



Preliminary works on demographic and economic models of 3 insurance schemes

MOPH, ILO & WB Health Modeling Workshop

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Objectives

- To train staffs from the 3 schemes on modeling technique
- To assess availability and accuracy of administrative database of the 3 schemes
- To assess availability and accuracy of other data sources



Background

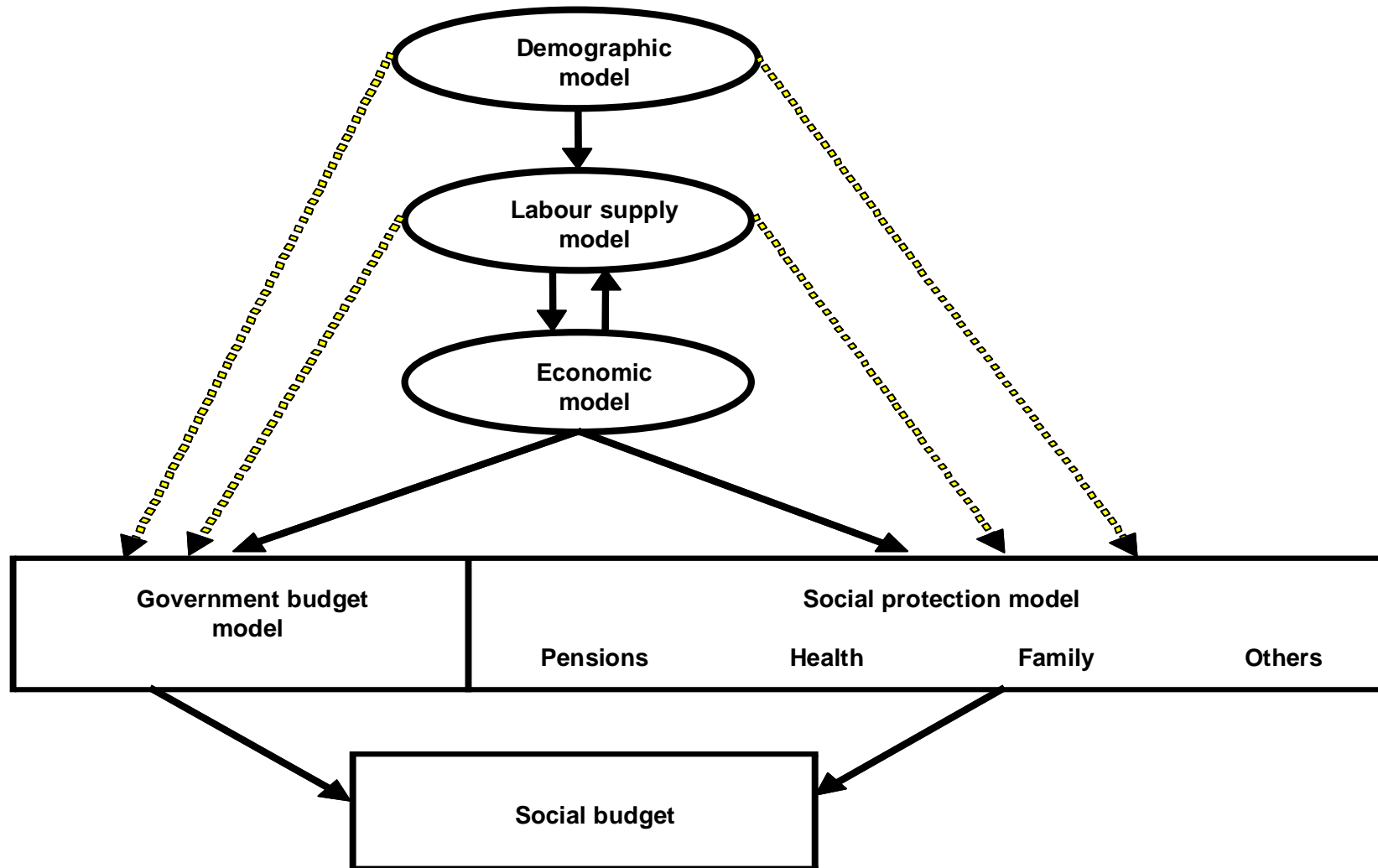
- SPF Master Thesis:
 - A system of macro-economic, structural and financial statistical information for the health sector of Thailand
 - The Universal Health care Coverage Scheme in Thailand: Development of a model for processing and disseminating Health Care Financing Information for Policy Formulation
- ILO (2004): Actuarial Review of the sickness, maternity, invalidity and death benefit branches of the Social Security Fund
- Workshops among 3 insurance schemes



Data sources

- National Income of Thailand
- Price Index
- Labor Force Survey
- Personal registration database
- Member registration:
 - Civil Servant Medical Benefit Scheme
 - Social Security Scheme
 - Universal Coverage Scheme

Methodology



Population Projection

- Use "ILO Pop"
- Total population:
 - Use Cohort-component method
- Social Security Scheme
 - Use Labor balance approach
 - Unemployment is exogenous assumption
- Civil Servant Medical Benefit Scheme
 - Divide into Civil servant, Permanent employee, Pensioner
 - Each group has dependent
- Total pop = SSS + CSMBS + UC + Other

Parameters in “ILO Pop” model

TFR base year2004	1.93
TFR target year2015	1.75
Age pattern	South-eastern Asia
Decreasing trend	Rapid
Mortality pattern	South Asia
Improvement of life expectancy	Slow
Life expectancy:	
Male	66.0
Female	73.7
Net migration	0
Sex ratio at birth	1.06

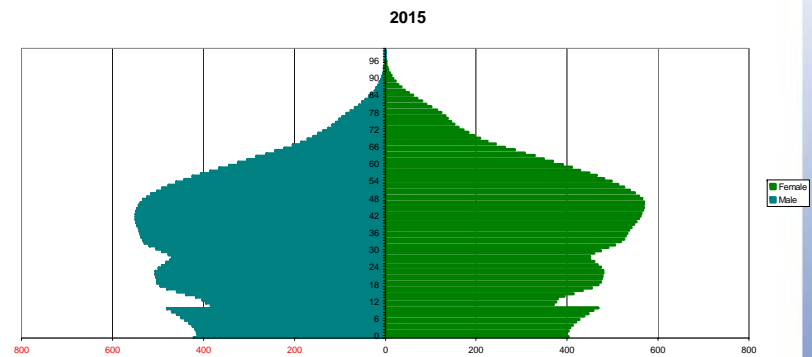
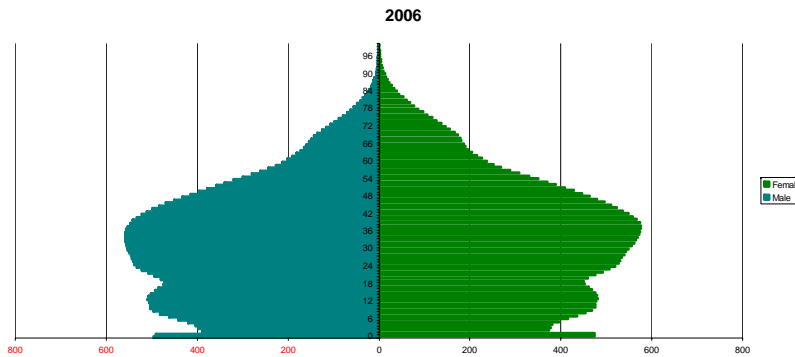


Methodology

Economic projection

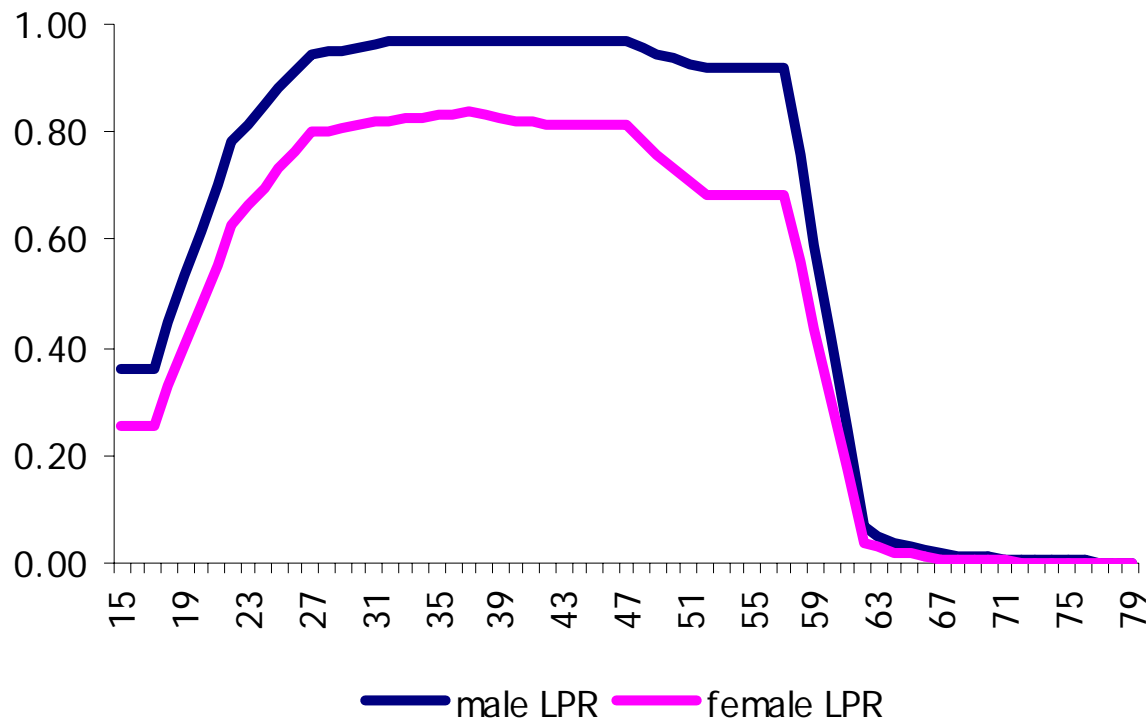
- Modify from "ILO Actuarial Review of the sickness, maternity, invalidity and death benefit branches of the Social Security Fund"
- Data Sources
 - NESDB: National Income of Thailand
 - Ministry of Commerce: CPI of Thailand
 - NSO: Labor Force Survey
- Exogenous assumption
 - GDP, Productivity are exogenous assumptions

Total Population



	2006		2015	
	Male	Female	Male	Female
Total	31,133	31,932	32,893	33,941
Increase	253	283	155	179
Birth	512	483	433	409
Death	260	200	279	230
Migration	0	0	0	0

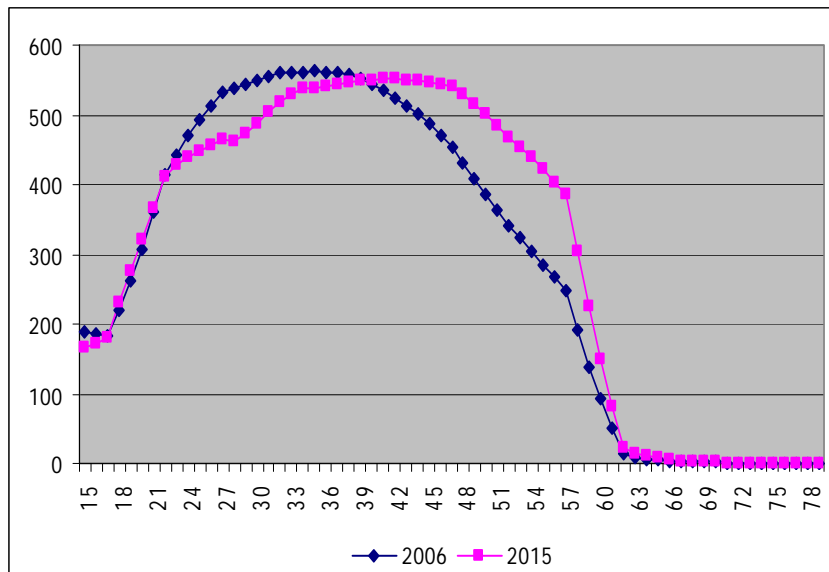
Labor Force Participation Rate



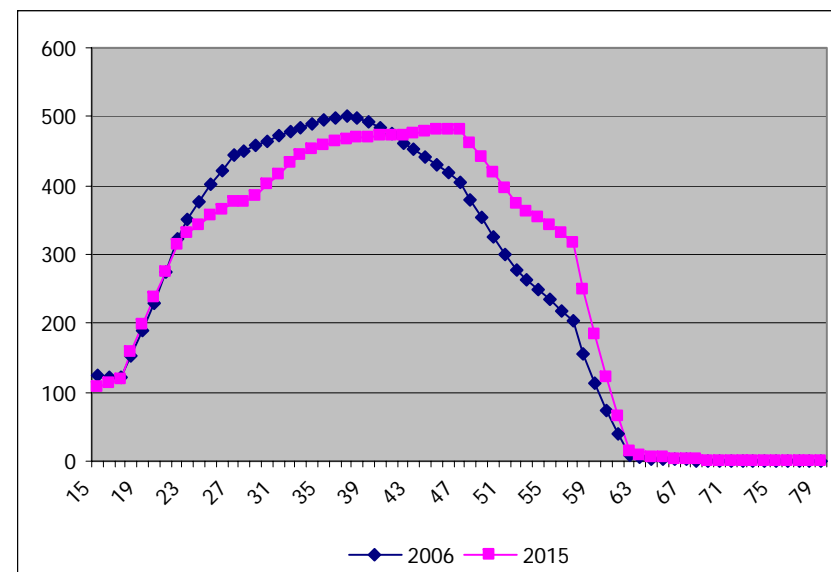
Source: Calculated from Labor Force Survey 2003-2005

Labor Force

Male



Female



Unemployment Assumption

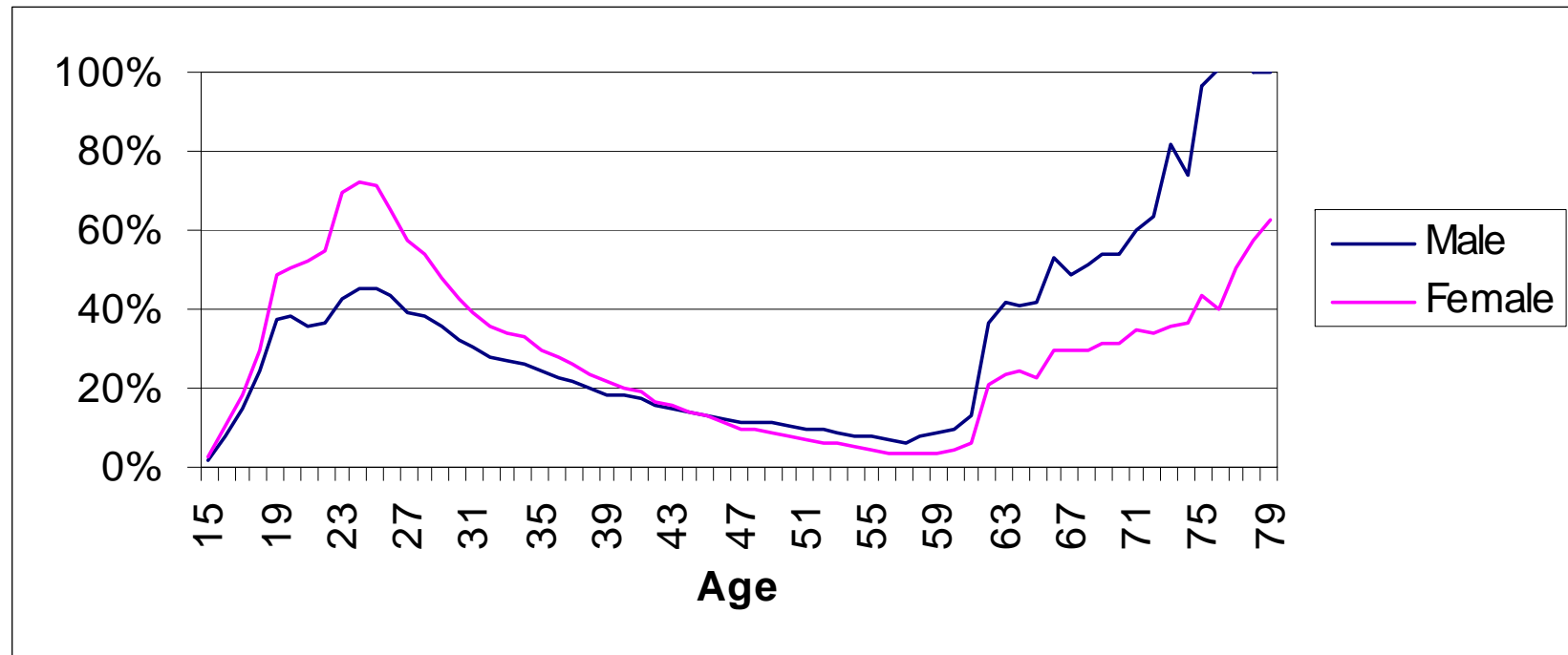
	2005	2006	2010	2015
Unemployment rate	1.8%	1.8%	1.8%	1.8%
Male	1.9%	1.9%	1.9%	1.9%
Female	1.7%	1.7%	1.7%	1.7%
Seasonally inactive	0.6%	0.6%	0.6%	0.6%
Male	0.4%	0.4%	0.4%	0.4%
Female	0.8%	0.8%	0.8%	0.8%
Employment rate	97.6%	97.6%	97.6%	97.6%
Male	97.7%	97.7%	97.7%	97.7%
Female	97.5%	97.5%	97.5%	97.5%

Note: Assume unemployment rate constant

Employment

	2005	2006	2010	2015
Employed by sector (x 1000)	35,245	34,402	35,592	36,334
Government employees	3,005	2,933	3,034	3,098
Male	1,540	1,498	1,549	1,582
Female	1,465	1,435	1,485	1,516
Private employees	13,173	12,897	13,503	13,988
Male	6,565	6,388	6,688	6,929
Female	6,608	6,509	6,815	7,060

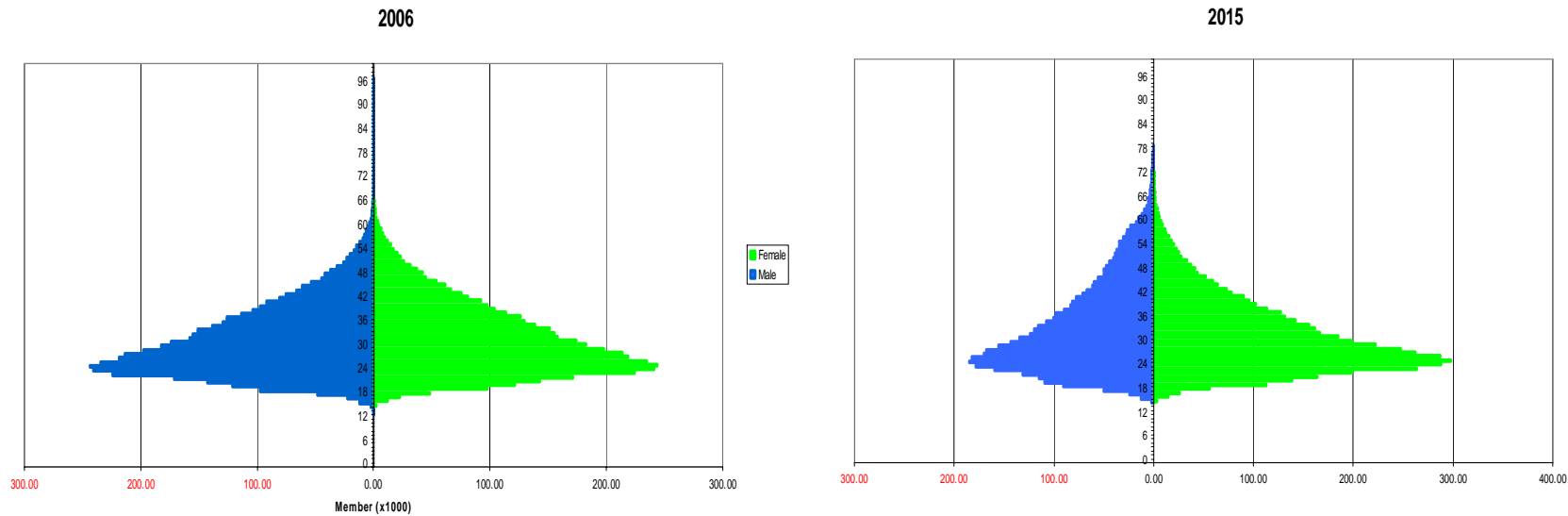
proportion SSS pop as % LF



Source: Calculated from Labor Force Survey 2003-2005



Member of Social Security Scheme



	2006	2015
Male	4413	3921
Female	4467	4938

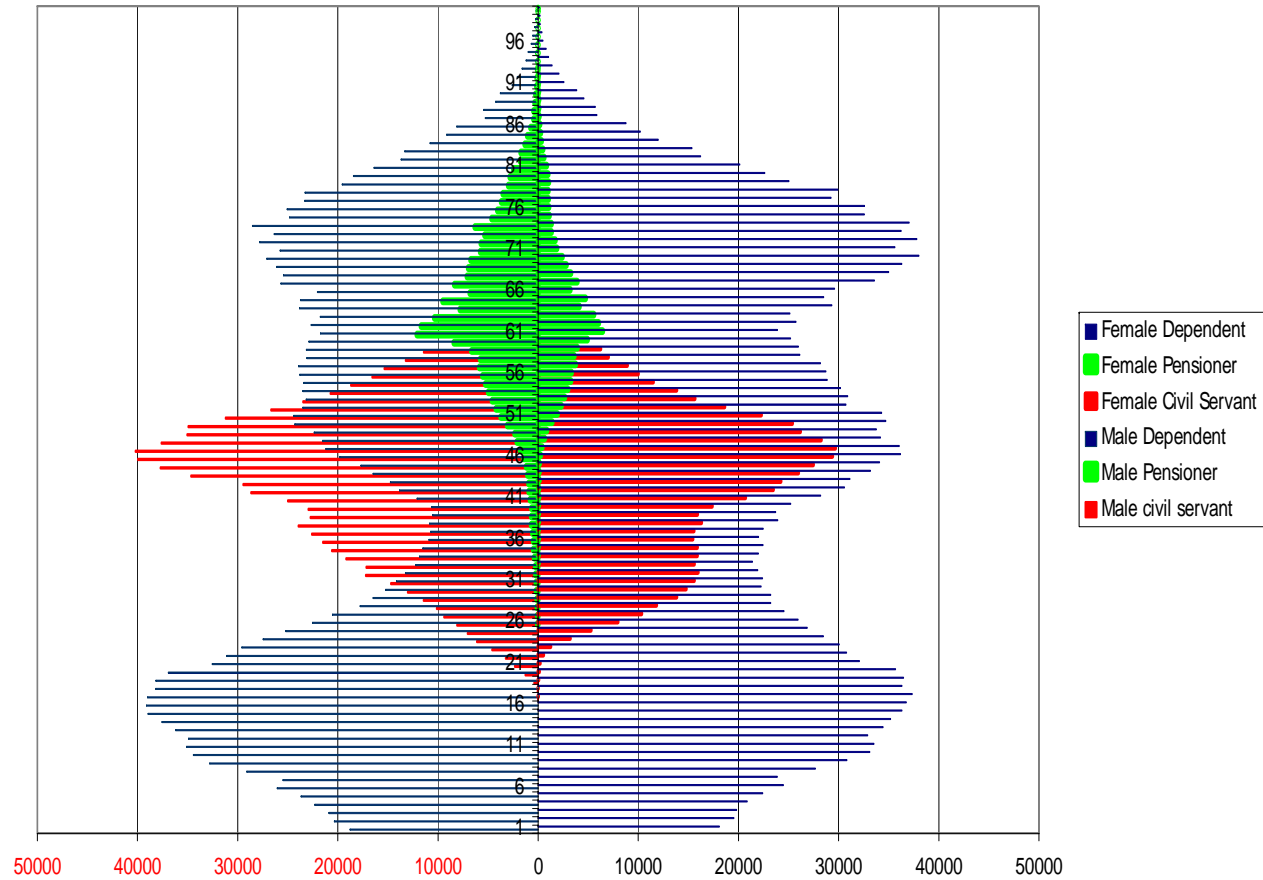


HEALTH CARE REFORM PROJECT



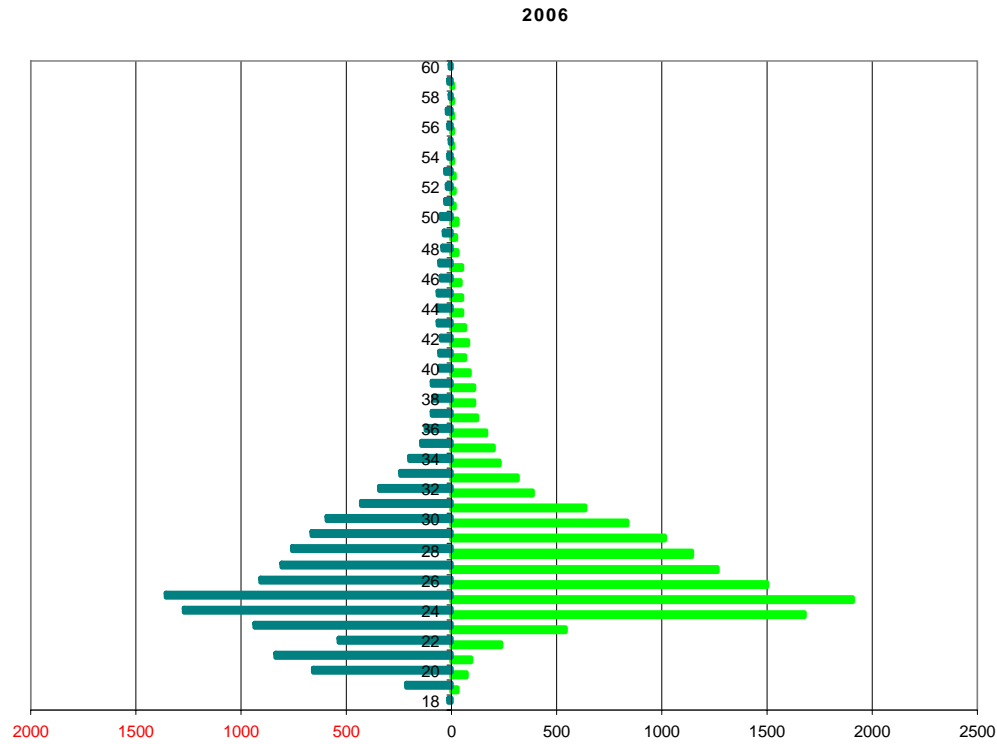
Number of “Civil Servant”

2006



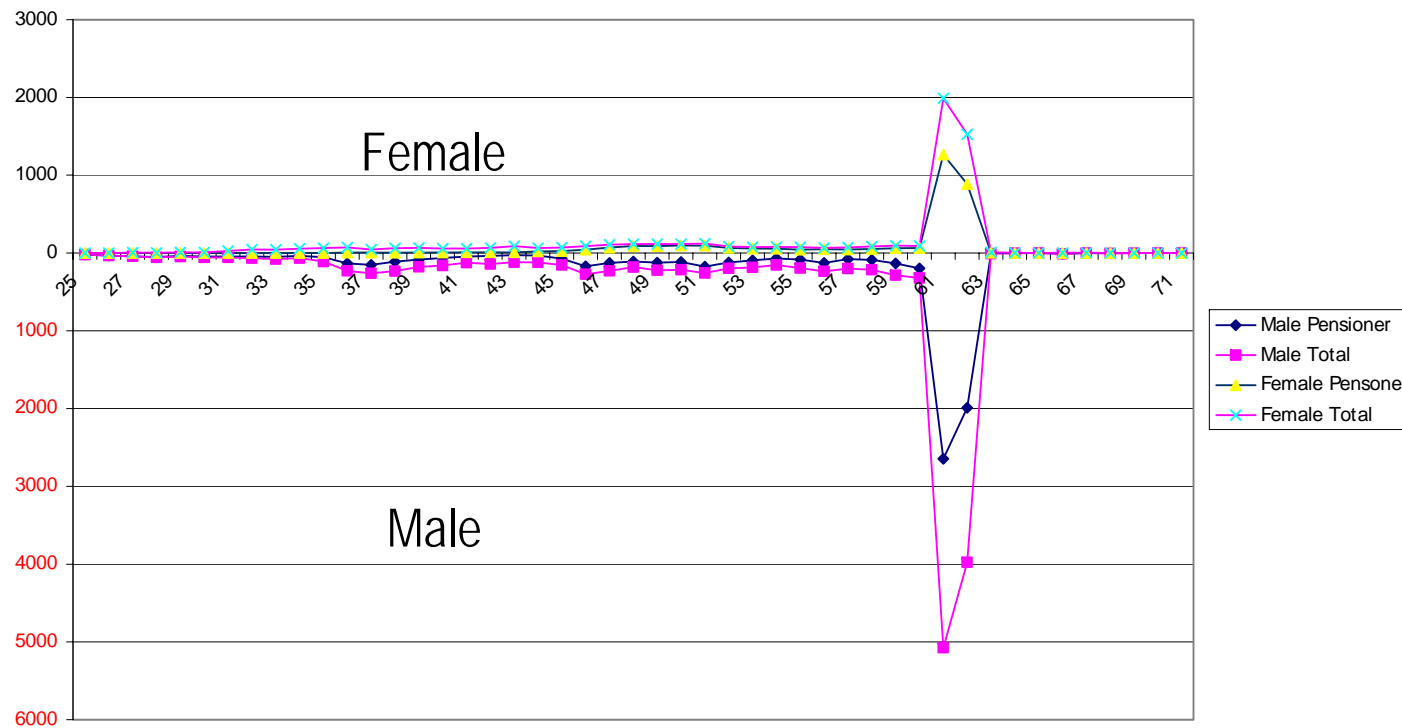


Entry Pattern of CivilSMBS in 2006



Exit Pattern of CSMBS in 2006

2006





Conclusion

- Data from National Income of Thailand and Labor Force Survey are enough for demographic and economic modeling
- Personal registration databases from CSMBS, SSS and UC are also enough for demographic and economic modeling. However, It needs to be scrubbed for some data error
- Medical CPI is not appropriate to be a cost driver for non-labor expenditure
- Consistence assumptions should be made among the 3 schemes



Thank you