

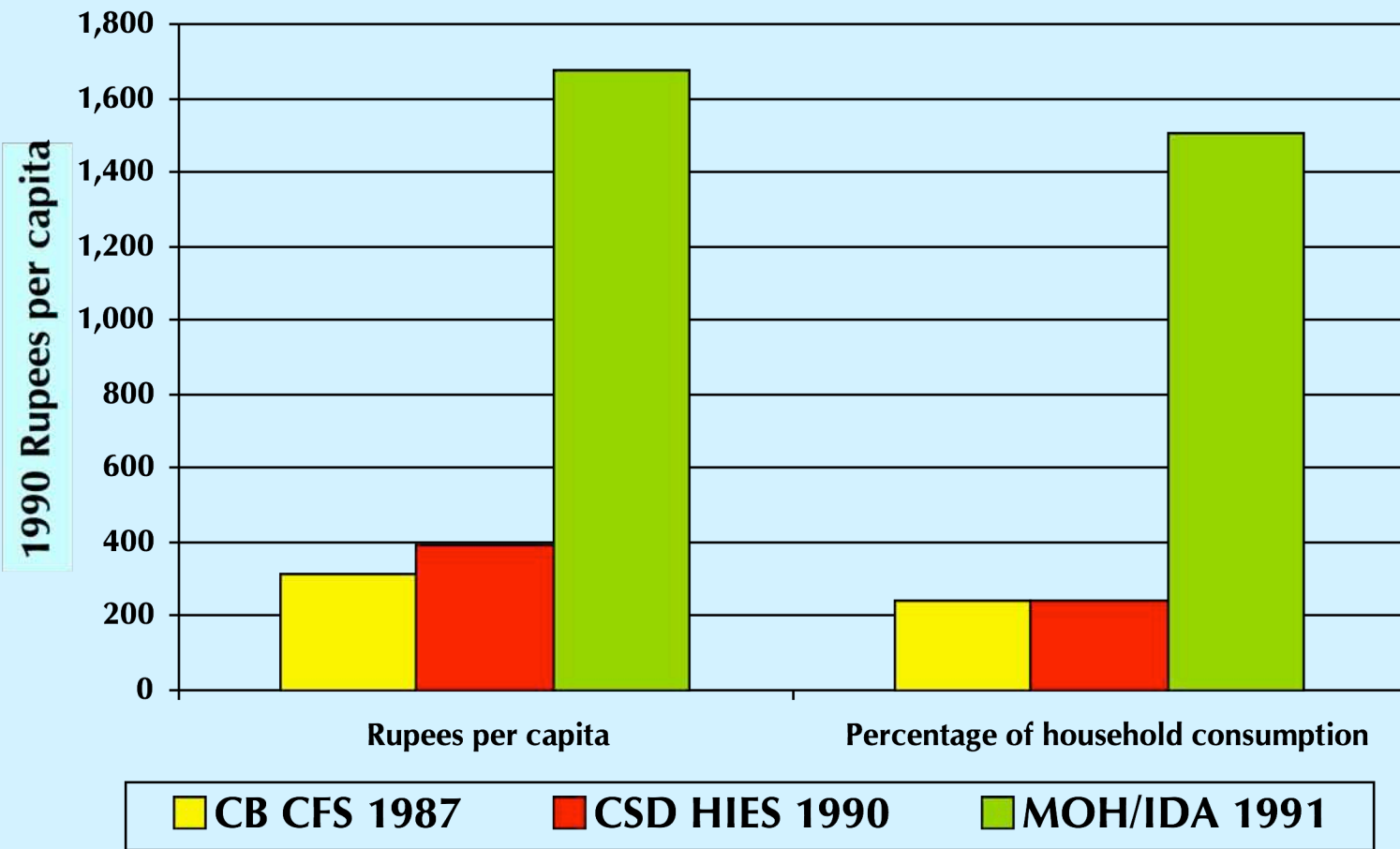


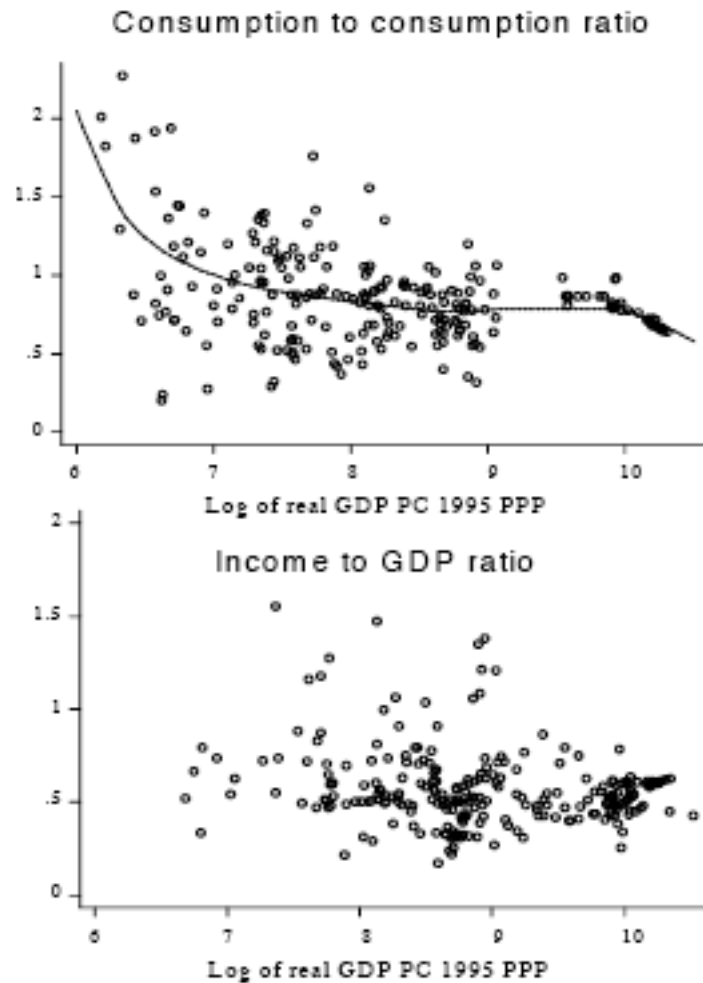
# Alternative Tracking Methods for Household Expenditure

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Consultation on National Health Accounts  
& External Resource Flows  
Ellison Institute for World Health  
Alexandria, VA  
July 21-22, 2005

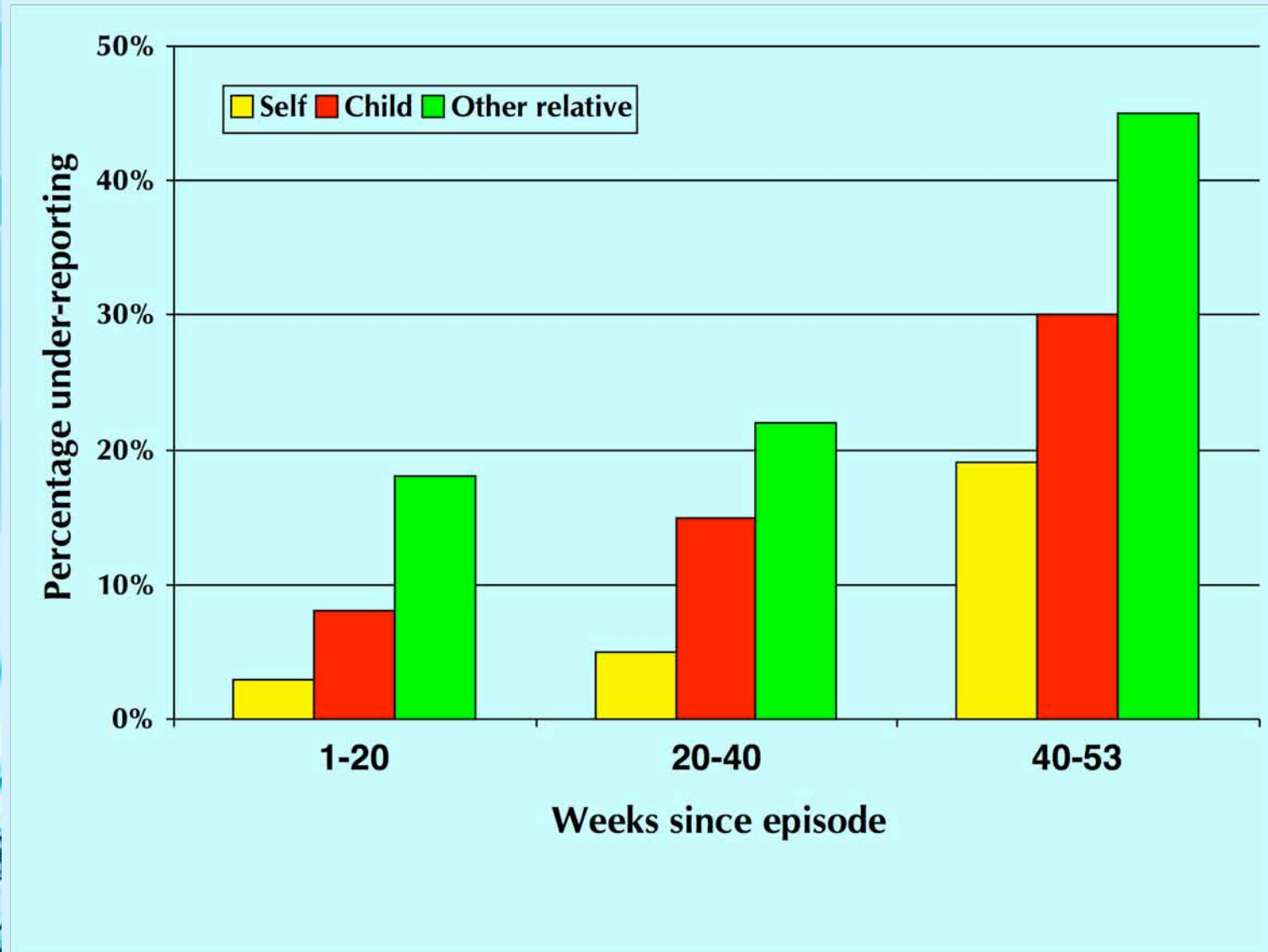
# Problems of Household Survey Data





**Figure 2:** Ratio of survey estimates of mean income or consumption per capita to comparable national accounts estimates: 498 surveys, 124 countries, years from 1979 to 2000. Unweighted.

# Recall loss for hospitalizations





# Recent Estimation Experience

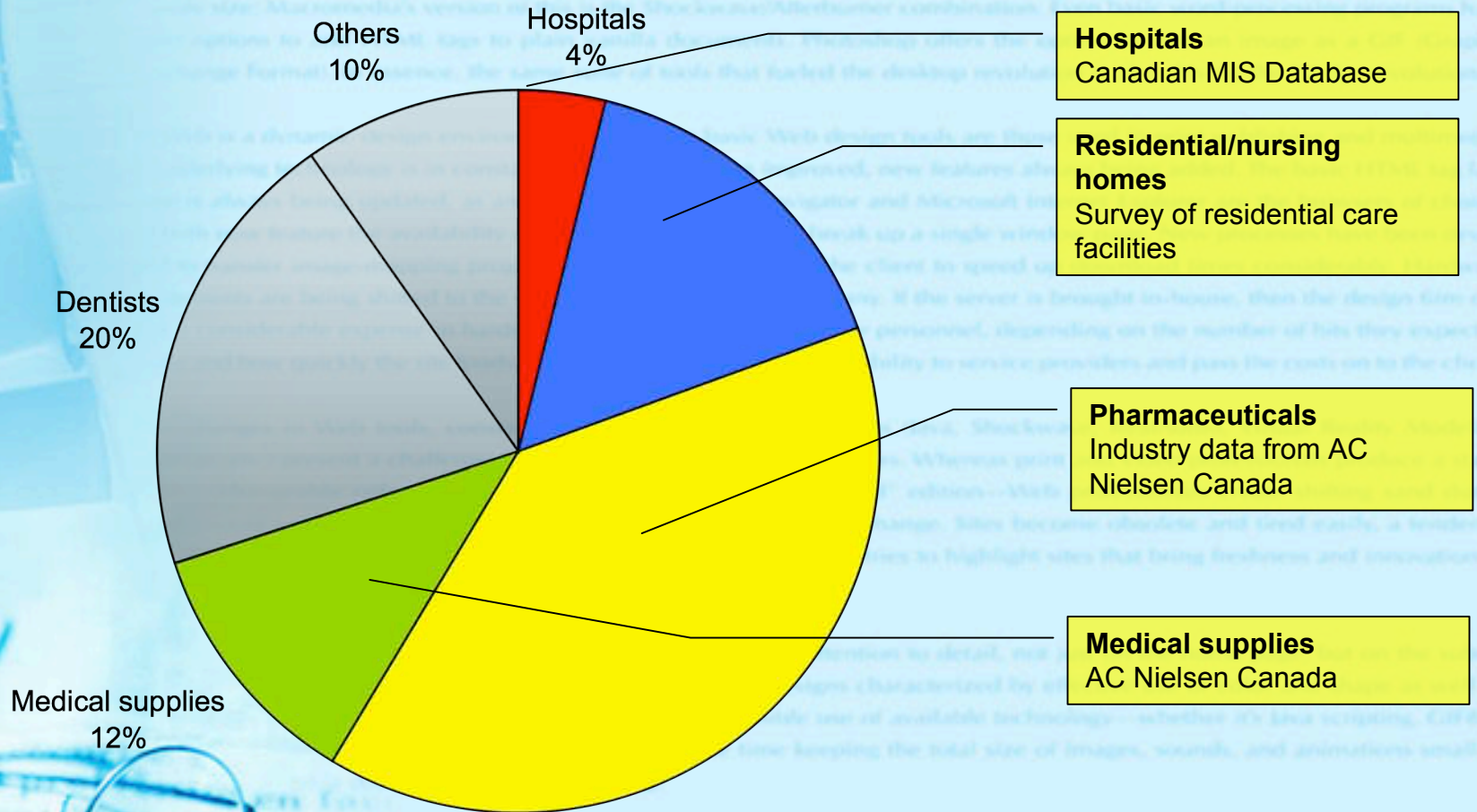
## Problems with household survey data

- Suffer from significant non-sampling errors
  - Eg: recall loss, telescoping, etc.
- Sampling errors if complete population is not covered
- Existing surveys may lack sufficient detail to meet SHA requirements
- Surveys are costly, not timely, and are not available every year

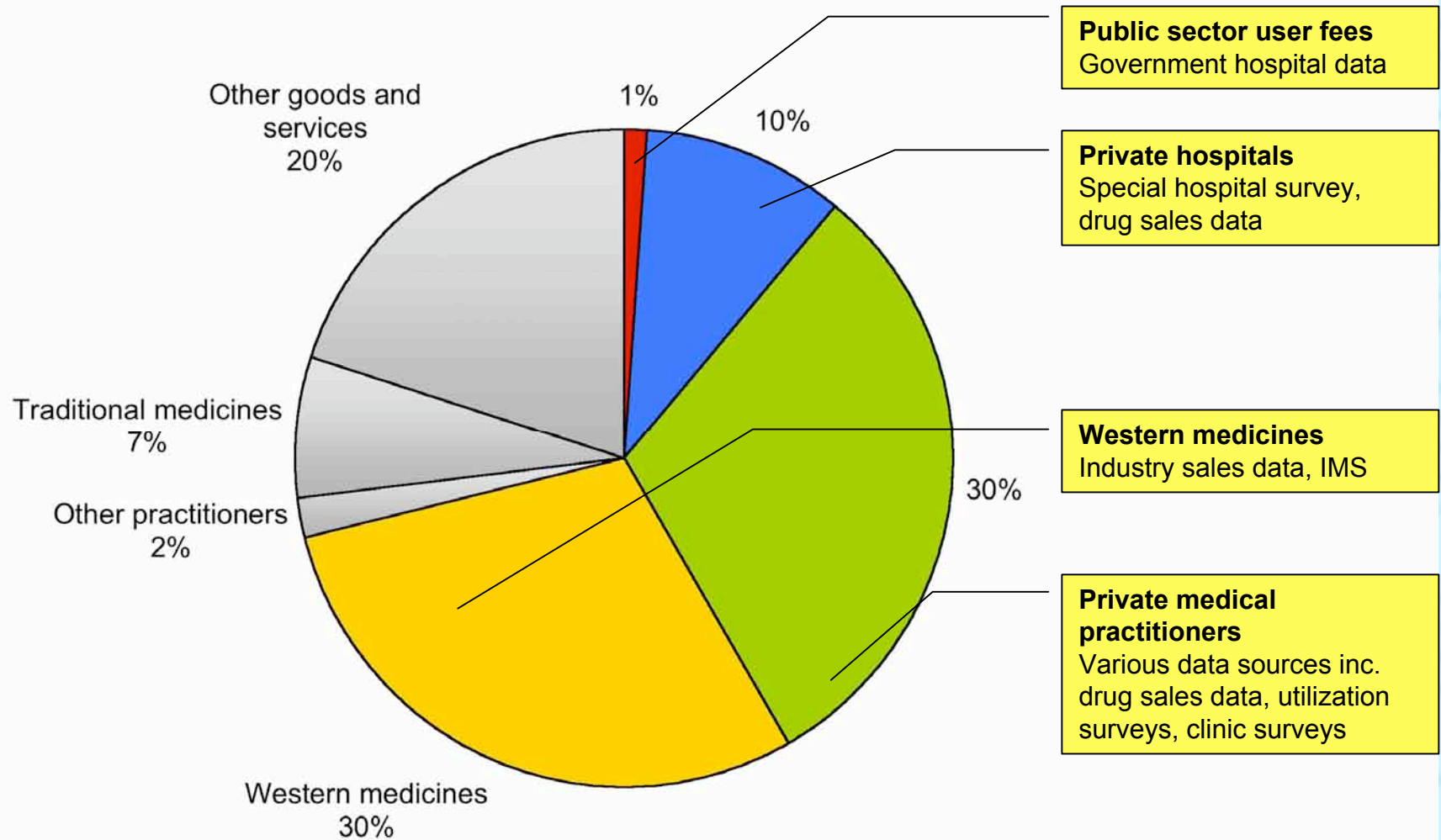
## Emerging approach

- More intensive use of supply-side data and other projection techniques, e.g., pharmaceutical retail sales data, revenue of medical providers, facility use statistics, etc
- Systematic quantification of non-sampling bias using independent data, and adjustment of survey data
- Reliance on household survey data only for minor part of estimations

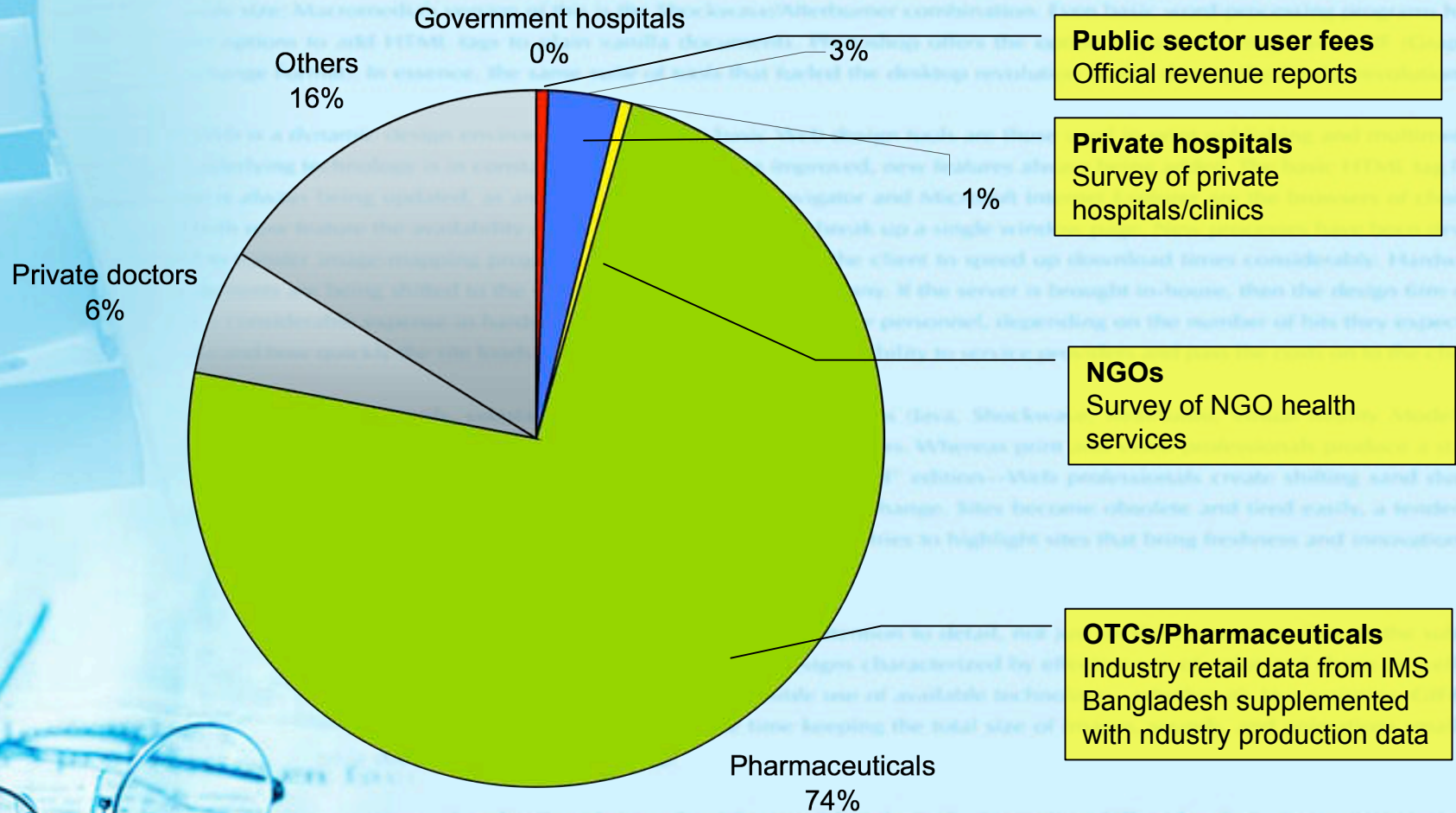
# Household Spending in Canada



# Household Spending in Sri Lanka



# Household Spending in Bangladesh





# Alternative Approach

- Identical conceptually to those used in income accounts

  - Production-side estimates

  - Triangulation

- But does not imply that estimates are identical to the national accounts

  - Health accounts can afford to devote more technical resources and exploit more data sources

# Existing Methods (1)

## ■ Pharmaceuticals

### ■ Industry/production side retail data

- IMS-Health (SL, Bangladesh, HK, Taiwan, Malaysia)
- AC Nielsen (Canada)
- Drug Accounts (Thailand)

## ■ Private hospitals

### ■ National surveys of hospital revenues

- USA, Bangladesh, Sri Lanka, Hong Kong, Mongolia

### ■ Triangulation from insurance data

- Australia, Taiwan

# Existing Methods (2)

## ■ Private physicians

- Tax data universally unreliable (including USA)
- Price \* Quantity (PQ) approach
  - Use different surveys/sources to estimate P and Q separately
  - Hong Kong, Sri Lanka, Thailand, Malaysia

## ■ Traditional providers, dentists, paramedicals

- Special surveys of providers, insurance data
  - Hong Kong, Korea, Japan
- Triangulation from household survey data
  - Calibrating using other reliable components

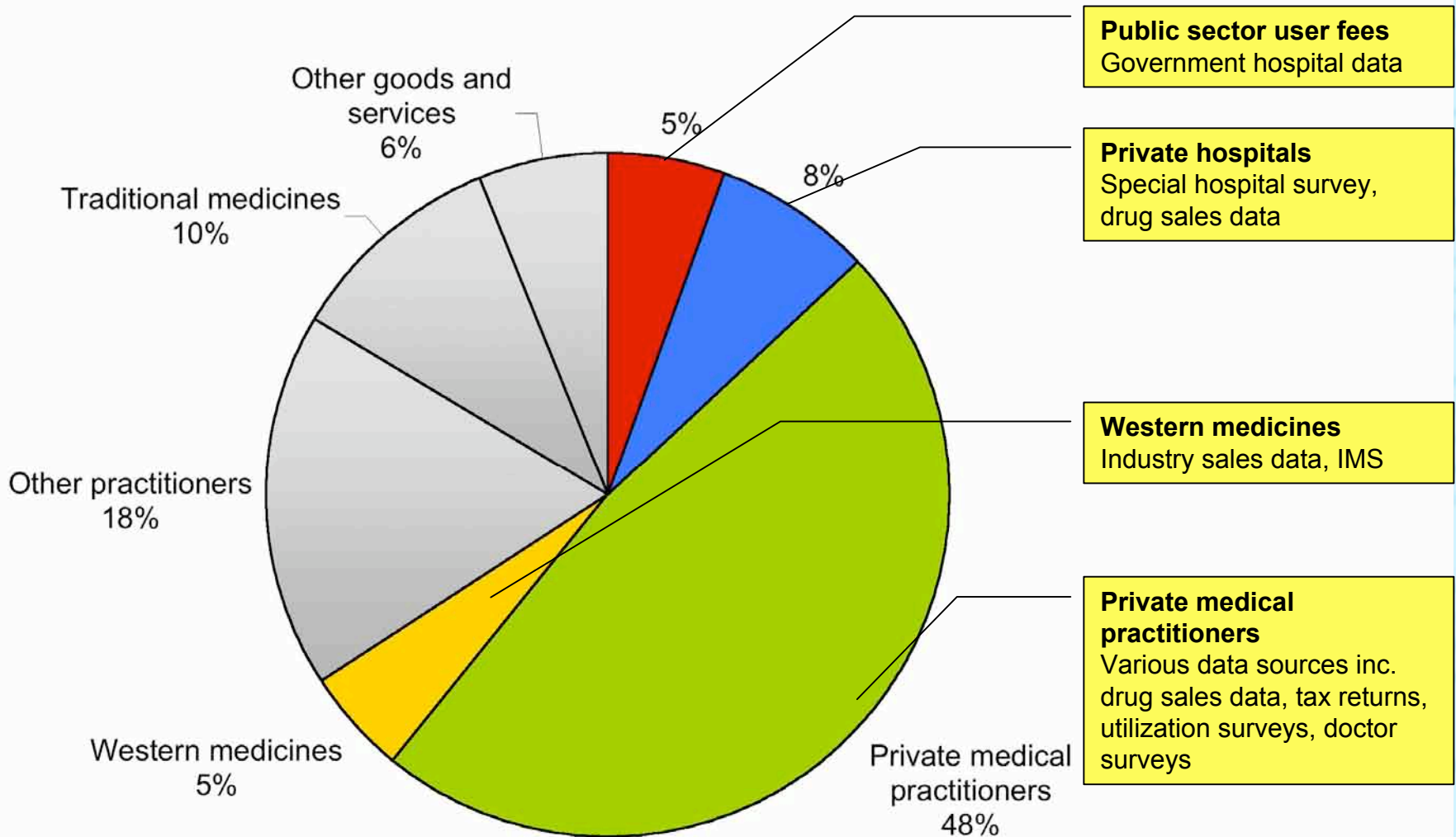


# Existing Methods (3)

- Combining methods in composite trend estimate
  - Focus on estimating elements as time series, not single cell estimates (temporal consistency)
  - Requirement that estimates be consistent with data sources at multiple times
  - Emphasis on accuracy of trends, not just levels
  - Focus on understanding trends, not single year cross-section

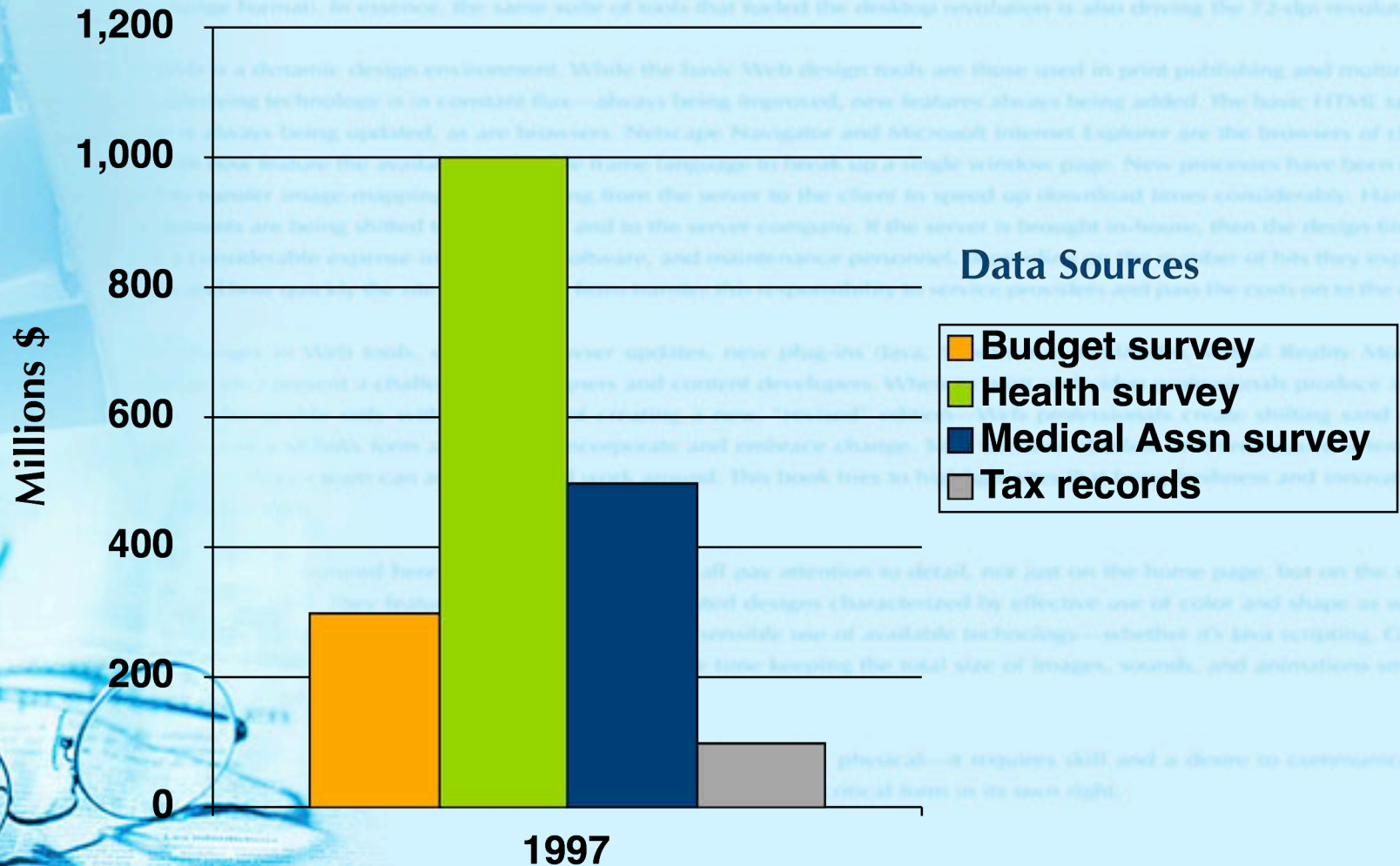


# Household Spending in Hong Kong



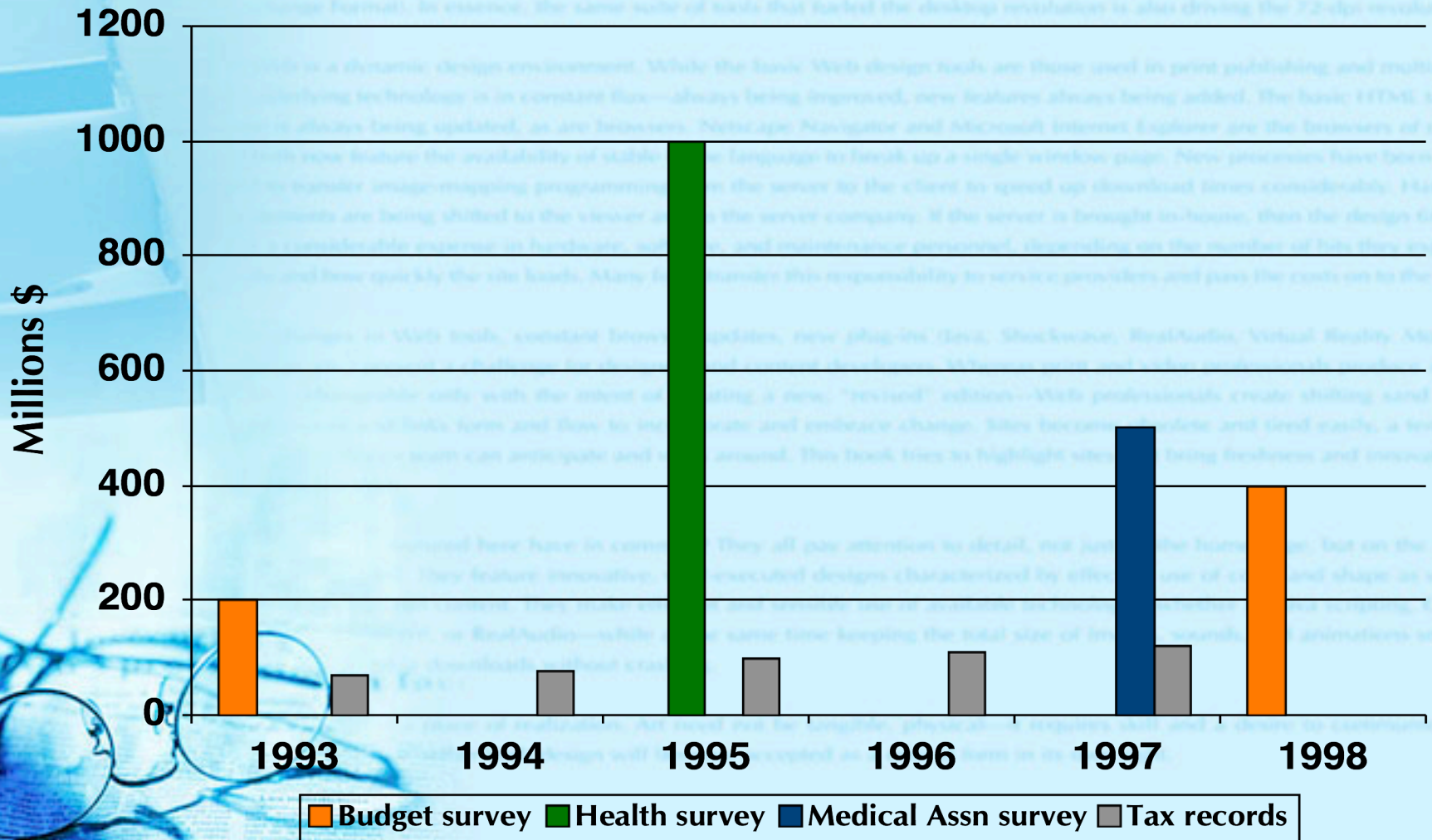
# Duplicate measurement in theory

**Problem: To estimate private clinic doctors revenues**



# Duplicate measurement in practice

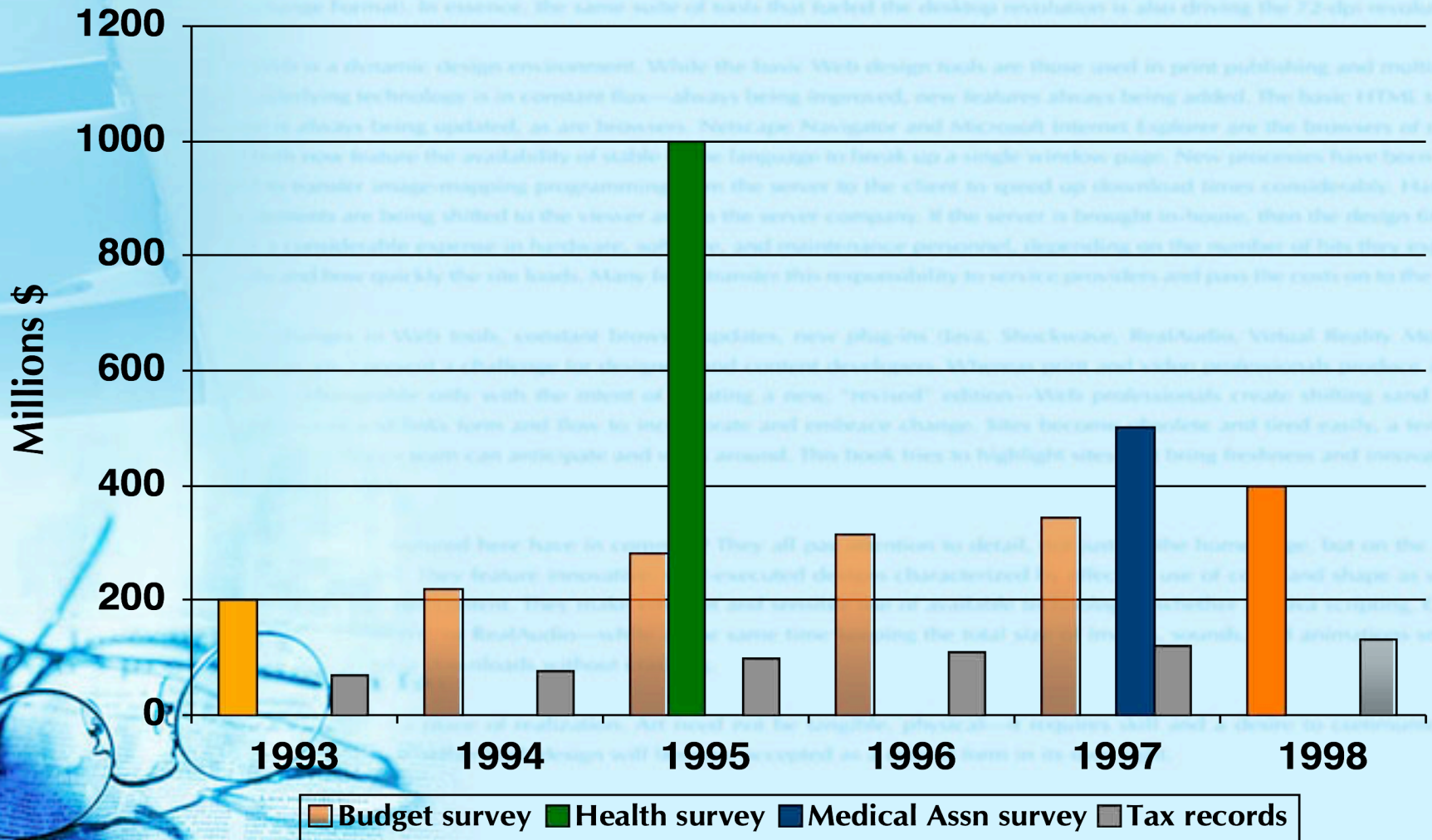
**Problem: To estimate private clinic doctors revenues**





# Duplicate measurement in practice

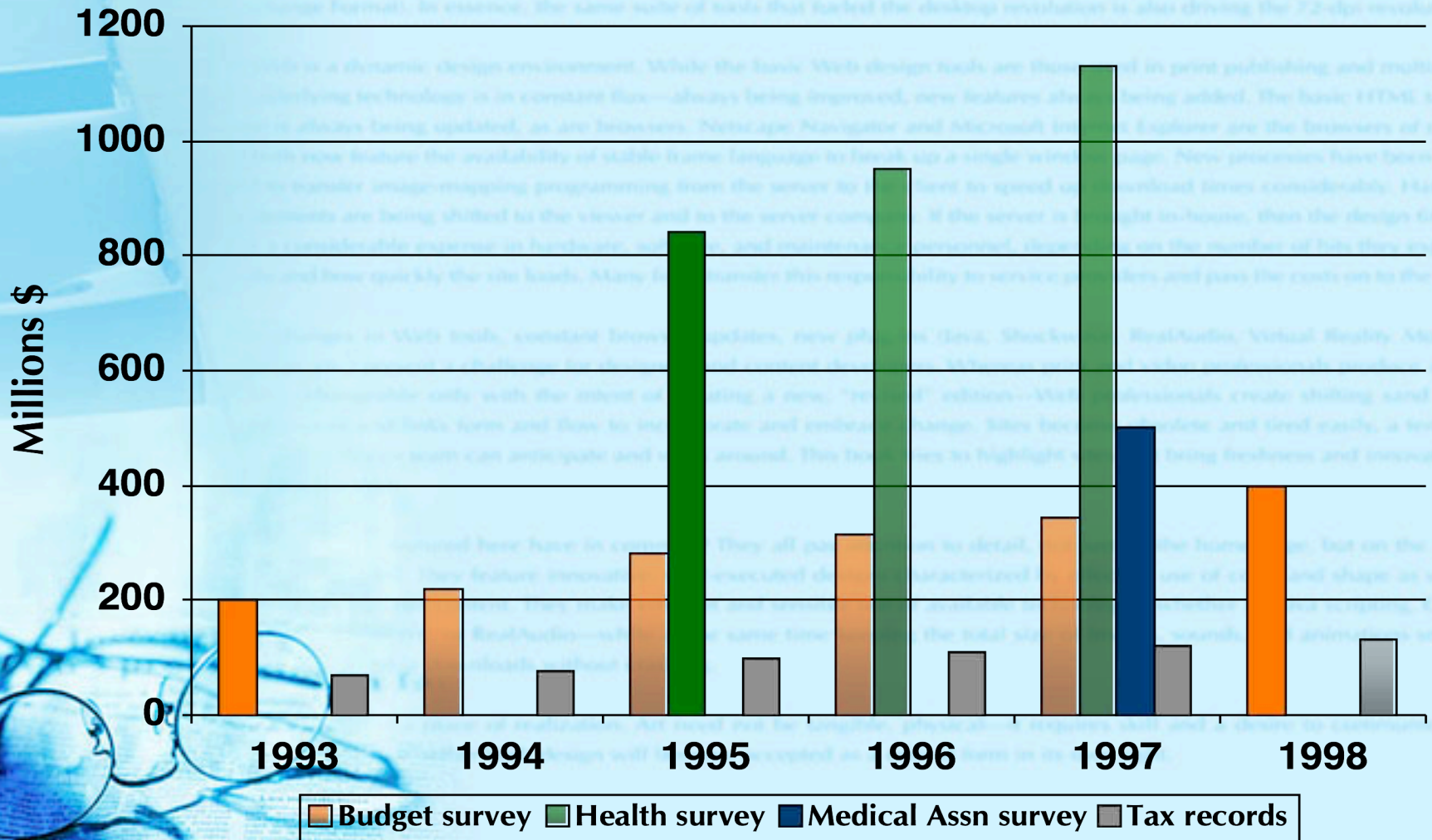
**Problem: To estimate private clinic doctors revenues**





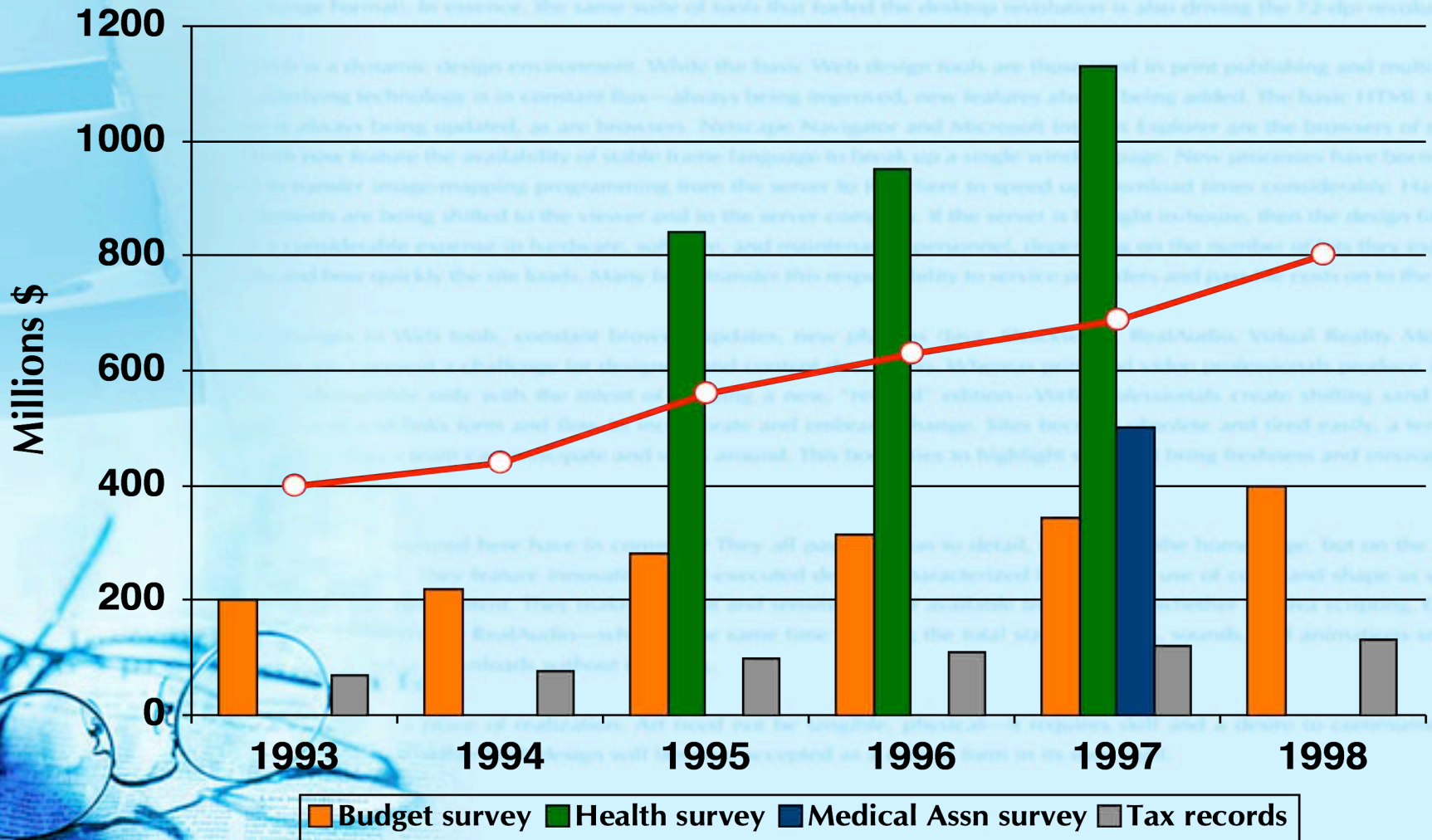
# Duplicate measurement in practice

**Problem: To estimate private clinic doctors revenues**



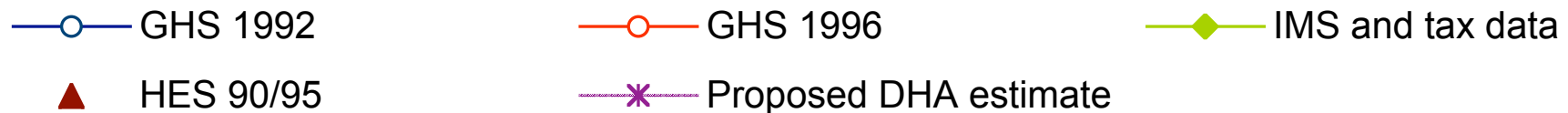
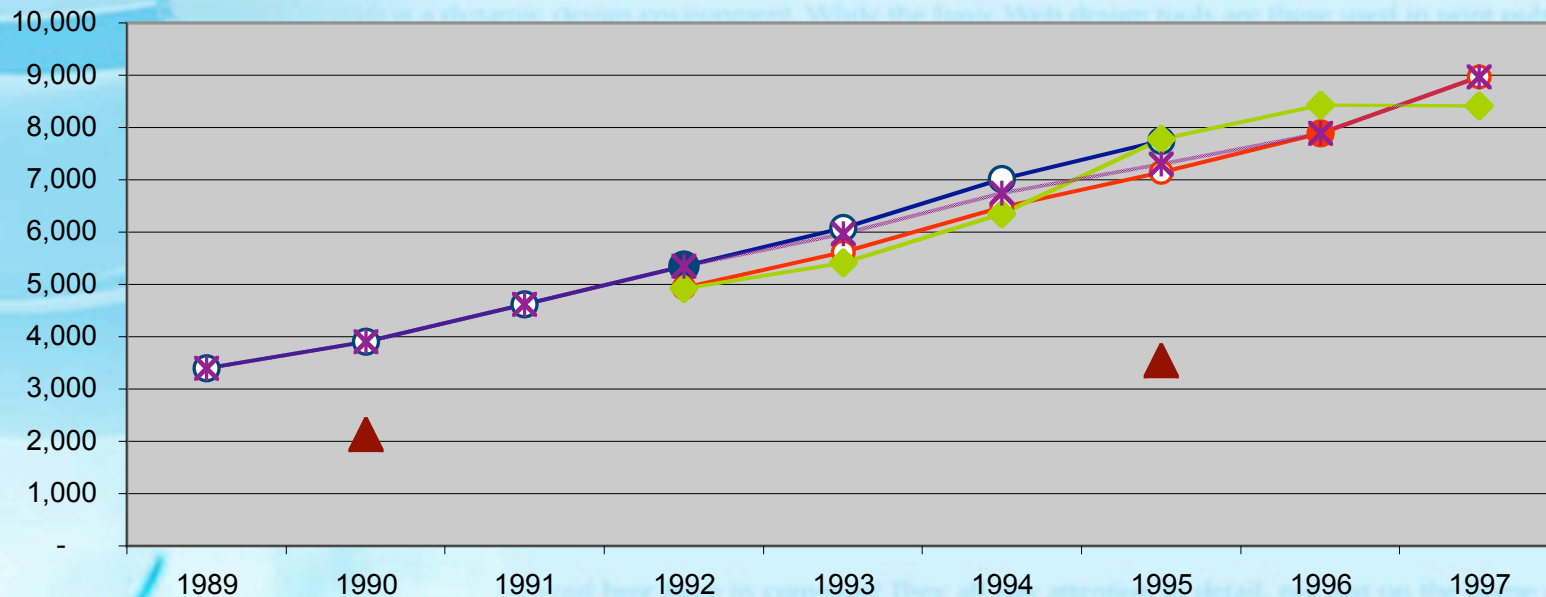
# Duplicate measurement in practice

**Problem: To estimate private clinic doctors revenues**



# Trend Estimation Example

## Hong Kong DHA: Comparison of estimates of private doctors' revenues





# Issues

- **Cookbooks partially available (WHO PG, Eurostat Guide)**
  - Priority is to document existing sources outside OECD
  - Lack of OECD-type process outside OECD to improve methods through cross-national discussion
- **Cookbook not sufficient**
  - Exact methods will vary between country and over time
  - Requires capacity to evaluate, select and modify methods continuously
- **Scarcity and hidden nature of data**
  - Often best overcome through multiple-year estimates reconciling different data methods
  - Difficult to do well from outside country



# Agenda for future

- Regional and global stock-taking of methods
  - Currently not funded
- Meeting-based mechanisms for experts outside OECD to share, review and improve methods on routine basis
  - Currently under-funded