

Age-related spending estimation and fiscal space in Asian countries

Mukul Asher, Professorial Fellow,
National University of Singapore

sppasher@nus.edu.sg

Prepared for: Tokyo Fiscal Forum June 5-6, 2017, Fiscal policy under demographic change and radical uncertainties - Formulating sustainable policies for inclusive growth in Asia -

ORGANIZATION

- Introduction
- Age-Related Spending Projections in Select Asian Countries: Cross-Country models and Disaggregated Approach
- Fiscal space: A suggested Framework
- Concluding Observations

INTRODUCTION¥1

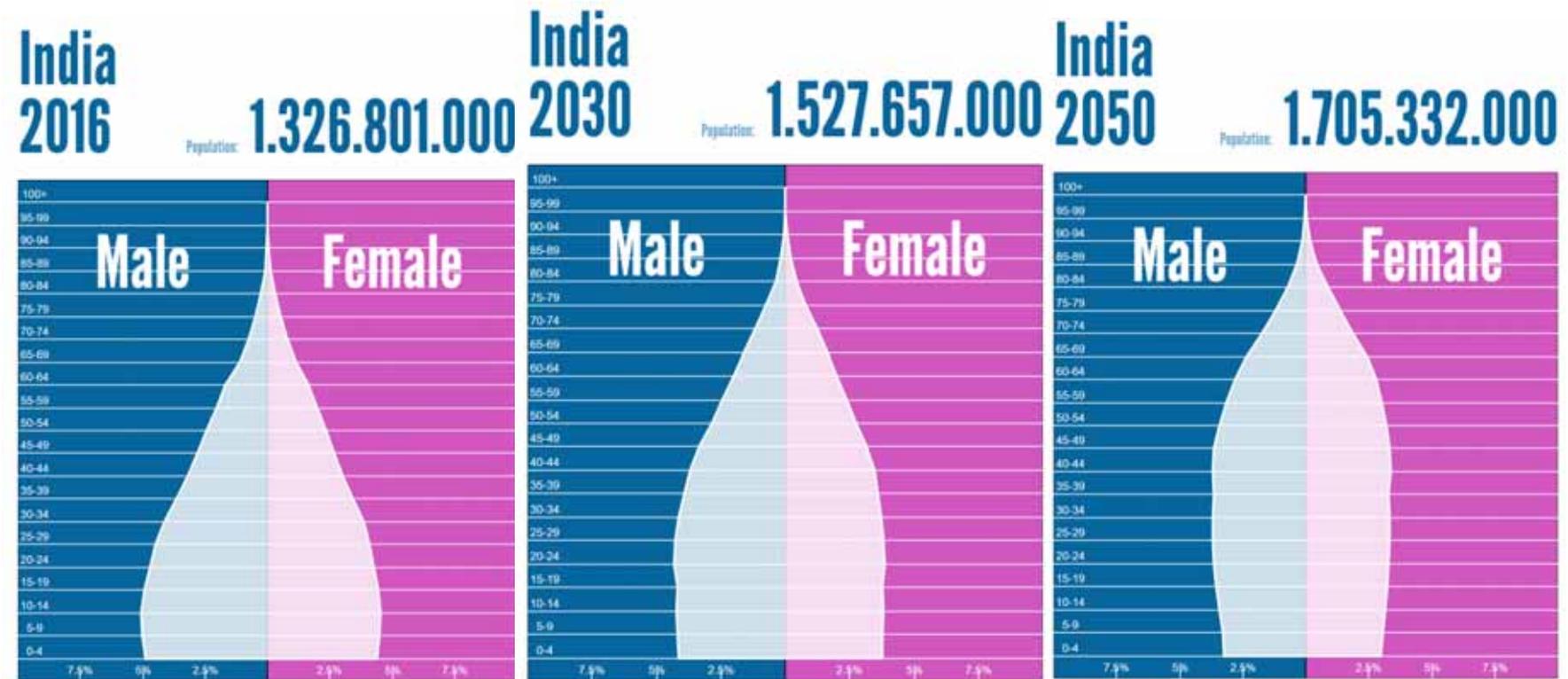
- The global population is ageing. In some Asian countries, this process is quite rapid (e.g. Japan, Korea, China, Singapore, and Thailand); in other Asian countries the process is moderate (India, and Indonesia).
- However, even in the moderately ageing Asian Countries, startling changes in population structure will occur in the next two decades.
- This is illustrated by the case of India (see Figure 1)

Introduction/2

Trends In Ageing in India

India will Age rapidly while still being a middle income country

Figure 1 : India's changing population age cohorts



<https://populationpyramid.net/india/2050/>

INTRODUCTION¥3

- The age at which individuals in Asia-pacific will be 15 years from death, is also increasing (Table 1).
- It is well known that society's resources consumed by an average individual increases disproportionately with age. (Figures 2 and 3)

Introduction¥4

- Table 1 projects the age at which people are, on average, 15 years from death.

Table 1: Age at which remaining life expectancy is estimated to be 15 years or less.

	AUS	CHN	IND	IDN	JPN	KOR	PHL	THA
1950	64	54	55	58	62	59	61	64
2015	73	67	65	63	74	73	64	70
2050	77	73	69	66	78	77	66	73
2100	81	78	75	70	82	81	70	77

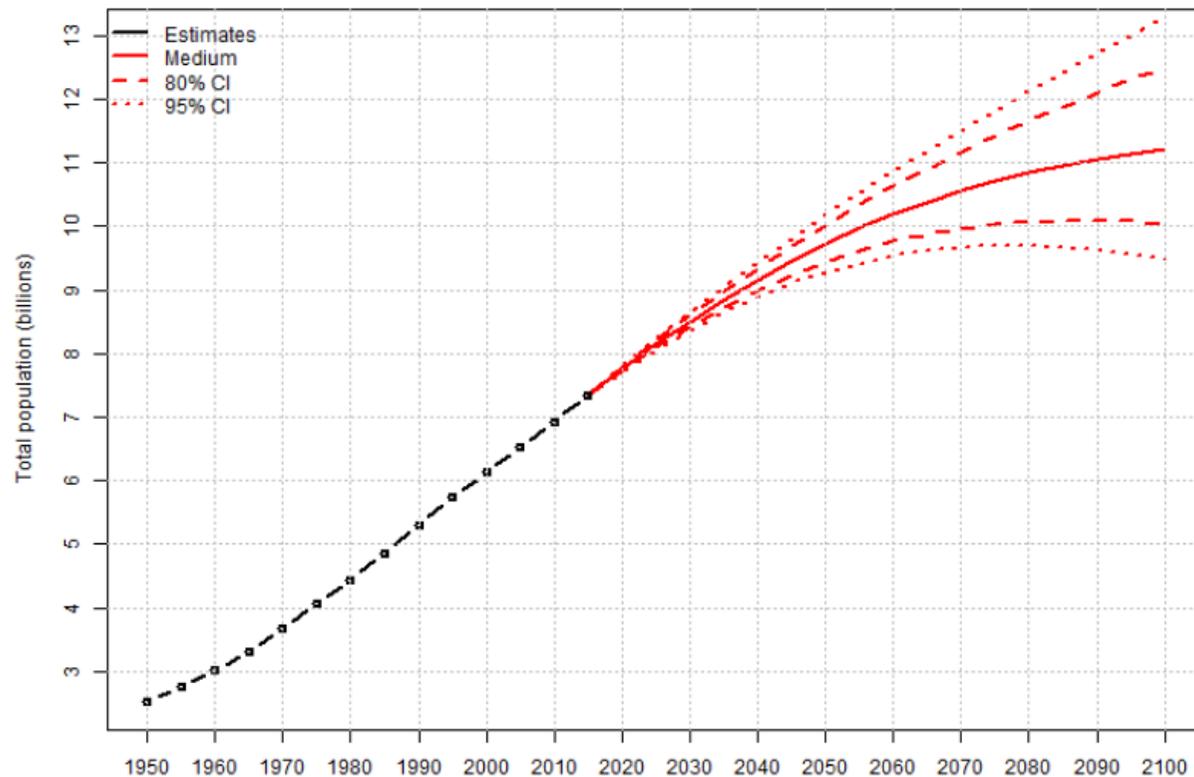
Source: Chomik, R., McDonald, P. & Piggot, J. (2016), "Population ageing in Asia and the Pacific: Dependency metrics for policy," *Journal of the Economics of Ageing*, 8: 5-18.

INTRODUCTION¥5

- An additional factor which needs to be considered in population projections is that a seemingly minor change in total fertility rates, and other factors, could disproportionately change the number of people for which pension (and health) expenditure will need to be provided.
- Figure 2 illustrates this point using UN's 2015 revised population estimates.

INTRODUCTION ¥6

Fig 2.: Population of the world estimates, 1950-2015, medium-variant projection and 80 and 95 per cent confidence intervals, 2015-2100

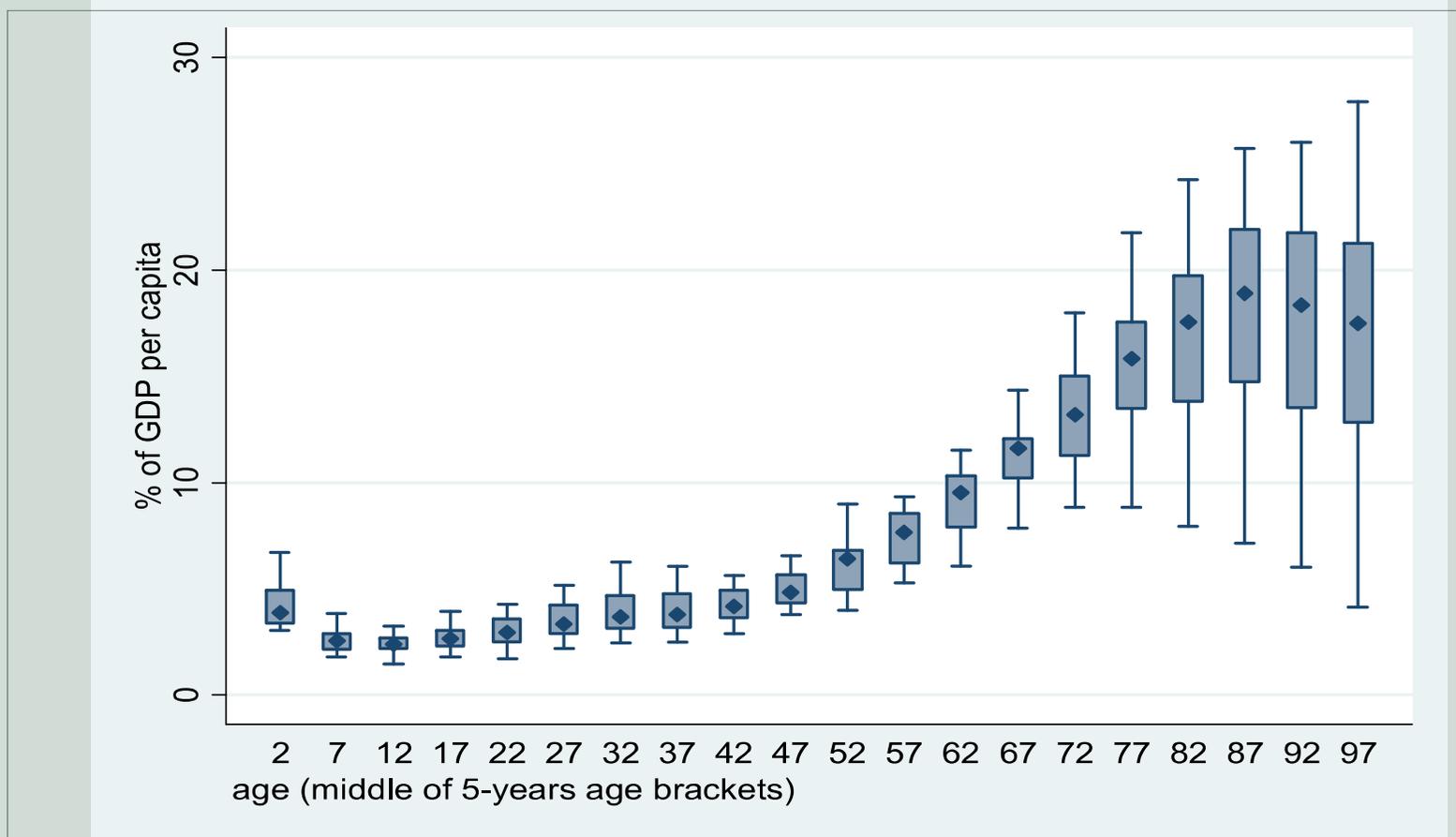


Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Population Prospects: The 2015 Revision*. New York: United Nations.

INTRODUCTION¥7

- The UN Population Revision 2015 Report provides the Following explanation for Figure 2.
- “As with any type of projection, there is a degree of uncertainty surrounding these latest population projections. The results presented above are based on the medium projection variant, which assumes a decline of fertility for countries where large families are still prevalent as well as a slight increase of fertility in several countries with fewer than two children per woman on average. Survival prospects are also projected to improve in all countries. The uncertainty surrounding the median trajectories is accounted for with statistical methods that enable the Population Division to make statements about the degree of uncertainty in these projections. For example, one can say with a 95 per cent degree of confidence that global population will be between 8.4 and 8.6 billion in 2030 and between 9.5 and 13.3 billion in 2100. In other words, global population is virtually certain to rise in the short-to-medium term future. Later in the century, global population is likely to continue to rise, but there is roughly a 23 per cent chance that it could stabilize or begin to fall before 2100.”

Figure 3: Public Health Expenditure By Age Groups as Share of GDP Per Capita



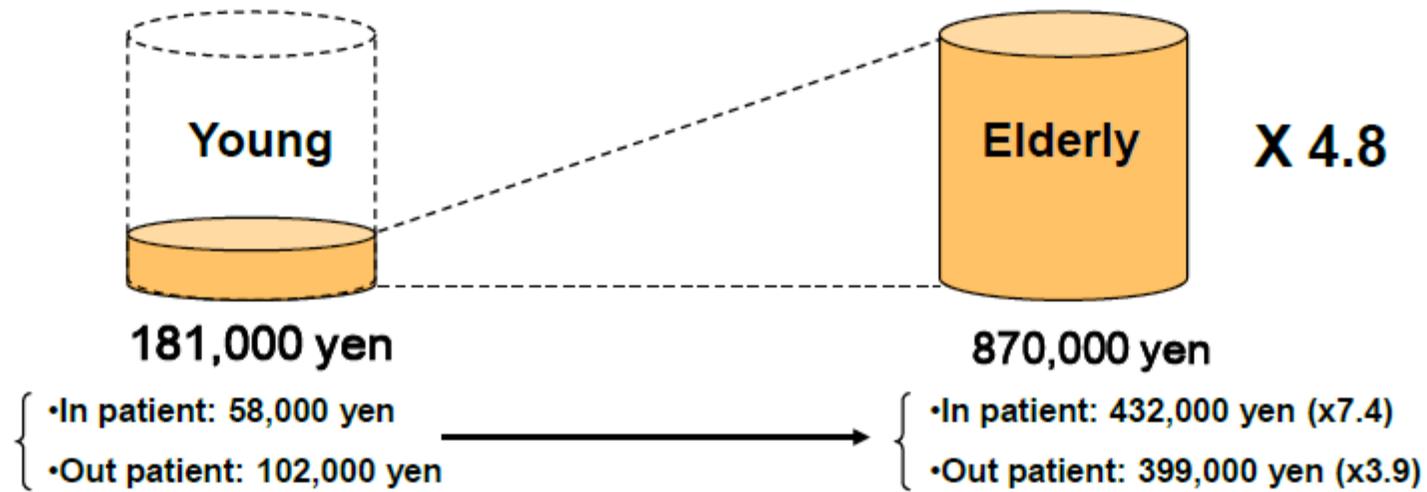
Source: Maisonneuve, C. and Martins Oliveira, J., (2013)

Figure-4

Characteristics of Medical Expenditure for the Elderly

○ Health expenditures are 870,000 yen per elderly (Elderly Health Care System), and it is 4.8 times the costs of people who are not considered elderly, which is 181,000 yen.

[Comparison of Health Expenditures per Person (2007)]



◆ Comparing each country in the ratio of the medical expenditure per person for the elderly to the young, it shows about 3~4 times in Western countries.

Reference: Annual Report of Medical Service for Elderly

INTRODUCTION¥7

- In analysing age-related expenditure and fiscal space, ideally both pension and health expenditure need to be projected, and fiscal space planned. Unlike WHO, there is no global pension body which tracks pension expenditure.
- This presentation focuses on select Asian countries to highlight:
 - 1. limitations of current standard cross-country models in projecting pension expenditure
 - 2. Suggested Component-based more disaggregated approach, with country examples
 - 3. A Framework for generating fiscal space

Age-related pension Expenditure: Select Asian Countries

¥1

- Traditionally, pension expenditure have been modelled using cross country analysis, and the focus is only on PUBLIC pension expenditure, that too only of the Central government.
- This methodology has the following limitations:
- 1. State and local level public and private arrangements are not covered. For federal countries such as India, this is particularly significant.

Age-related pension Expenditure: Select Asian Countries¥2

- 2. The traditional methodology has limitations when one single nation-wide system of pension or social security system does not predominate. In Asia, this limitation is significant for China, India, Indonesia, Vietnam, Thailand and others.
- The above limitations are illustrated below.

Age-related pension Expenditure: Select Asian Countries¥3

Table 2 Public pension expenditure of three Asian countries (% of GDP)

	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
China	3.4	4.7	6.7	7.9	9.2
India	1.0	1.0	1.0	0.9	0.7
Indonesia	0.7	0.9	1.1	1.4	1.6
Japan	10.0	10.3	9.8	10.4	10.7

Source: Appendix Table 4 of IMF (2011). The figure of 2010 is from the actual number

Table 3 Decomposition of pension spending growth, 2010-2030 (% of GDP)

	<i>Old-age dependency ratio</i>	<i>Inverse of labour force participation rate</i>	<i>Eligibility rate</i>	<i>Replacement Rate</i>
China	3.5	0.0	-0.2	0.0
India	0.5	0.0	-0.1	-0.3
Indonesia	0.5	0.0	0.0	0.0
Japan	4.3	-1.0	-1.6	-1.9

Source: Appendix Table 3 of IMF (2011).

Modelling Pension Expenditure: Inadequacies of cross-country models

Inadequacies of cross-country models

Table-4 Total age-related spending (including public pension, health care, long-term care, and unemployment benefits of three Asian economies (% of GDP)

	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
China	4.4	4.9	5.5	6.3	7.0
India	2.6	3.2	3.4	3.2	2.7
Indonesia	2.2	2.7	3.2	3.9	4.7
Japan	18.8	20.8	22.1	24.4	26.7

Source: Table 1 of Standard and Poor's (2010). The figure of 2010 is from the actual number.

Table-5 Total age-related spending (including public pension, health care, long-term care and unemployment benefits) of three Asian economies (% of GDP)

	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
China	5.4	7.6	10.5	12.7	15.1
India	2.2	2.7	3.3	3.9	4.4
Indonesia	2.0	2.7	3.5	4.6	5.5
Japan	18.2	19.1	19.3	20.4	21.3

Source: Table 3 of Standard and Poor's (2013). The figure of 2010 is from the actual number.

Selected Results: India

- Table 4.2 (Asher and Zen, 2016)

Table 4.2 India – Social security expenditure projections (percentage of GDP)

	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Public Pension (IMF 2011)	1	1	1	0.9	0.7
Pension Spending (S&P 2010a)	1.7	–	–	–	0.9
Total Age Related* (S& P 2010b)	2.6	3.2	3.4	3.2	2.7
Total Age Related* (S&P 2013)	2.2	2.7	3.3	3.9	4.4

Source: Compiled from Junichiro Takahata; total age related spending includes public pensions, health care, long-term care, and unemployment benefits.

- The methodology suggested therefore is to use country-context specific, disaggregated pension component based estimates rather than an aggregate macroeconomic model.
- This methodology also has its limitation as judgmental factors play a role, and only a range of estimates rather than point estimates are used.
- The methodology, however, does permit institutional and other characteristics, including the administrative and compliance efficiency to be taken into account in the estimates. The dynamics of each component will vary, and this methodology can account for this.

Selected Results: China

- Table 3.5 (Asher and Zen, 2016 pg. 53) typifies the projections of public pension expenditure for rapidly-aging China.

Table 3.5 Pension expenditure in BOAI

	2012	2015	2020	2025	2030
Pensioners (million)	78.93	96.56	132.57	178.99	222.95
Contributors (million)	215.35	216.99	212.41	200.83	188.21
Pension Revenue (billion)	1641.5	2437.6	4435.6	7432.5	11898.4
Pension Expenditure (billion)	1717.7	2912.6	6851.5	15604.3	32226.5
Balance (billion)	-76.3	-475.0	-2415.9	-8171.8	-20328.1
Balance as a percentage of current GDP	-0.14%	-0.61%	-1.70%	-3.36%	-5.03%
Accumulated deficit to current GDP	2.35%	0.56%	-5.06%	-15.52%	-31.78%

Sources: Simulation results

Selected Results: China

- China chapter identifies the parametric reforms, drawing on national social security fund, dividends from SOEs, investment returns from foreign exchange reserves and improving productivity, as among combination of options to help generate the fiscal space.

Selected Results: India

- Table 4.2 (Asher and Zen 2016 pg. 82)

Table 4.2 India – Social security expenditure projections (percentage of GDP)

	<i>2010</i>	<i>2020</i>	<i>2030</i>	<i>2040</i>	<i>2050</i>
Public Pension (IMF 2011)	1	1	1	0.9	0.7
Pension Spending (S&P 2010a)	1.7	–	–	–	0.9
Total Age Related* (S& P 2010b)	2.6	3.2	3.4	3.2	2.7
Total Age Related* (S&P 2013)	2.2	2.7	3.3	3.9	4.4

Source: Compiled from Junichiro Takahata; total age related spending includes public pensions, health care, long-term care, and unemployment benefits.

Selected Results: India

- The India chapter examines the projection of pension expenditures by various components, such as for civil service, military personnel, by private sector employees and the national social assistance programs.
- It also stresses the contingent liabilities inherent in many of the programs.
- In contrast to stagnant pension spending on pensions, and total age-related spending of around 1% of GDP projected by international agencies, the India chapter estimates that by 2030 between 2-4 percent of GDP will be needed for pension expenditure alone.
- It identifies greater professionalism among provident and pension fund organizations, using state assets more productively, and parametric reforms will be needed to generate the required fiscal space and sustaining high broad-base growth.

Selected Results: Indonesia

- The chapter provides the projection of the pension expenditures in Indonesia amidst the undergoing reform on social security sector triggered by new Law of SJSN where many of the arrangements are yet to be clearly spelled.
- One of the mandated new program by the Law is universal pension—the study assumes several scenarios, i.e. that the government will either extend a public pension for poor, for all informal sector, or for all members of population. The study finds that the government will have to spend 1-4.5% of GDP annually for basic public pension expenditures depending on scenarios assumed.
- Fiscal space-relieving measures can be achieved by increasing tax revenue, regularly increasing contribution, maximizing investment return, and sharing civil servant pension burden between Central and Local Government which could change the incentive structure of Local Government in their employment policies.

Generating Fiscal Space: A suggested Framework

- Fiscal space as a term is used in the literature quite loosely.
- ‘the availability of budgetary room that allows government to provide resources for a desired purpose without any prejudice to the sustainability of government’s financial position” Heller (2005)
- “...availability of budgetary resources for a specific purpose...without jeopardizing the sustainability of the government’s financial position or sustainability of the economy” (World Bank, 2015)
- “Fiscal space is the financing that is available to the government as a result of concrete policy actions for enhancing resource mobilization...” (Roy et al, 2007)

Generating Fiscal Space: A suggested Framework

- There is also an important difference between funding and financing:
 - Funding concerns allocating the share of GDP for pension needs of the elderly population
 - Financing concerns the methods which funding can be generated.

Generating Fiscal Space: A suggested Framework

- A financing-mix can be classified in several ways:
 - Budgetary support
 - Mandatory savings
 - Voluntary savings
 - Family and community support
 - Drawing down of accumulated physical and financial assets, including the conversion of housing equity into a retirement income stream.
- Another way of classifying the financing-mix is by the method used, such as:
 - Social insurance, usually PAYG arrangements whereby contributions from the young and investment income finance the pension benefits of the current elderly.
 - A Defined Contribution (DC), a Defined Benefit (DB), or a hybrid of the two.

Generating Fiscal Space: A suggested Framework

- Table 6 provides a suggested framework for generating fiscal space which can be used in a context-specific manner.

Table 6 :A framework for generating fiscal space

Areas for Generating Fiscal Space: A Suggested Framework			
<i>Enhancing broad-based economic growth</i>	<i>Improving revenue performance</i>		<i>Better expenditure management (shift in focus from spending to outcomes)</i>
	<i>Conventional sources</i>	<i>Unconventional sources</i>	
Using drivers of economic growth	Broadening tax base	Sale or lease of government assets/rights	Improving procurement practices
Crowd-in domestic and foreign investment	Preserving tax base (high locational elasticities due to globalization) (involves administration and compliance costs of taxation) (addressing tax shifting across jurisdictions)	Using government assets (including intangibles such as air-space rights, spectrum auctions, regulator-created property rights) more productively. Also, increasing returns on financial assets, such as foreign exchange reserves , commodity and sovereign wealth fund assets	Reforming subsidies and tax expenditures
Harnessing Demographic dividend	Improving tax compliance	Deepening municipal bond markets	Reforming State-owned enterprises
Improving overall productivity trends	Cost recovery and user charges (willingness to levy, capacity to collect)	Financial transaction taxes	Improving policy coordination and coherence, and adapting technology for better expenditure efficiency, and for minimizing inclusion, and exclusion errors
Improving debt management	Regulatory levies	Using Remittances from abroad more productively	Improving human resources in government at all levels, and improving access to expertise by governments, including for local governments.
Complementary reforms in sectors (labour markets, regulatory regimes) to facilitate growth and investment	Treasury and investment income		

Concluding Observations/1

- This presentation suggests that for most Asian countries, a more disaggregated approach to pension expenditure projections is likely to be more appropriate than the standard cross-country models and their methodology.
- This requires understanding of context-specific institutional and other arrangements of a country at the Federal and State or province levels. The cost dynamics of each component will vary, not likely to be captured with traditional methodology.
- Variances in population projections (probability estimates) need to be taken into account. As a result, range rather than point estimates would be more policy relevant.

Concluding Observations/2

- Increasingly, contingent liabilities and fiscal risks of current methods of funding and financing pensions will need to be incorporated in the analysis.
- Distinction between Funding (share of GDP devoted to pensions , and health care), and financing arrangements or methods (PAYG, DB, DC etc.) and (budget financed, insurance both private and social, tax-incentive induced voluntary and mandatory saving) is critical.
- Fiscal space generation must be viewed in an integrated manner (using growth drivers, improving conventional and unconventional sources of revenue, and better expenditure management) and not in an isolated ad-hoc manner.

References

- Asher, Mukul G., and Fauzia Zen, 2016. *Age Related Pension Expenditure and Fiscal Space: Modelling Techniques and Case Studies from East Asia*, Oxon: Routledge