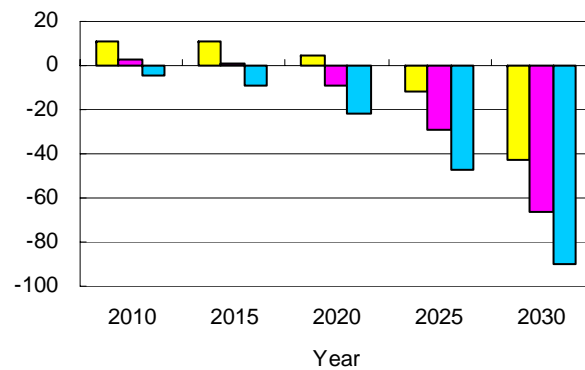
<u>Case</u>	<u>TDEH as % of GDP (Public share %)</u>				
1	6.6 (46.1)	7.4 (44.7)	8.0 (45.3)	8.8 (45.7)	9.8 (45.8)
2	6.4 (50.6)	7.3 (45.9)	8.1 (45.4)	8.9 (45.7)	9.9 (45.8)
3	6.3 (52.5)	7.1 (49.4)	8.0 (46.0)	8.9 (45.5)	9.9 (45.6)
4	6.5 (48.7)	7.1 (47.8)	7.8 (48.5)	8.5 (48.9)	9.4 (49.2)
5	6.3 (52.0)	7.2 (48.7)	7.8 (48.5)	8.6 (48.9)	9.5 (49.2)
6	6.3 (53.4)	7.0 (51.2)	7.8 (48.8)	8.7 (48.6)	9.6 (48.9)

Funding gap (HK\$ billion)

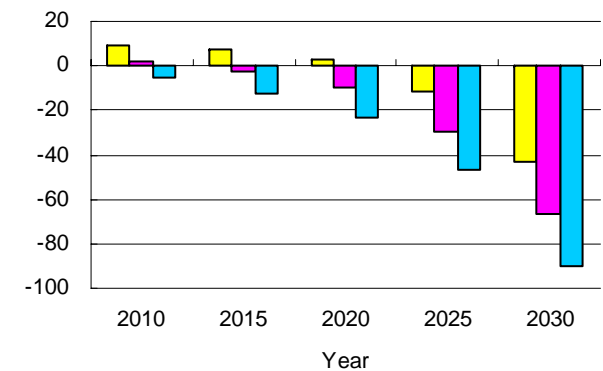
Case 1



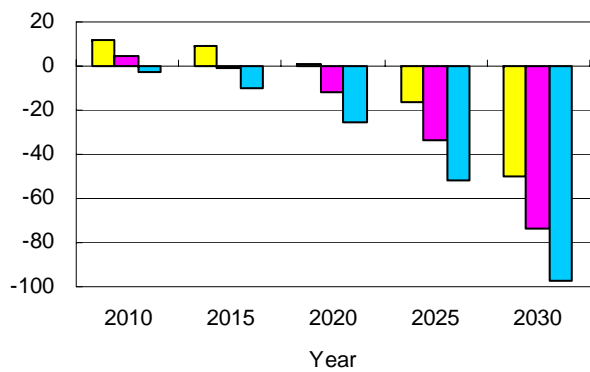
Case 2



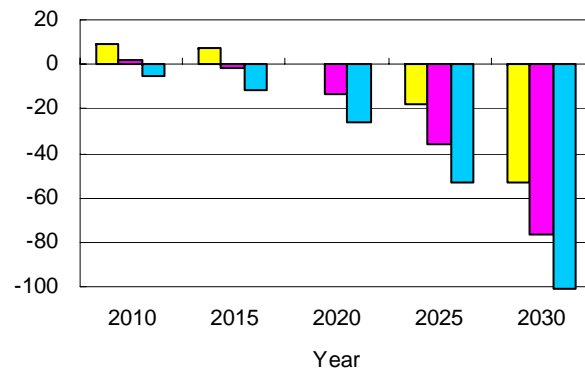
Case 3



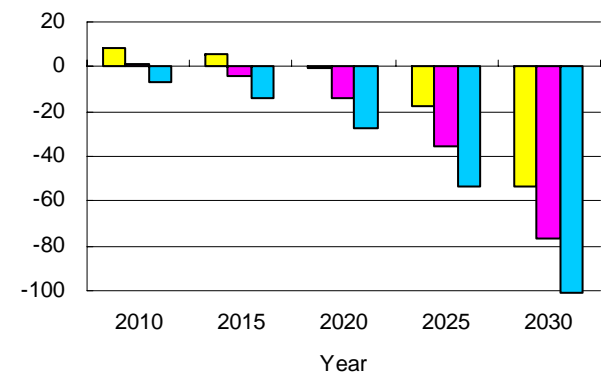
Case 4



Case 5



Case 6



19% 17% 15%

Policy Implications

- Population ageing and associated health care use contribute relatively little to overall spending growth. Technology diffusion (reflected in the net medical inflation rate) is the major long-term cost growth driver.
- It is possible to limit that growth to below 10% by 2033 which is low by international standards.
- There is little sensible reason to preset an arbitrary level of health spending and related growth. We should instead aim for a health system that results in a Pareto optimum incremental value commensurate with that provided by other sectors (e.g. education, housing, security) of the economy.

Caveats

- Uncertainty surrounding the model prediction increases with time and the results should be interpreted qualitatively beyond say 2016 as long-term trends instead of year-to-year exact expenditure levels
- An actuarial model cannot account for behavioural changes of the population regarding health care seeking patterns in response to policy interventions, which would require an econometric component although data limitations preclude its application locally e.g. US CMS(HCFA) model