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Comparing the 1999 and 2007 Philippine NTA Estimates and Examining the Effects of a Definitional Change of Overseas Workers' Remittances¹

Michael R.M. Abrigo, Rachel H. Racelis and J.M. Ian Salas²

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Abstract

This paper compares the estimates of the 1999 and 2007 Philippine National Transfer Accounts (NTA) and examines the implications of using two alternative treatments or definitions of Overseas Filipino Workers' (OFW) remittances in the NTA. To reflect official definitions in the Philippine System of National Accounts, the treatment of OFW remittances in the estimation is changed from being mainly inter-household transfers in previous NTA estimates to being mainly labor income (earnings) in the revised NTA estimates. This results in a downward revision in lifecycle deficit estimates for 1999 and 2007, highlighting the sensitivity of estimates to definitional changes.

Keywords: National Transfer Accounts, economic lifecycle, intergenerational transfer, labor income age profile, consumption age profile, lifecycle deficit, overseas workers' remittances

¹ This paper is an output of the "Intergenerational Transfers, Population Aging and Social Protection in Asia" Project. The Philippine Institute for Development Studies (PIDS) and Nihon University Population Research Institute (NUPRI) implemented the Philippines component of said Project with support from the Thailand Development Research Institute (TDRI) and the International Development Research Center (IDRC). The Project was part of an international collaboration to develop and apply the National Transfer Accounts (see www.ntaccounts.org.)

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I. Introduction

This study is a follow-up to the series of studies that have been done since 2007 using the National Transfer Accounts (NTA) methodology. Aside from validating previous findings on lifecycle patterns of consumption and labor income for Filipinos, this paper compares and discerns changes in lifecycle patterns between the years 1999 and 2007, and in addition examines the effects of a definitional change or treatment of overseas worker remittances in the NTA estimates for the Philippines.

This paper is organized as follows. Section II provides an overview of previous application of NTA, including estimation procedures implemented, in the Philippines. Section III describes the population age structure of the Philippines. Sections IV and V compare the 1999 and the 2007 Philippine NTA consumption and labor income per capita profiles by type. Sections VI and VII discuss the implication of definitional changes on estimates of Lifecycle deficit and on consumption financing mix. Finally, Section VIII summarizes the results of our analyses.

II. Application of NTA in the Philippines

NTA Flow Account estimates in constant 2000 prices re-estimated for the year 1999 and new estimates for 2007 using NTA methodologies are used and analyzed in this paper. A short description of NTA and its methodology as applied using Philippine data is presented in this Section. For a more detailed description of data and estimation procedures used to estimate the full NTA Flow Accounts for the Philippines for the two years, and detailed discussions of the 1999 and 2007 Philippine NTA estimates, please refer to Salas and Racelis (2008), Racelis and Salas (2007), and Abrigo, Racelis and Salas (2012 and 2012a). Some general references on the NTA methodology also used in preparing the Philippine NTA include Lee, Mason and Lee(2004), Mason, Lee, Tung, Lai and Miller (2009) and United Nations (2013), among others.

NTA work in the Philippines

NTA was first applied in the Philippines in 2007 in the Asia's Dependency Transition Project implemented by the Philippine Institute for Development Studies (PIDS) and Nihon University Population Research Institute (NUPRI) with funding from the United Nations Population Fund (UNFPA). NTA flow accounts estimates for 1999 and estimates of selected NTA components for 1994 and 2002

were produced. The methods used and analysis of results are discussed in the following papers and chapter of a book: Racelis and Salas (2007); Racelis and Salas (2008); Racelis and Salas (2008a); Racelis and Salas (2011); and Salas and Racelis (2008).

Continuing work on the Philippines NTA (until 2012) is being carried out under the Intergenerational Transfers, Population Aging and Social Protection in Asia Project also implemented by PIDS and NUPRI with support from the Thailand Development Research Institute (TDRI) and the International Development Research Center (IDRC). In this Project, the 2007 Philippine NTA flow accounts were estimated nationally and by socio-economic group. While there have been some modifications in the methods used in the 2007 NTA estimation, the overall approach described in Racelis and Salas (2007) was followed.

Overview of NTA framework and methodology

NTA is a comprehensive system of accounts that measures the economic lifecycle and the associated economic support systems. Consumption and labor income age profiles, and economic flows from members of specific age groups to other age groups, referred to in NTA as age reallocation or intergenerational transfers, are measured at the aggregate level and for a prescribed period of time. In general those age groups in a population who produce more than they consume (surplus ages) support those age groups who consume more than they produce (deficit ages, mainly children and elderly): that is, reallocations of economic resources are made from surplus to deficit ages. The NTA additionally reports age reallocations by type of channel or system through which these are mediated. Economic lifecycle behavior of individuals and the choice of systems for intergenerational support in a country can have important implications on the welfare of the deficit age groups and on the country's economic development.

In NTA, the individual is the fundamental analytic unit. All transactions are treated as flowing to (from here forward referred as "inflows") and from individuals (from here forward referred as "outflows") and are classified on the basis of the age of those individuals. Public and private institutions mediate these transactions. Public reallocations are social mandates embodied in law and regulations and implemented by local, regional, and national governments. Private reallocations are voluntary or contractual transactions between individuals, households, firms, and charitable organizations. The household plays a prominent role in private age reallocations. In virtually every society, reallocations to children are dominated by intra-household transfers, and in many countries the elderly live with and are supported by their adult children.

The governing equation for the Flow Account which must be satisfied for any individual, household, age group, or (closed) economy, is

$$\underbrace{C - y^l}_{\text{Lifecycle deficit}} = \underbrace{rA - S}_{\text{Asset reallocations}} + \underbrace{\tau_g^+ - \tau_g^-}_{\text{Net public transfers}} + \underbrace{\tau_f^+ - \tau_f^-}_{\text{Net private transfers}}$$

Age reallocations
Net transfers

(1)

Consumption expenditures (C) and labor income (y^l) are defined in NTA as follows, using components of the Philippines National Income Accounts as reference:

$$\begin{aligned}
 C &= \text{personal consumption expenditures} \\
 &+ \text{government consumption expenditures} \\
 &- \text{indirect taxes} \\
 \\
 y^l &= \text{compensation of employees from resident producers} \\
 &+ \text{compensation of employees from rest of the world (ROW)} \\
 &+ 2/3 \text{ household operating surplus}
 \end{aligned}$$

The lifecycle deficit (LCD) is the difference between consumption (C), and production or labor income (y^l). A negative LCD indicates a surplus. The deficit or surplus must be matched by age reallocations consisting of asset reallocations and transfers. Asset reallocations consist of the difference between asset income (rA) and saving (S). Transfers consist of net public transfers or transfers mediated by government (public services received, y_g^+ , less taxes and other fees paid to government, y_g^-), and net private transfers or transfers mediated by households and other private entities (inflows to, y_f^+ , less outflows from, y_f^- , each age group).

Assets are not allocated among members of the household, but rather are assumed held by a single individual, the household head. In general, individuals accumulate assets during lifecycle surplus years and rely in their retirement years on asset income and dis-accumulation of capital to cover the lifecycle deficit. The function of assets as a reallocation tool for a single individual is to smooth his or her consumption over time or to reallocate resources across time for some other purpose. Thus, for any year's cross-section of age groups, the asset income and dis-accumulation of capital observed for older ages is not tied to the accumulation at younger ages.

Transfers, on the other hand, are transactions that transfer goods, services or cash from individuals belonging to one age group to individuals belonging to another age group with no expectation of quid pro quo in any form. Public transfers are mediated by governments which collects taxes from some age groups and then makes transfers to all or specific age groups. Private transfers are mediated by the family and by non-profit institutions serving households. Intra-household familial transfers are transfers made from household members with lifecycle surpluses to household members with lifecycle deficits. Inter-household transfers are transfers made from one household head to other household heads.

Philippine NTA Flow Accounts estimation

The main sources of data for the estimation of components of the 2007 and the 1999 updated Philippines NTA Flow Account include: the National Income Accounts, specifically the Income and Outlays breakdown, obtained from the National Statistical Coordination Board (NSCB); the most recent estimates available of the National Health Accounts and the National Education Expenditure Accounts (also from NSCB); the Family Income and Expenditure Survey (FIES) and the Annual Poverty Indicator Survey (APIS) by the National Statistics Office (NSO); and government finance and budget documents containing data for the relevant years. Additionally, the Survey of Overseas Filipinos (SOF) also from the NSO was used to generate the age profile of the compensation of OFWs.

The estimation of the Flow Account for the Philippines proceeds in the following (logical) order:

1. Using Equation (1) as reference, age profiles for components on the left-hand side of the equation were estimated, i.e. the age profiles of consumption and labor income were constructed. Consumption consists of both public and private components. Labor income consists of salaries/wages and self-employment income.
2. Lifecycle deficit and surplus age groups are identified by comparing consumption with labor income earned at each specific age.
3. Net public and net private transfers by age, i.e. right-hand side components in Equation (1), are estimated next. Except for the age profile of taxes, estimates of NTA components from Step 1 are used further in the computation of net public and private transfers, where net transfers equals inflows minus outflows.
4. (Total net) Asset reallocation is derived as a residual by rearranging the terms in Equation 1 and using the results from Steps 1 and 2. That is, asset reallocation equals lifecycle deficit less net private and public transfers.

Age profiles or per capita means of consumption and labor income by single year age groups are estimated from household survey data or using some other data and method. These are then compared with aggregate control totals constructed using National Income Account-equivalent of the NTA components. The age profiles are adjusted to match the aggregate control totals. Table 1 shows the NTA aggregate control totals for the Philippines in 1999 and 2007.

Philippine NTA Flow Accounts and two definitions of OFW remittances

Previous estimates of the 2007 Philippine NTA implemented a one-year residency correction on the compensation of employees from the rest of the world using Balance of Payment estimates of compensation of employees (under Income) and worker's remittances (under Current Transfers) as reported by the Bangko Sentral ng Pilipinas (BSP). BSP adopted the Balance of Payments Manual 5 (BPM5) in 2004, and observes the one-year residency rule for workers abroad to be treated as a resident of the Philippine economy (Gonzaga, 2007). BOP estimates using the BPM5 definition are available starting in 1999.

The BPM5 correction uses the ratio of compensation of employees to workers' remittance using the BOP estimate, and applying this ratio to PSNA estimate of compensation of employees from the rest of the world, to estimate the NTA aggregate control for compensation of employees from abroad. The residual of the remittances is re-classified as current transfers and enters the NTA aggregate controls as inter-household transfers. Thus, components of the NTA labor income and inter-household transfer age profiles, and in turn lifecycle deficit and intra-household transfers age profiles, are affected when applying the BPM5 approach.

The PSNA concept of compensation of employees from the rest of the world, on the other hand, is based on recommendations of the 1993 System of National Account. The operational definition used in the PSNA is based on one-year and two-year contracts for sea-based and land-based temporary migrant workers, respectively (Talento, 2004). The NSCB produces estimates of compensation from the rest of the world as part of the annual GDP estimates.

Table 1. NTA aggregate controls: Philippines, 1999 and 2007 estimates in current Php (billions)

	With BPM5 correction		PSNA concept	
	1999	2007	1999	2007
<i>Lifecycle deficit</i>	759	1,451	586	830
<i>Consumption</i>	2,278	4,770	2,278	4,770
Public	389	653	389	653
Education	88	151	88	151
Health	29	44	29	44
Others	271	459	271	459
Private	1,889	4,116	1,889	4,116
Education	102	225	102	225
Health	47	150	47	150
Others	1,740	3,742	1,740	3,742
<i>Labor Income</i>	1,517	3,305	1,692	3,941
Earnings	857	1,987	1,030	2,615
Self-Employment	662	1,326	662	1,326
<i>Age Reallocations</i>	759	1,451	586	830
<i>Transfers</i>	234	643	61	21
Public, Net	2	-2	2	-2
Private, Net	232	645	59	23
<i>Asset-based Reallocations</i> /1	525	808	525	808
Gross Domestic Product			2,976.9	6,647.3
Consumer Price Index (2000 = 100)			96.2	141.8
Population (Million) /2, 3			74.7	88.6

Note: Figures may not add up to total because of rounding.

1/ Asset-based reallocations were estimated as residuals

2/ 1999 figure based on National Statistics Office 1995 Census-based population projection.

3/ 2007 figure based on National Statistics Office 2007 Census of Population

NTA estimates presented in Racelis and Salas (2007), Racelis and Salas (2008, 2008a), Salas and Racelis (2008), and Abrigo, Racelis and Salas (2012a) are based on the PSNA definition. On the other hand, NTA estimates presented in Racelis, Abrigo and Salas (2012, 2012a, 2012b, 2012c) and in Abrigo, Racelis, and Salas (2012) all use the BPM5 definition.

As shown in Table 1, aggregate control of earnings using the PSNA definition of compensation of employees of workers from the rest of the world is about 20 and 30 percent larger in 1999 and 2007, respectively, compared to the corresponding values based on the BPM5 definition. With consumption unaffected by the change in the definition of remittances, aggregate lifecycle deficit is smaller under the PSNA definition. Furthermore, the change in definition has resulted in a much lower estimate of aggregate private net transfers in the PSNA-based estimates compared to the BPM5-based estimates.

Components Approach and Standardization

Similar to Racelis and Salas (2008), we adopt a components approach to analyze the change in age profiles of consumption and labor income over time. We then explore how consumption and labor patterns affect the consumption financing mix. Unlike in Racelis and Salas (2008), however, we utilize a much simpler method to achieve comparability over time using a price deflator, i.e. we deflate the age profiles using the Consumer Price Index with a common reference or base year, in this case the year 2000.

Following Racelis and Salas, we reformulate the per capita mean x_{it} of account x , age i and year t , deflated to the base year z as

$$\overline{x_{it,z}} = \overline{x_t} \delta_{t,z} \frac{\chi_{it}}{\eta_{it}} \quad (2)$$

where $\overline{x_t}$ is the per capita mean of account x at time t for the whole population. η_{it} and χ_{it} are shares of age i to total population and total account x at time t , respectively. Finally, $\delta_{t,z}$ is a price deflator linking prices at current year t and at the base year z . The national mean per capita values ($\overline{x_t}$) for consumption and labor income (as well as for other NTA aggregates corresponding to those shown in Table 1) are presented in Annex A in constant price. The shares of consumption and labor income at each age (χ_{it}) are shown in the Annex B figures. The population shares (η_{it}) are discussed in Section II.

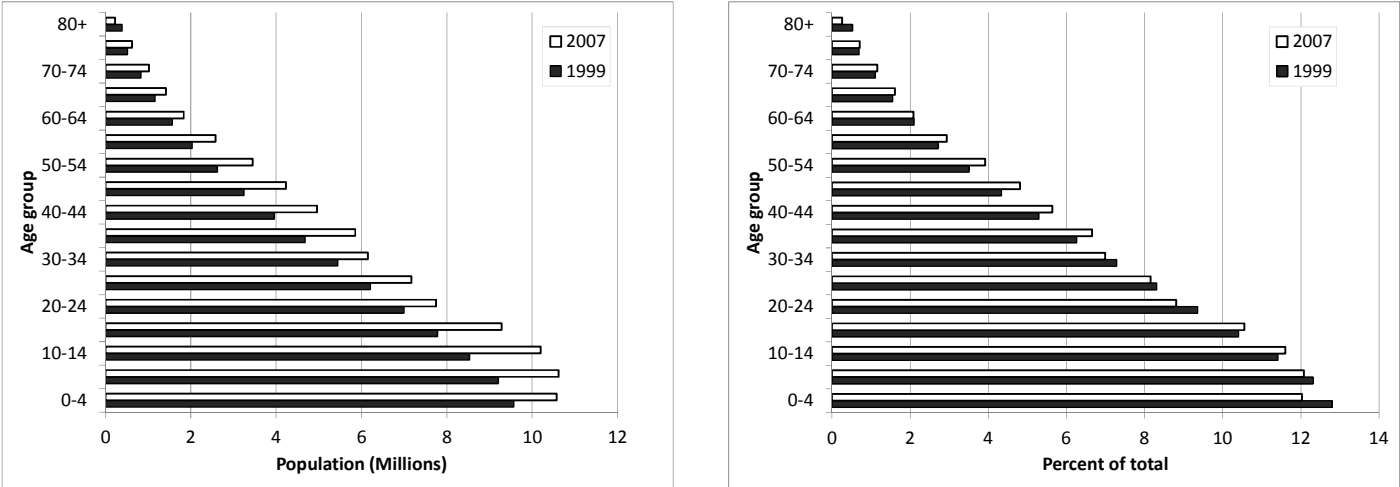
It may be observed from Annex A that mean per capita real values (PSNA-based) had annual real growth rates of 4.2 and 2.5 percent per year for labor income and consumption, respectively. Per capita public consumption at constant prices declined during the period. But per capita private consumption grew 3.1 percent and 8.9 percent per year for total and private health consumption, respectively. An examination of the figures in Annex B shows that the shares of consumption and labor income at each age had generally no changed from 1999 to 2007, except for: discernable increase in the shares of consumption at older ages starting about 50 years old in 2007; and shift of the highest share of labor income accruing to a younger age group in 2007.

The standardization procedure used in Racelis and Salas (2008) divide the age profiles by a reference amount from an NTA age profile, i.e. mean per capita values for prime age adults. This procedure not only removes the monetary value from the age profiles, but also introduces a common reference point, making the profiles comparable. While standardization using the mean per capita value for a specific reference age group is useful for detecting changes in the shape of age profiles across years, it is very challenging to apply this approach to undertake comparisons of age profiles not only across two time periods but also across two different estimation approaches (i.e. BPM5 versus PSNA). Hence, the simpler method of correcting only for inflation was adopted.

III. Population age structure

The population distribution by five-year age groups for the years 1999 and 2007 are shown in Figure 1. Population figures for 1999 are based on the 1995 census-based medium projection by the National Statistics Office (NSO), while that for 2007 are based on the 2007 Census of Population, also by NSO. As expected of a growing population, the young consists a large part while the elderly constitutes a very small part of the total population. In 2007, for instance, the population aged 65 years and older constitutes only about four percent of the total population, while those aged 14 years and below comprise 36 percent. While total population has increased by about 18 percent between 1999 and 2007, the gradual decline in the share of the young in the population is discernible.

Figure 1. Population by five-year age group: Philippines, 1999 and 2007



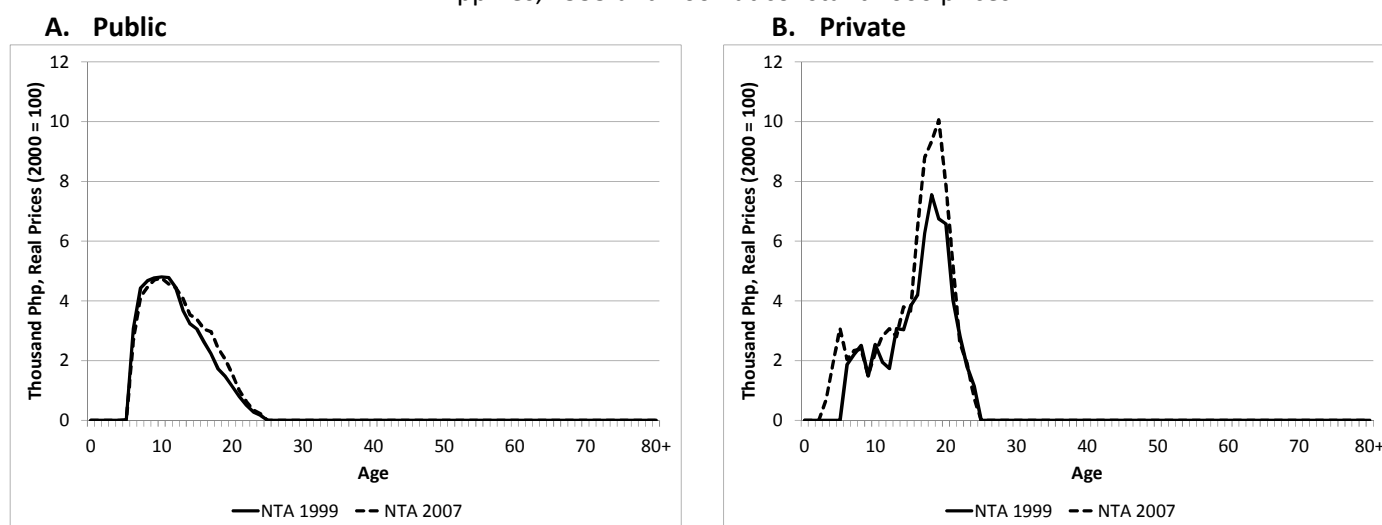
IV. Consumption

Education consumption

Public and private per capita education consumption age profiles at constant 2000 prices are presented in Figure 2. While the general shape of the per capita age profiles have remained relatively the same

between 1999 and 2007, there appears to be a significant increase in per capita education consumption at the tertiary level from both public and private sectors. Similar to earlier findings by Racelis and Salas (2008) using NTA estimates for 1994 and 2002, there are noticeably three humps on the per capital private education consumption age profiles, each at the start of primary, secondary and tertiary levels coinciding with ages 7, 13 and 16 years, respectively. While the single-humped public per capita age profiles reach its peak at earlier ages (10-12 years age group), that for private education consumption peaks at later ages (18-20 years age group), reflecting the universal free basic education program and more limited tertiary level support of the government. Zero private per capita education consumption estimates in 1999 for the population less than six years old reflects data unavailability for that age group. In 1999, APIS collected school attendance information for household members between 6 and 24 years old and in 2007 the range used for schooling ages became 3 to 24 years old.

Figure 2. Age profile of per capita education consumption by type: Philippines, 1999 and 2007 at constant 2000 prices



Health consumption

The real per capita health consumption age profiles for public and private sectors are shown in Figure 3. The age profiles show the typical U-shaped profile for health spending: health expenditure are highest during the early and later years of the lifecycle. Per capita public health spending for the very young and the very old is about three times for that of the 35-39 years age group. For per capita private health consumption, however, the peak at old age is more than double than that for the peak at birth, thus the observation that it is J-shaped. Similar to that in Racelis and Salas (2008), there appears to be a trend towards increasing private spending through the years, especially at later ages, while the public consumption per capita age profile has remained relatively unchanged.

Figure 3. Age profile of per capita health consumption by type:
Philippines, 1999 and 2007 at constant 2000 prices

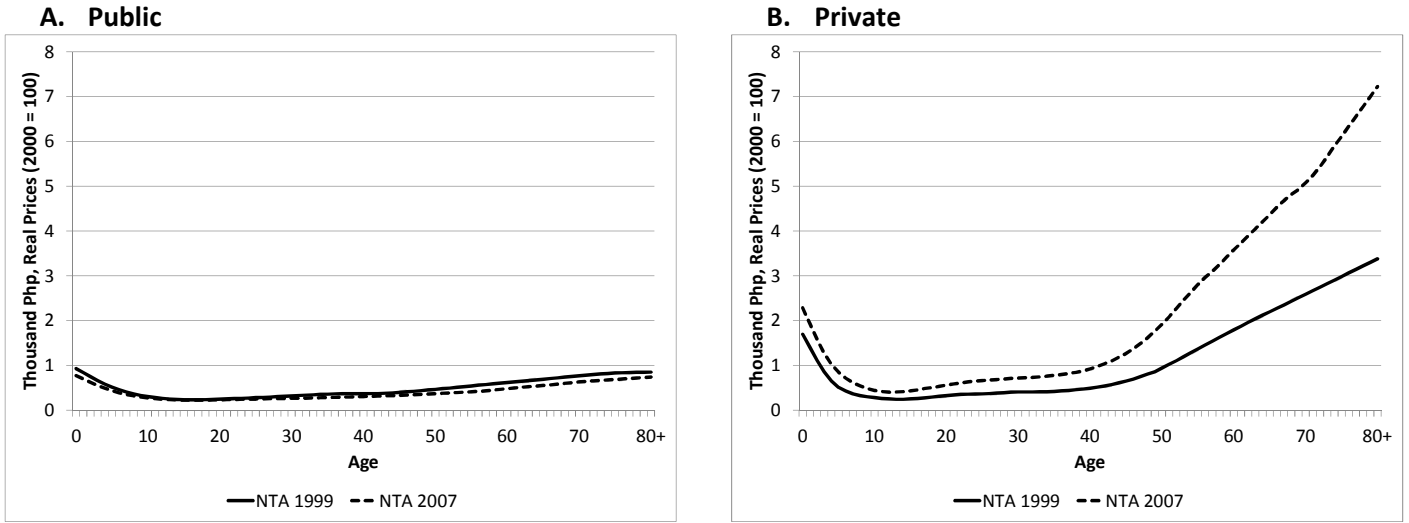
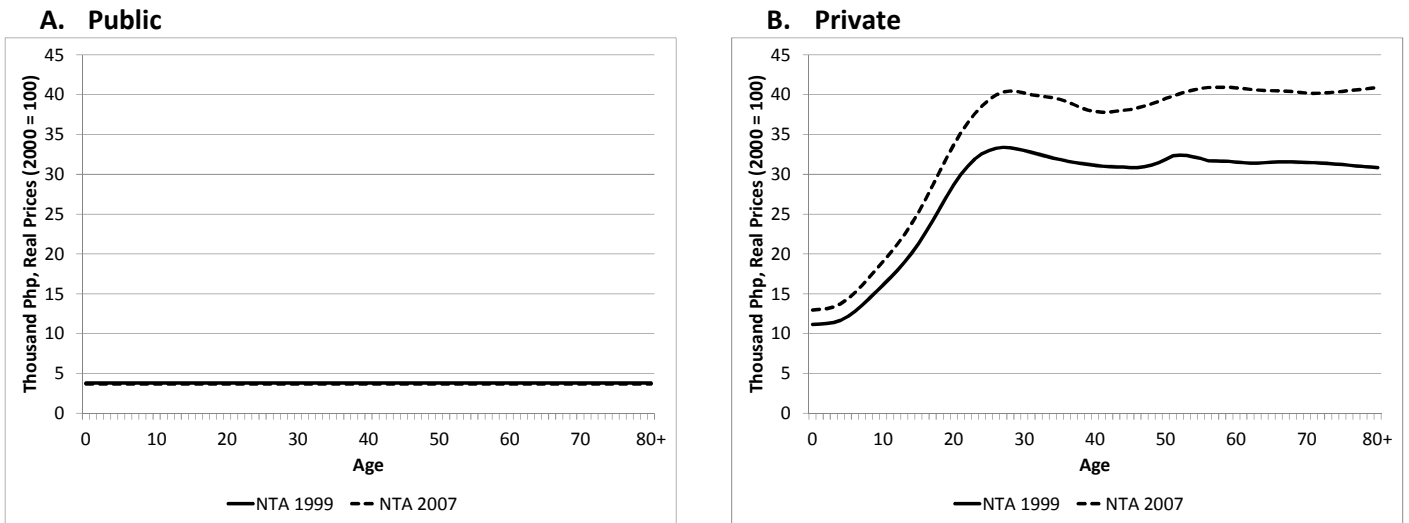


Figure 4. Other consumption per capita age profile by type:
Philippines, 1999 and 2007 at constant 2000 prices



Other consumption

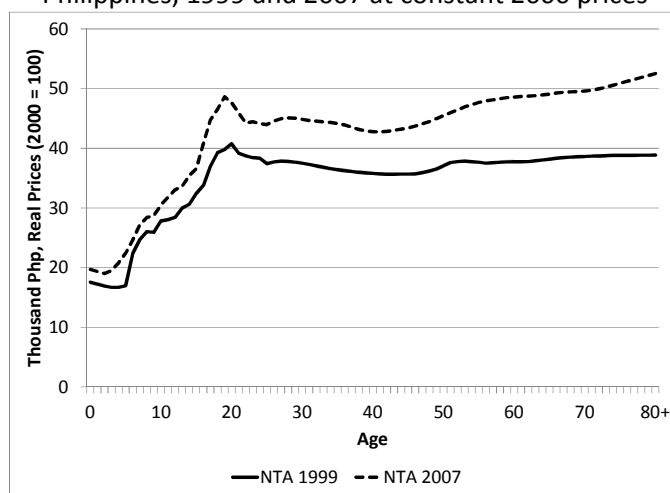
The per capita public other consumption profile has remained almost the same between 1999 and 2007 (Figure 4, Panel A). Its shape is driven by our simplifying assumption that public consumption other than health and education uniformly benefits every individual in the population equally. While the shape of the private per capita other consumption age profile (Figure 4, Panel B) has remained the same, it has increased between 16 and 32 percent across age groups in 2007. The age profile for private other consumption per capita is driven by the allocation rule, i.e. an *ad hoc* equivalence scale, used to distribute household expenditures net of education and health spending to its members. The allocation

method assigns the following weights to household members on the basis of age: 0.4 for children aged 0-4 years; linearly increasing from 0.4 to 1.0 from age 5 to 19 years; and 1.0 for members aged 20 and older.

Total consumption

Total consumption consists of both public and private consumption, and includes consumption of education, health and others. Private consumption accounts for 83 and 87 percent of total consumption in 1999 and 2007, respectively. Only less than 10 percent of private consumption goes to education and health spending. Thus the total consumption age profile shown in Figure 5 is strongly influenced by the shape of the private other consumption per capita age profile. The pattern across ages is such that there are pronounced sharp increases in mean values as age approaches 7, 13 and 16 years, reflecting the influence of the education consumption per capita age profile. While the shape of the total consumption per capita age profile has remained the same between 1999 and 2007, there is a marked increase in real levels of per capita consumption across all ages between the two years, with the gap increasing with age. Also observable is the rising real per capita total consumption starting at age 50 years in 2007 while the corresponding per capita values for the same ages was relatively flat in 1999.

Figure 5. Age profile of per capita consumption: Philippines, 1999 and 2007 at constant 2000 prices



V. Labor Income

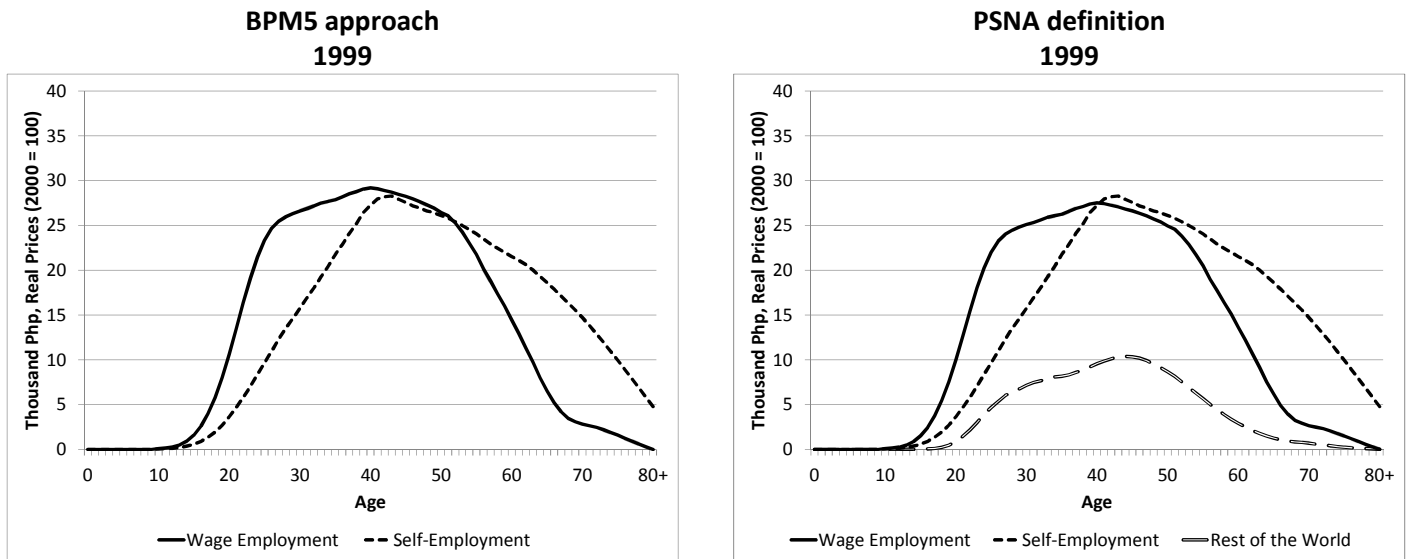
Treatment of overseas worker remittance as either compensation of workers temporarily abroad (PSNA) or as transfers among households (BPM5) in NTA estimation greatly affects the shape and level of the labor income age profile. Figure 6 presents the 1999 and 2007 labor income age profiles by type at constant 2000 prices using the BPM5 approach and the PSNA definition.

Only two types, i.e. wage- and self-employment incomes, are shown for labor income using the BPM5 approach. Age profile of overseas worker remittance treated as labor income in BPM5 is incorporated in

the labor income age profile of domestic wage earners. In the BPM5, only about 20 percent of the total labor compensation of overseas workers (using the PSNA estimate as reference) is captured and designated as labor income. With the PSNA definition, labor income from the rest of the world is treated as a separate account and, for consistency, a separate age profile is also estimated. Thus, three age profiles are shown using the PSNA definition of remittances.

All labor income profiles exhibit the expected U-shape, i.e. per capita labor income increases from early ages, reaches its peak at prime age, and decreases thereafter. However, the patterns of the per capita means differ across age and type of labor income. The per capita wage income profile shows a sharp increase between the ages 15 and 25 years, and a sharp decrease after the mandatory retirement age of 65 years. The 1999 per capita wage income profile shows an increase in mean wage earnings up to age 40 years, however, the decrease in earnings started earlier at 30 years for the 2007 age profile. Self-employment income, on the other hand, reaches its peak at an older age, about 43 to 45 years, in 1999 and 2007, and overall pattern by age are generally unchanged. Self-employment income constitutes an important source of income, especially for the 65 years and older, i.e. post-retirement age population. In the aggregate (Table 1), self-employment income comprises about 30-40 percent of total labor income both years.

Figure 6. Age profile of per capita labor income by definition applied:
Philippines, 1999 and 2007 at constant 2000 prices





As noted in Racelis and Salas (2008), education and retirement patterns of workers are two important factors which may explain the difference between the two age profiles. Individuals who have completed college education usually enter formal sector paid employment between the ages 20 and 25 years, thus the sharp increase in earnings per capita age profile. Furthermore, paid employment is subject to the mandatory retirement age provision of the 1974 Labor Code, thus the sharp drop in mean per capita earnings after the age of 65 years. These two factors have less impact on self-employment income because the compulsory retirement age is generally not observed, and because there is a much lower proportion of workers with college education among the self-employed.

Similar to self-employment income, the per capita mean income from the rest of the world reaches its peak at an older age, past age 40 years. The age profile for labor income from the rest of the world also reflects the characteristics of overseas Filipino workers. As noted by Orbeta and Abrigo (2009), overseas Filipino workers are generally younger and better educated than workers in the domestic labor market. Unlike earnings from local workers, however, labor income from the rest of the world decreases sharply after age 45 years, i.e. 20 years before the mandatory retirement age. This may reflect two possibilities: (a) overseas workers cease from working abroad when they get older and are replaced by younger workers, and/or (b) they cease to become temporary migrant workers and had become permanent residents in their places of work.

Figure 7 presents per capita labor income estimates by type for the years 1999 and 2007 using the PSNA definition. In addition to differences in age profile shapes between 1999 and 2007, and across types, real levels have likewise changed. Real per capita levels of paid employment income of workers in both domestic and international labor markets have increased, and this is reflected in the age profile for total labor income. Furthermore, there appears to be a slight shift to the left in the self-employment income age profile, suggesting that the younger population is venturing into self-employment earlier.

Figure 7. Age profile of per capita labor income using PSNA definition, total and by type: Philippines, 1999 and 2007 at constant 2000 prices



VI. Lifecycle Deficit

Aggregate age profiles

Figure 8 presents the aggregate consumption and labor income age profiles using the BPM5 approach and the PSNA definition. Between 1999 and 2007, real aggregate consumption and labor income has increased. The change in remittance definition from BPM5 to PSNA has resulted in an increase in aggregate labor income estimates, which is more pronounced in 2007 than in 1999.

Figure 8. Age profile of aggregate consumption and labor income:
Philippines, 1999 and 2007 at constant 2000 prices

BPM5 approach
1999



PSNA definition
1999



2007



2007

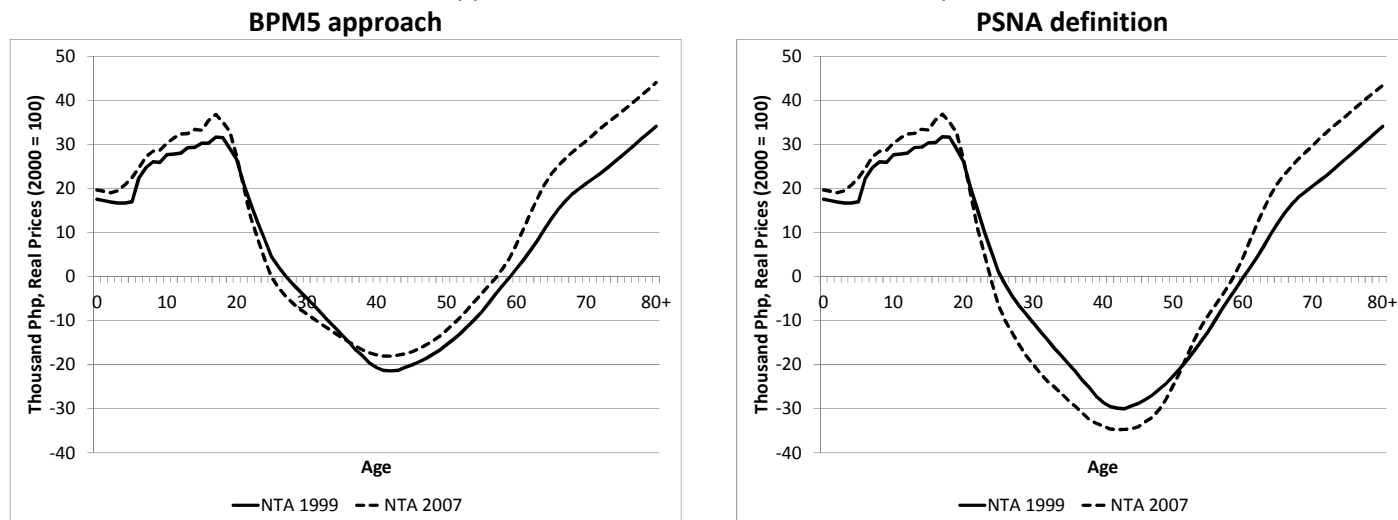


Per capita age profiles

As described previously in Section II, the difference between consumption and labor income at each age is referred to as the lifecycle deficit. A negative lifecycle deficit, i.e. labor income is greater than consumption, is referred to as lifecycle surplus. In the aggregate, an increase in labor income due to the definitional change from BPM5 to PSNA is expected to result in a lower estimate of lifecycle deficit for both years. Inspection of lifecycle deficit per capita profiles in Figure 9 shows how the definitional change affects our estimates. While both definitions point to a slight left shift in the age profile between 1999 and 2007, the shift is more pronounced using the PSNA definition. This reflects both the age distribution of overseas workers and the level of compensation they had remitted to the Philippines. There appears to be very negligible differences in the young deficit and elderly deficit cut-off ages using

either definition across the two years 1999 and 2007, which is not surprising given that the age distribution of overseas workers changed only slightly.

Figure 9. Age profile of per capita lifecycle deficit:
Philippines, 1999 and 2007 at constant 2000 prices



VII. Finance of Consumption

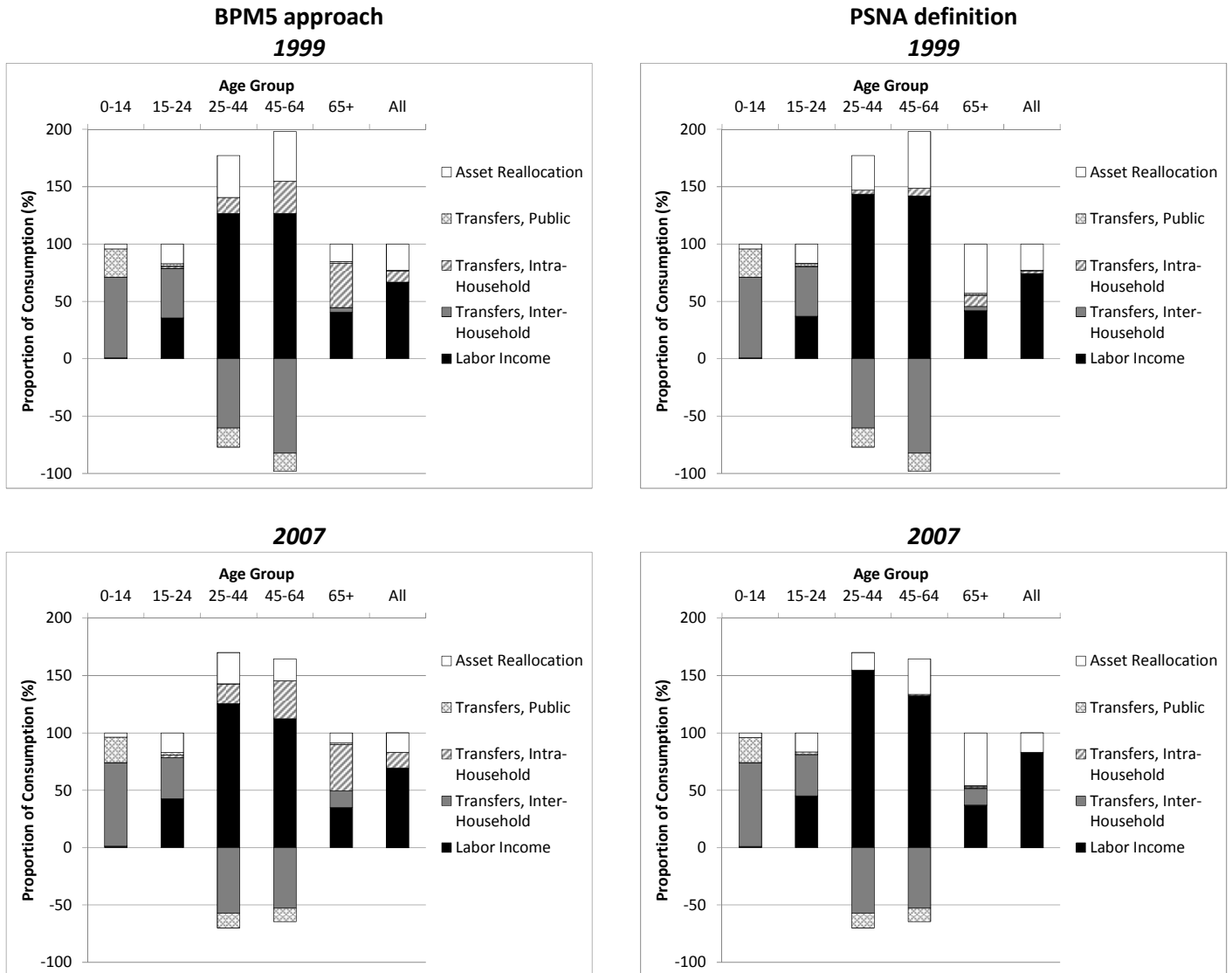
The definitional change of overseas workers' remittances is likewise expected to result in changes in the estimates of age-based reallocations. Figure 10 shows how aggregate consumption by age group is financed. With the BPM5 approach, inter-household transfers play a more significant role in financing consumption. Inter-household transfers enter the household's consumption via transfers to household heads, and redistributed to other members as intra-household transfers. Using the PSNA definition, a large proportion of remittances are assigned as labor income. Thus there is less resource transfers between households, specifically between household heads. However, intra-household transfers remain the same. By assumption, labor income net of consumption in the NTA accrues to the household head, who then redistributes it to members who are in deficit.

The reassignment of OFW remittances with the change in its treatment has likewise resulted in changes in the estimates of asset-based reallocation, which are currently estimated as a residual. Remittances that are treated as inter-household transfer inflows in BPM5, and thus are assigned to household heads, are treated as labor income in PSNA, and assigned to persons who are usually younger than the household head. This has resulted in smaller deficits for age groups with large proportions of overseas workers, and in contrast larger deficits for age groups with high proportions of household heads.

The difference in remittance treatment in the BPM5 approach and in the PSNA definitions also brought about a change in the mix for financing consumption for different age groups among labor income, transfers, and asset-based reallocations. The redefinition has resulted in the population aged 25 years and above showing more reliance on labor income in the PSNA-based estimates than in the BPM5-based

estimates. Those aged 45 years and above show a heavier reliance on asset-based reallocations. The young deficit age groups, i.e. those less than 25 years old, are largely unaffected by the change in definition.

Figure 10. Finance of consumption by age group: Philippines, 1999 and 2007 (in percent)



VIII. Summary

There appears to be little change in the age distribution of the population between 1999 and 2007. Change in real consumption per capita is largely driven by growth in consumption from the private sector. Real public consumption has not grown between the two reference periods. Labor income per capita has likewise grown in real terms, driven mainly by growth in earnings from domestic workers and international paid employment.

We have shown how sensitive our estimates are to assumptions or definitions adopted for components of the NTA. Revised estimates using the PSNA definition show much heavier reliance on labor income than previously estimated with the BPM5 approach. The methods and definitions used to estimate the Philippines NTA are generally set, but more modifications in the estimation are expected in the future as NTA methodologies continue to be sharpened, and as better data and information emerge that may improve how NTA concepts are empirically measured.

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Annex A.

NTA per capita means: Philippines, 1999 and 2007 estimates at constant 2000 prices (in thousands)

	BPM5 approach		PSNA definition	
	1999	2007	1999	2007
<i>Lifecycle deficit</i>	10.6	11.5	8.2	6.6
<i>Consumption</i>	31.7	38.0	31.7	38.0
Public	5.4	5.2	5.4	5.2
Education	1.2	1.2	1.2	1.2
Health	0.4	0.4	0.4	0.4
Others	3.8	3.7	3.8	3.7
Private	26.3	32.8	26.3	32.8
Education	1.4	1.8	1.4	1.8
Health	0.7	1.2	0.7	1.2
Others	24.2	29.8	24.2	29.8
<i>Labor Income</i>	21.1	26.3	23.5	31.4
Earnings	11.9	15.8	14.3	20.8
Self-Employment	9.2	10.6	9.2	10.6
<i>Age Reallocations</i>	10.6	11.5	8.2	6.6
<i>Transfers</i>	3.3	5.1	0.8	0.2
Public, Net	0.0	0.0	0.0	0.0
Private, Net	3.2	5.1	0.8	0.2
<i>Asset-based Reallocations /1</i>	7.3	6.4	7.3	6.4
Gross Domestic Product			2,976.9	6,647.3
Consumer Price Index (2000 = 100)			96.2	141.8
Population (Million) /2, 3			74.7	88.6

Note: Figures may not add up to total because of rounding.

1/ Asset-based reallocations were estimated as residuals

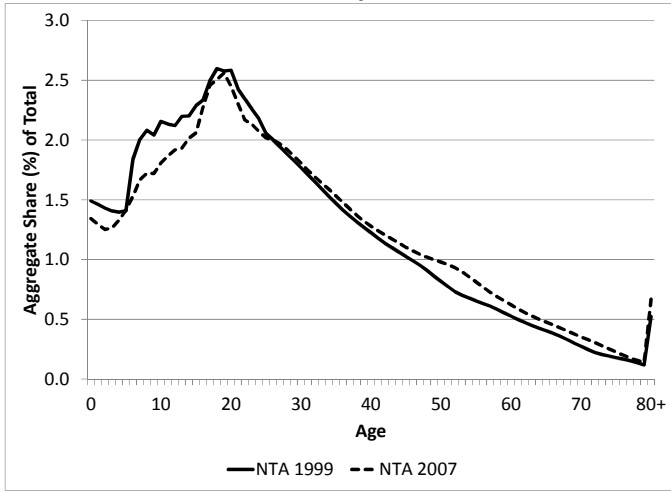
2/ 1999 figure based on National Statistics Office 1995 Census-based population projection.

3/ 2007 figure based on National Statistics Office 2007 Census of Population

Annex B.

Share of aggregate consumption and labor income by age (PSNA definition), Philippines, 1999 and 2007

Consumption



Labor Income

