Reassessment of NTA estimation from the viewpoint of SNA: baed on a preliminary fact-finding survey

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0．Motivation

➢ In NTA estimation the condition of the basic statistics is important.

➢ However, this situation varies by country, so each country employs its own method in NTA estimation.

➢ NTA need to be adjusted in order to make it consistent with macro control that is estimate by SNA and age profile that constructed with micro base detail data.

➢ At that point, there are some problems; the gap of macro-micro statistical concept, availability of the details data and SNA international standard.

➢ We conduct the survey (see Appendix) in order to point out the problems of the differences among individual countries.

➢ Especially Asia Area at this time.

1-1　Gap between 68SNA and 93SNA

➢ Private Consumption

    (-) education and health consumption →Provider

    (+) introduction FISIM

-   In 68SNA, education and health consumption transferred from government were classified in private consumption.

-   After introduction of 93SNA, these consumption transfer to public consumption.
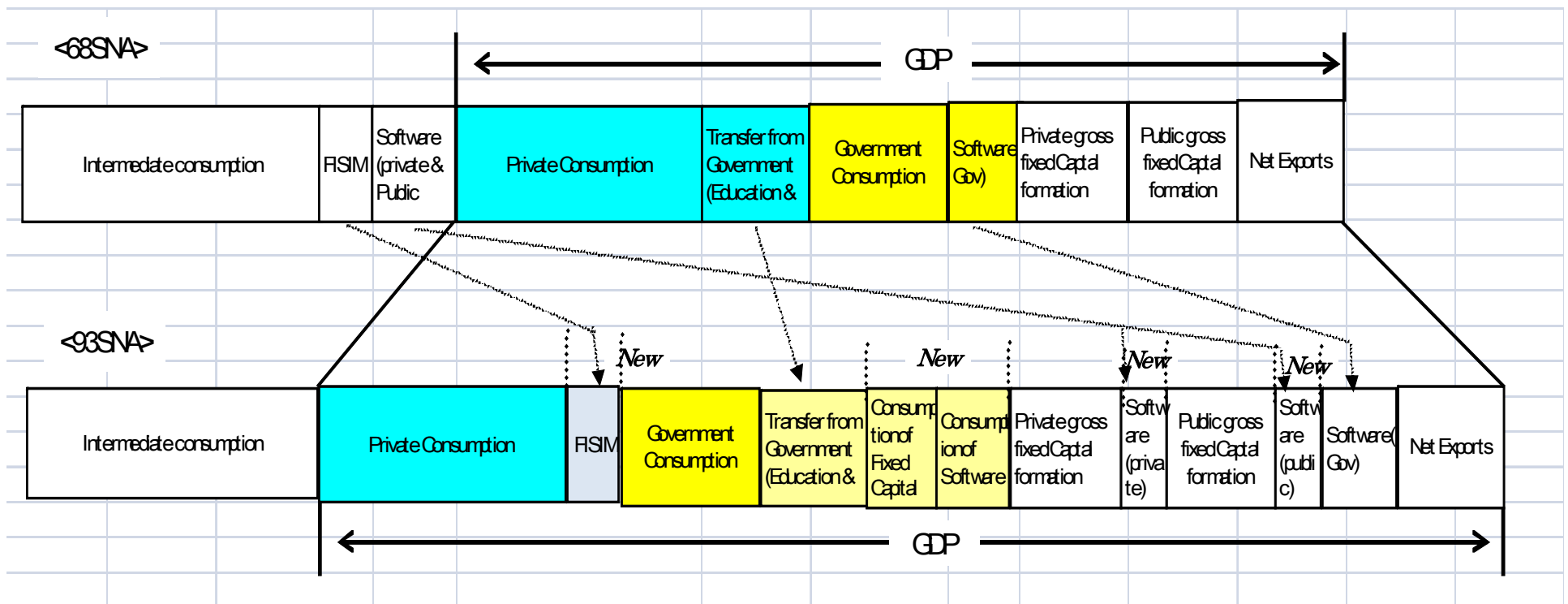
➢ Public Consumption

    (+) education and health consumption

    (+) consumption of public Fixed Capital

-   The range of consumption of public Fixed Capital is extended to public property like dam, road and bridge in 93SNA and is appropriated to public consumption.

1-1 Gap between 68SNA and 93SNA

➢ At the result, 93SNA base public consumption is larger than 68SNA base.

1-2　Which SNA standard are you using?

➢　All NTA in Asia are estimated in 93SNA consistently.

	NTA Index Eatimation Years				NTA Index Eatimation Years		
Australia	2003-2004 fiscal year	93 SNA	same	South Korea	1996, 2000, 2005	93 SNA	same
India	2004	93 SNA	same	Thailand	2004, 2009	93 SNA	same
Japan	1984,89,94,99 and 2004	93 SNA (not including FISIM)	same	Taiwan	1985, 1995, 1998	68 SNA	same
					2005	93 SNA	
Philippines	complete (1999, 2007)	93 SNA	same	Vietnam	2008	93 SNA	same
	partial (1994, 2002)						

2.Influence in basic statistics for Age profile

- ➢ Interval of basic investigation for age profiles fixes the date for estimating NTA.

- ➢ As the result, there are no same date in NTA estimation in Asia.

	NTA Index Eatimation Years	Basic Statistics			
		for age profiles	interval	population-related statistic surveys	interval
Australia	2003-2004 fiscal year	Household Expenditure Survey and Survey of Income and Housing, Australia, 2003-04	approximately every 5 years	Census of Population and Housing	every 5 years (latest 2006
	-	-	-	Australian Demographic Statistics	every quarter or 4 times a year
India	2004	India Human Development Survey (IHDS) 2004-05	approximately every 5 years (second round of IHDS in 2011-12)	Census	approximately every 10 years (latest 2011)
	-	-	-	-	-
Japan	1984,89,94,99 and 2004	National Survey of Family Income and Expenditure	every 5 years	Population Census	every 5 years (latest 2010)
	-	-	-	Population Estimates	every month
Philippines	complete (1999, 2007)	Family Income and Expenditure Survey (FIES)	every 3 years (eg., 1997, 2000, 2003, 2006)	Census of Population	approximately every 5 years (eg., 1995, 2000, 2007)
	partial (1994, 2002)	Annual Poverty Indicator Survey	conducted between FIES years, starting 1998.	Labor Force Survey	every quarter or 4 times a year
South Korea	1996, 2000, 2005	Household Income and Expenditure Survey	every year	Population Census	every 5 years (latest 2010)
	-	-	-	-	-
Thailand	2004, 2009	Socio economic survey	every other year	Population Census and Survey of Population Change	every 10 years (latest 2000)
	-	-	-	-	-
Taiwan	1985, 1995, 1998	Family Income and Expenditure Survey	every year	Population Census	every 10 year
	2005	-	-	Population Statistics Yearbook	June every year
Vietnam	2008	Household Living Standards Survey 2008	every other year since 1979	Population Census	every 10 years (latest 2009)
	-	-	-	Labor Survey	July every year

Note) The lower of Basic statistics is the complementary statistics for main.

3.Impact of aggregate control between SNA and micro basic statistics

➢ Important feature of the NTA need to be its consistency with SNA (macro) and aggregated micro data.

➢ But there are certain gaps because of the difference in statistical concept.

- SNA include; imputed service of owner-occupied dwellings and education shared the cost with public.

- Household does not to recognize the donation and allowance within family as private consumption

3.Impact of aggregate control between SNA and micro basic statistics

➢ According to the adjusting factor rate, the rate of consumption is larger than the rate of income.

	Adjusting factor				Adjusting factor	
	private consumption	labor income			private consumption	labor income
Australia	0.857210084 (=sum of age profiles/ SNA)	0.808695592 (=sum of age profiles/ SNA)		South Korea	0.8%~ 1.2%	0.4%~ 1.4%
India	-	-		Taiwan	1.56%	1.17%
Japan	15.27%	15.62%		Thailand	3.86%	1.43%
Philippines	3.03%	1.91%		Vietnam	-	-

$$X_{adjusted}(x) = \left\{ \frac{MacroControl}{\sum_{a=0}^{a=90+} X_{unadj}(a)Pop(a)} \right\} X_{unadj}(a)$$

4.availability of details for private and public consumption

➢ Why consumption rate is larger than income. We investigate the availability of details for private and public consumption by survey.

➢ Details of public and private consumption can be found in SNA, distinguishing education, health and other consumption.

➢ Though NTA estimation requires the detail consumption, this situation varies by country.

4.availability of details for private and public consumption

	Private sector		Public sector	
	availability	adjusted methods	availability	adjusted methods
Australia	Yes	-	Yes	-
India	No	Data are drawn from different sources, and combined to generate each factor consumption by levels. We presume that the above shares in 1995-96 remained the same in 1999-00.	No	Data are drawn from different sources, and combined to generate each factor consumption by levels. We presume that the above shares in 1995-96 remained the same in 1999-00.
JAPAN	Yes	-	No	there are no details for public consumption during 1980-1989 based on 1993SNA. Percentages of public education, health care and other public consumption in 1990 (1993SNA) are used to compute details for aggregate public consumption during the 1980s
Philippines	No	Using share computed from household income and expenditure survey	No	dividing total public education expenditures (data from NEXA) and health expenditures (data from NHA) by total government budget (data from NSCB, 2003)
South Korea	-	-	No	We treated them as public consumption because we could not separate out them from government consumption.
Taiwan	Yes	-	Yes	-
Thailand	Yes	-	No	To use other government data; MOF data
Vietnam	Yes	-	Yes	-

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5.Revision of SNA

➤ SNA is continuously updated every year.

	technical support or expert advice	Re-esyimation for SNA Revision
Australia	-	No, no such re-estimation is conducted
India	Yes	SNA 1993 is continuously updated every year with estimates for the current year. At present, the SNA is available from 1999-00 to 2009-10
JAPAN	Yes	No
Philippines	Yes	Re-estimations of Philippine NTA are done primarily because of decisions to change estimation approach or method; but in the process of such re-estimations the weights are then also adjusted (if necessary) to reflect any revisions in Income Accounts.
South Korea	No	No
Taiwan	Yes	No; we are about to do the whole set (1981-2009) again, as we just collected quite a few revised data, and are thinking of modifying some estimation scheme (on education, health and social insurances).
Thailand	No	No
Vietnam	No	Yes, of course. We will try to re-estimate all indicators as much as possible once relevant data are applicable and available.

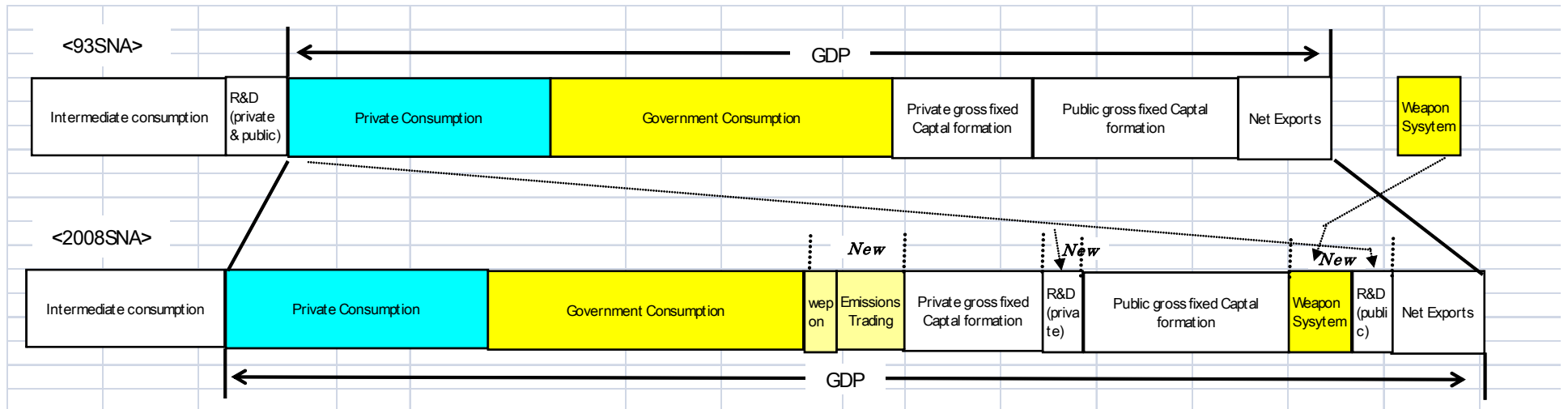## 6-1   Adjustment of calendar and fiscal year-based data

➢   In NTA, calendar year estimation is required .

➢   However, there are countries where the fiscal and calendar year do not overlap.

➢   Australia NTA is 2003-2004. Australia fiscal year is from July 2003 to June 2004.

Fiscal interval	Countries and areas
The same as calendar year	China ,South Korea ,Taiwan
	France ,Germany ,Holland ,Belgium ,Switzerland ,Russia
April to March	Japan ,India ,Singapore ,Indonesia
	Great Britain (4/ 6 ~ 4/ 5) ,Denmark ,Canada
July to June	The Philippines, Australia, New Zealand
	Norway, Sweden, Greece
October to September	Thailand ,Myanmar
	USA

6-2 switch 93SNA to 2008SNA

(Main modification)

1. details for estimation of productivity
2. emission trading included in the public consumption
3. arms (weapon) included in the investment formation

   → US NIPA has already introduced the weapon factor.

<93SNA>	GDP						
Intermediate consumption	R&D (private & public)	Private Consumption	Government Consumption	Private gross fixed Captal formation	Public gross fixed Captal formation	Net Exports	Weapon Sysytem

<2008SNA>			New		New		New	
Intermediate consumption	Private Consumption	Government Consumption	wepon	Emissions Trading	Private gross fixed Captal formation	R&D (private)	Public gross fixed Captal formation	Weapon Sysytem	R&D (public)	Net Exports

GDP

6-3 Investigation timing of micro basic statistics

➢ Micro basic statistics is investigated on fixed point observation.

➢ For example, "National Survey of Family Income and Expenditure" in Japan inquires on only October.

➢ Because of specific observation, some seasonal consumption like private transfer is likely to underestimate.

Brief Conclusion

➢ This survey is intended to shed light on problems in NTA estimation and contribute to the improvement of its accuracy.

➢ After this conference, Survey results will be made available to the participants.

Thank you for your attention!