

Technical Report  
International Workshop on Household Income, Consumption  
and Full Accounting of the Households Sector, Beijing, China,  
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This report focuses mainly on the technical issues discussed at the workshop. It has two parts. The first part summarizes the results of the survey sent to participants before the workshop. The second part presents the main conclusions of the workshop.

**I. Analysis of household income and expenditure collected from household income and expenditure survey and obtained by national accounts**

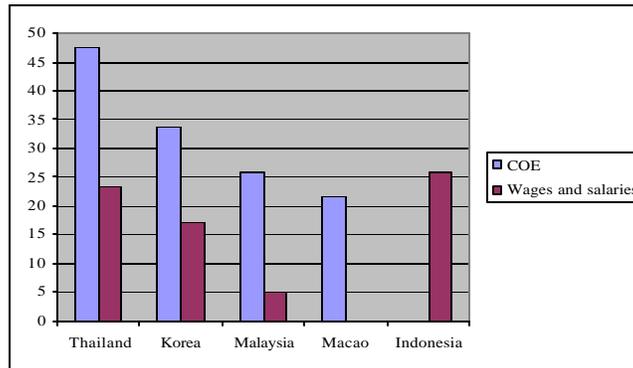
*The main conclusion drawn from the analysis of country data collected by the questionnaire survey of countries participating in this workshop is that both data on household income and expenditure collected from household income and expenditure survey, even focusing only on cash expenditure in the market, are well below disposable income and final consumption expenditure obtained through national account compilation.*

To obtain data for the above analysis, a questionnaire was sent to participating countries. It has two tables. For information, questionnaire forms and results are included at the end of the report.

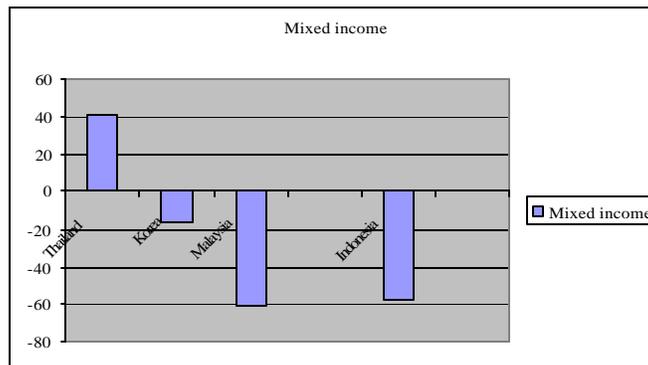
Table 1 collects data on national accounts with the aim to see across countries the contribution to GDP by both institutional sectors (corporations sector, government sector, nonprofit institutions serving households, and the household sector) and by activities. It focuses on goods and services bought in the market versus goods and services produced for own consumption by households including imputed owner-occupied housing services. It also focuses on mixed income from unincorporated household activities versus compensation of employees received by households from corporate sectors and governments. The percentages obtained hopefully provide salient ratios as guidance to countries in national accounts compilation. Unfortunately, countries did not provide adequate data for useful analysis.

Table 2 collects data on income and final consumption expenditures obtained by household income and expenditure survey (HS) and by national accounts compilation technique (NA); the latter relies on balancing supply and use of goods and services through the use of the supply and use tables (SUT), which is also called the commodity flow approach. Some of the results are shown below. Complete data returns are included in appendix 2.

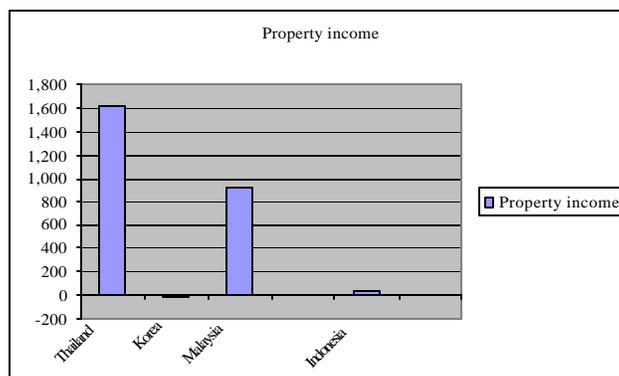
**Compensation of employees, wages and salaries, Ratio of NA/HS-1:** NA data are higher than HS data for COE from 20-45% and for wages and salaries from 5-25%.



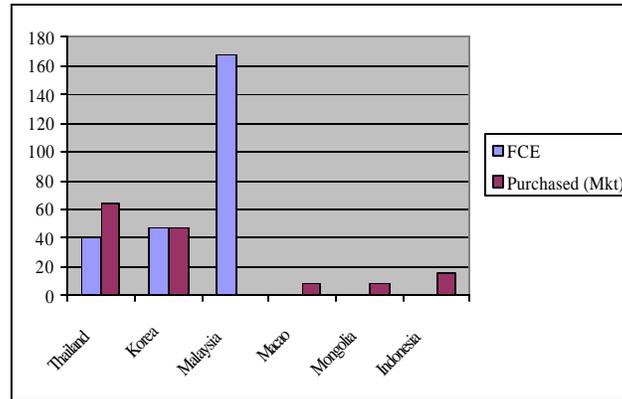
**Mixed income, Ratio of NA/HS-1: varies from country to country.** Surprisingly in three countries, mixed income of NA is lower than that obtained by HS. Data from HS are much lower than those obtained by NA. Either a better way should be designed for obtaining mixed income from HS or NA should be the main source as production data is more reliable. (i.e. by eliminating value added of corporations from total value added of activities where both corporations and unincorporated household enterprises are engaged in).



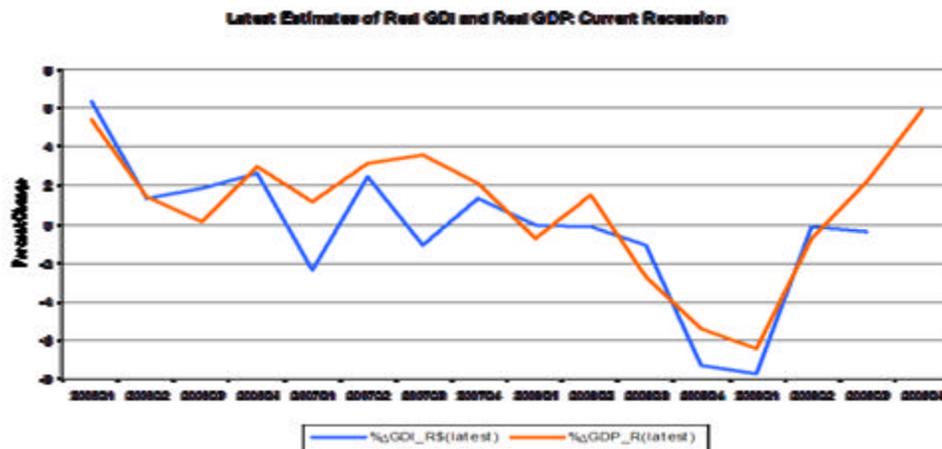
**Property income, Ratio of NA/HS-1: varies from country to country, but in general data from HS is highly unreliable.** Better sources for property income are from banking financial statistics and government finance statistics.



**Final consumption expenditure of households, Ratio of NA/HS -1:** varies from country to country, but highly unreliable in many countries. This is also true for final consumption expenditure on market goods and services (that exclude produced-for-own-consumption goods and services). For final goods purchased from the market, SNA data is higher than household survey data by more than 60% in Thailand, more than 40% in Korea and nearly 20% in Indonesia.



The shortcoming of data collected through household surveys is also reflected in the statistical system of the United States as confirmed by Brian C. Moyer, Deputy Director of the US Bureau for Economic Analysis at the workshop. In the US, final consumption expenditures from household surveys are mainly used as weights for Consumer Price Indexes (CPI) calculation. There, GDP are compiled regularly by final demand approach and income approach, the former is considered more reliable. Final consumption expenditures are compiled on the basis of data trend in retail sales and administrative data such as sale taxes, etc. and not on the basis of household surveys. GDP by final expenditures (GDE) are considered more reliable than GDP by income approach (GDI). The reason is that 77% of data are based on early source data and 23% on judgmental trend, while for GDP by income (GDI), only 37% are based on early source data but 63% on judgmental trend. See below the differences in percentage changes of real GDP by both approaches.<sup>1</sup>



<sup>1</sup> Brian C. Moyer, GDP using the income approach: the US experiences, International Workshop on Household Income, Consumption and Full Accounting of the Households Sector, Beijing, China, 26-28 March 2012.

In China, household income and expenditure survey captured about 70% of those obtained by national accounts, despite the fact that China has a long history of household which started since 1955. China's current household survey program is comparatively the most comprehensive in the world. It is carried out monthly with household diary and direct interviews with a sample size 140,000 covering down to the district level. China's National Bureau of Statistics is capable of producing household income and consumption on a quarterly basis. Even though with shortcomings, time series data on household income has been able to track income distribution in China over time. There, after the economic reform started in 1978, share of household income in the economy grew from 51% to 70.2% during the 1978-1988 period. However, this trend has been reversed since 1988 as share of household income steadily declined down to 57.2 in 2008 while shares of the government and corporations sectors grew (see table below). China plans to improve in the near future its household survey by aiming at collecting information for the calculation of imputed income such as owner-occupied housing services. It is recommended that basic detailed data collected for estimating owner-occupied housing services be made available to national accountants so that method different from household survey group may be applied. The efforts by China in household survey may provide valuable experiences to other countries.

**Structure of Income by Institutional Sectors (%)<sup>2</sup>**

Year	Governments	Corporations	Households
1978	35.8	13.2	51.0
1988	21.3	8.5	70.2
1990	21.8	9.3	68.9
1992	16.6	17.4	66.0
1993	17.3	19.9	62.8
1994	17.1	18.0	64.9
1995	15.2	19.7	65.1
1996	16.5	16.0	67.5
1997	17.0	16.7	66.3
1998	17.6	15.8	66.6
1999	16.9	17.1	66.0
2000	17.4	17.9	64.7
2001	16.7	20.1	63.2
2002	17.3	20.0	62.7
2003	16.9	20.7	62.4
2004	16.9	23.5	59.6
2005	17.4	23.2	59.4
2006	17.9	23.1	59.0
2007	18.3	23.6	58.1
2008	17.5	25.3	57.2

<sup>2</sup> Faqi Shi, Measurement and Analysis of Disposable Income of China's Households Sector, Table 2, International Workshop on Household Income, Consumption and Full Accounting of the Households Sector, Beijing, China, 26-28 March 2012.

## II. Main conclusions of the workshop

1. Detailed data on goods and services in final consumption expenditure of households collected in household survey data are mainly used by countries for the purpose of providing weights to calculate consumer price indexes.
2. For the purpose of compiling final consumption expenditure on a more frequent periodicity such as quarterly and annual accounts, consumption expenditure data of a benchmark year, which are obtained by commodity flow approach with more complete sources of data collected by censuses and from administrative sources, are trend-extrapolated by data from retail sales and other sources. The best approach to annual data compilation is also to use commodity flow approach. Without able to extrapolate household final expenditure directly by retail trade statistics, most countries obtain it as a residual, taking GDP by production approach as given.
3. To arrive at more reliable GDP, GDP should be compiled by three approaches: the production, the final expenditure and the income approaches through the use of the supply and use tables, in which data from different sources are confronted with each other in order to arrive at the equalization of supply and use of goods and services in detailed classes.

## Appendix 1 Questionnaire forms

1. This survey aims at studying and sharing experiences in the use of household income and expenditure survey to compile household institutional sector accounts.
2. Participants are requested to fill table 1 and table 2 with actual data for one year, preferably the most recent year. Data for the two tables should be for the same year and data for household income and expenditure survey should be for the year where full-fledged household survey is carried out.
3. Participants are requested to fill as much as possible. However, at minimum the following are requested:
  - Table 1
  - Table 2: Data from household income and expenditure survey on compensation of employees, mixed income and final consumption of goods and services.
  - If details are not available, participants may provide more aggregate data. However, please provide as much as possible details on household unincorporated enterprises for table 1.
4. Please provide reasons for the differences between national income account data and household income and expenditure survey.
5. For the benchmark year in which household income and expenditure survey is available, please indicate how do you reconcile the differences between household survey and national accounts:
  - By commodity approach
  - Simply accept household final consumption of goods and services as the residual (by deducting gross capital formation, net exports and government final consumption expenditures from GDP obtained by production approach) and then use shares of consumption items from household survey to allocate final consumption by purposes (COICOP).
6. For convenience, both tables in word and excel are provided.

### Notes:

1. No values should be entered in shaded cells.
2. Household unincorporated enterprises also pay out wages to hired labor, but the most important income component is mixed income which is the mixture of compensation of employees paid by owners to themselves and net operating surplus. With no detailed information on consumption of fixed capital, mixed income can be treated as the sum of compensation and gross operating surplus.
3. Gross operating surplus of government activities should include only consumption of fixed capital as net operating surplus is zero.

**Table 1. GDP by income from production side**

	Compensation of employees			Other taxes less subsidies on production	Gross operating surplus	Value added/GDP
	Wages and salaries	Employers' social contribution	Mixed income			
<b>Corporations</b>						
Agriculture						
Construction						
Manufacturing						
Services						
<b>Household unincorporated enterprises/activities</b>						
Agriculture						
Construction						
Manufacturing						
Services						
Owner-occupied housing services						
Other production for own consumption at home						
<b>General government sector</b>						
Goods and services for individual consumption (education, health, postal, etc.)						
Goods and services for collective consumption (public administration, public and national security, etc.)						
<b>Non-profit institutions serving households</b>						
<b>TOTAL</b>						
<b>Taxes less subsidies on products</b>						
<b>GDP</b>						

**Notes on table 1:**

- \*Corporations, government activities, and non-profit institutions do not have mixed income.
- \*\*For government activities, gross operating surplus includes only consumption of fixed capital as net operating surplus is zero.
- \*\*For household unincorporated enterprises, gross operating surplus includes only consumption of fixed capital as net operating surplus is treated as part of mixed income.

**Table 2. Comparison of income, expenditure, saving, gross capital between household survey and national accounts**

	From Household survey	From national accounts	Percentage difference
<b>Compensation of employees*</b>			
Wages and salaries			
Employers' social contribution			
<b>Mixed income</b>			
Net income from agricultural activities (from sale and own consumption except owner-occupied housing)			
Residential rental income and other rental income less cost			
Net income from other activities			
<b>Property income</b>			
Interest received less interest paid			
Dividends received			
<b>Net social contributions (pension, insurance, social security with respect to government and insurance plans)</b>			
Social contribution paid			
Social benefits			
<b>Other net transfer income/gifts (receipts less payments)</b>			
From the economy			
From rest of the world (ROW)			
<b>DISPOSABLE INCOME</b>			
<b>Final consumption expenditure on goods and services</b>			
Purchased from market			
Food and beverages			
Manufactured goods			
Health			
Education			
Transport			
Communication			
Other services			
Production for own consumption			
Food			
Other goods			
Imputed owner-occupied housing services			
<b>GROSS SAVING</b>			
<b>Gross capital formation (fixed assets and land)</b>			
Purchase from market less sales			
Own-construction of residential housing			
Other own-manufactured assets			
<b>NET LENDING/BORROWING</b>			



	Thailand			Korea			Malaysia			Macao			Mongolia			Indone
	HS	NA	PD	HS	NA	PD	HS	NA	PD	HS	NA	PD	HS	NA	PD	HS
														4,515,638		
<b>Purchased from market</b>	<b>2,950,980</b>	<b>4,861,493</b>	<b>65</b>	<b>375,388</b>	<b>552,867</b>	<b>47</b>				<b>38,471,304</b>	<b>41,306,645</b>	<b>7</b>	<b>3,652,117</b>	<b>3,930,333</b>	<b>8</b>	2,775,6
Food and beverages	1,301,157	1,569,886	21	54,972	70,906	29				4,414,552	4,394,537	0	1,630,196	1,826,754	12	
Manufactured goods	216,155	403,515	87	40,682	58,792	45				7,967,666	8,079,071	1	620,868	568,203	-8	
Health	73,775	225,837	206	26,031	35,942	38				891,754	897,130	1	61,026	61,026	0	
Education	78,708	87,772	12	44,732	41,642	-7				3,426,382	1,740,394	-49	156,397	132,810	-15	
Transport	672,429	752,583	12	45,012	64,165	43				2,540,607	3,361,407	32	432,916	427,554	-1	
Communication	119,825	140,962	18	22,783	24,394	7				1,217,461	1,327,869	9	156,301	157,288	1	
Other services	488,932	1,680,938	244	141,176	257,026	82				18,012,880	21,506,237	19	594,413	756,698	27	
Production for own consumption	319,063	-		-	43,916					..	..	..				
Food	191,995	-		-	3,768					..	..	..	41,572			35
Other goods	127,108	-		-	40,148					..	..	..				3
Imputed owner-occupied housing services	395,657	292,806		-	39,571					..	..	..		585,305		381
<b>Adjustment for the change in pension entitlements</b>	<b>-</b>	<b>74,407</b>								..	..	..				
<b>GROSS SAVING</b>	<b>-47,226</b>	<b>669,609</b>	<b>1,518</b>	<b>77,478</b>	<b>57,087</b>	<b>-26</b>	<b>127,039</b>	<b>3,014</b>	<b>(98)</b>	..	..	..				64
<b>Gross capital formation (fixed assets and land)</b>					<b>-11,923</b>		4,885	20,274	315	..	..	..		2,738,308		31
Purchase from market less sales	-	-		-	-					..	..	..				
Own-construction of residential housing	-	-		-	-					..	..	..				
Other own-manufactured assets	-	-		-	-					..	..	..				
<b>NET LENDING/BORROWING</b>	<b>-</b>	<b>-</b>		<b>-</b>	<b>74097.7</b>		<b>122,154</b>	<b>-15,706</b>	<b>-113</b>							<b>33</b>