

Public Age Reallocations for India's Elderly: Evidence Based on National Transfer Accounts*

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Abstract

Using the computational framework of National Transfer Accounts, this paper offers new results and explanations on the role of public support to India's elderly in 2004-05. New results are based on computations of (a) lifecycle deficit (LCD) by deriving age profiles of aggregate labour income and consumption and (b) public age reallocations by transfers and asset based reallocations. The results show that the LCD of elderly is about 34 percent of the LCD of all ages, or 3.74 percent of GNP. Surprisingly, net public transfers to elderly are strongly negative and asset allocations are financed by dis-saving, because the taxes paid by the elderly substantially exceed the benefits they receive and elderly pay both interest on previously accumulated public debt and paying off that debt. Consequently, public age reallocations finance elderly consumption by less than 0.50 percent and the largest burden of financing public transfers falls on the age group 60-69 for whom the net public transfers is -15.56 percent of labour income. The heavy burden on the elderly is attributable in part to India's tax system and partly on the absence of programs that provide support to the elderly. The results and implications recognize the importance of labour income and private sector in supporting elderly consumption and long run implications of population ageing on public finances in India.

Key words: *National Transfer Accounts; Lifecycle deficit; Public age reallocations; Net public transfers*

JEL Classification: J14, E01

* To be presented on 15 April 2011 for the Department Seminar, Department of Economics, University of Victoria, Victoria. This is a preliminary version of the paper and not for quotation. Without implication, the author is grateful to Professors Ronald Lee, Andrew Mason, Naohiro Ogawa and L. Ladusingh for technical help and guidance.

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1. INTRODUCTION

Population ageing is an important consequence of age structure transition with an increase in the ratio of elderly (age group 60+ or 65+) to working age population. Socio-economic and political institutions, such as, family, government and markets are the sources of direct and indirect economic support systems for elderly. Knowledge of these institutions and experience of different support systems are vital inputs for design and implementation of public welfare policies for elderly. At global level, the economic impacts of age structure transition with special reference to ageing are analysed by Mason (2005) and United Nations (2007a). Heller (2007) summarises the macroeconomic strategies to meet with long run challenges of population ageing in the context of Asian economies including India. These strategies include increasing aggregate income, distribution of income across generations, increase the willingness of younger generations to support the elderly, and create political viability for institutional mechanisms chosen to intermediate intergenerational transfer.

Studies on India's age structure transition [e.g. Rajan and Aliyar (2008), Rajan and Mathew (2008), Rajan and Prasad (2008), Asher (2006 and 2008), Chakraborti (2004), and Rajan et al (1999)] have focused on description of (a) age structure and dependency transitions using descriptive statistics, such as, median age, index of ageing, and dependency ratio and (b) living conditions and limited public policies and programmes for social security for elderly. These descriptions lead to a major conclusion that India's population ageing is a problem of future; public support of elderly is negligible; and provision of universal social security is challenging. These studies have two important gaps in understanding the role of public sector for India's elderly. First, public support for elderly is narrowly confined to direct and limited benefits under the Social Assistance Programme. Second, relationship between population ageing and public support is not explained and quantified in a framework of macroeconomic-fiscal policy. This paper

aims to fill in these gaps to gain new insights into the role of public sector for India's elderly

This paper argues that the India's elderly are a part of beneficiaries of entire public sector programmes and also bear the burden of funding the programmes through taxes and debt. This means that the benefits and burdens of fiscal policy in terms of taxation, expenditure and borrowings are relevant for the elderly and needs a framework that separates the fiscal policy implications for them. This paper finds such a framework in the newly developed National Transfer Accounts (NTA) by Mason et al (2006). NTA introduces age into the National Income and Product Accounts (NIPA) and provides a Flow Account framework for computation of lifecycle deficit/surplus and age reallocations consistent with the NIPA. This consistency is the macro-economic basis of the NTA. NTA's lifecycle deficit equals to difference between the value of goods and services consumed and produced by members of an age group. Age groups with deficit (surplus) support their surplus (deficit) consumption by generating age reallocation inflows (outflows). NTA separates the public inflows and outflows and computes net public support by public transfers and public asset-based reallocations. Thus, application of NTA is useful to quantify and draw implications on the nature and magnitude of public support through different instruments of public age reallocations (or fiscal policy in general), especially in terms of financing elderly LCD or consumption. However, application of NTA is new for India's public sector economy.

Using the computational framework of NTA, this paper offers new results and explanations on the role of public support to India's elderly in 2004-05. Age profiles of aggregate labour income and consumption, public transfer inflows and outflows, and public asset income and savings are derived to calculate the (a) lifecycle deficit (LCD) and (b) public age reallocations by transfers and public asset based reallocations for elderly. Throughout, all quantifications are at national level of aggregation, using a combination of international methodology and Indian databases.

The results of this paper show that the LCD of elderly is about 34 percent of total LCD of all ages, or 3 percent of GNP. Surprisingly, net public transfers to elderly are strongly negative and asset allocations are financed by dis-saving, because the taxes paid by the elderly substantially exceed the benefits they receive and elderly pay both interest on previously accumulated public debt and paying off that debt. Consequently, public age reallocations finance elderly consumption by less than 0.50 percent and the largest burden of financing public transfers falls on the age group 60-69 for whom the net public transfers is -15.56 percent of labour income. The heavy burden on the elderly is attributable in part to India's tax system, age distribution of asset ownership and partly on the absence of programs that provide universal support to the elderly. In addition, the results and implications recognize the importance of labour income and private sector in supporting elderly consumption and long term implications of population ageing on public finances in India.

Rest of the paper is organized as follows. Section 2 presents a brief background on policy relevance of population ageing in India and public economic support for elderly. Section 3 outlines the NTA methodology. Application of NTA framework for India is described in section 4. Results of lifecycle deficit and public sector age reallocations for India's elderly are analyzed in Section 5. Section 6 includes select implications of the results. Section 7 concludes the paper and indicates future extensions.

2. POLICY RELEVANCE OF POPULATION AGEING FOR INDIA

2.1. Population ageing

India's total population size is projected to reach 1593 million in 2050, about 131 million more than China (1462 million). India's projected age structure transition from 2007 through 2050 indicates a rising share of aged (about 21 percent of total population or 330 million in 2050), declining share of younger population from 31.2 percent to 18.3 percent and a stable working population of about 61 percent. (**Table 1**) By percent of population aged 60+, India ranked 90th among 192 countries in 2007. This ranking was

94th in terms of Ageing Index (or number of persons aged 60 years and above per hundred persons under age 15). Ageing Index will be 1.88 times bigger in 2025 and more than 4 times bigger in 2050 as compared to 2007. Nevertheless, India's Ageing Index in 2050 will be lower than other BRIC countries, viz., Brazil (119), Russia (275) and China (183).

India's dependency ratios, consistent with age structure transitions, show increasing (or decreasing) Old Age (or Youth) Dependency Ratio or declining potential support ratio from 2007 through 2050 (**Table 1**). Decline in total dependency ratio during 2007 to 2050 will be largely due to a decline in youth dependency and the rise in total dependency ratio will be the effect of increase in old age dependency ratio, one of the indicators of population ageing.

Thus, population ageing will be important for India, especially for the reforms aimed at social security and health care systems that create large scale public transfers to the elderly. They may pose serious challenges to manage and sustain the transfers out of fiscal resources, once they have begun to mature. Thus, public age reallocations are relevant for India to understand the long term implications of population aging for public finances and to implement appropriate policies at an early stage.

2.2. Public economic support for aged

In India's National Accounts Statistics (NAS), public sector includes administrative departments, departmental and non-departmental enterprises, and quasi-government bodies. Throughout this paper, by public sector we mean the general government comprising the administrative departments at national and sub-national levels and quasi-government bodies or Non-Profit Institutions Serving Households (NPISHs). This definition and composition of public sector is consistent with the National Transfer Account methodology as well as the IMF definition of public sector.

According to the Indian Constitution, public sector activities are divided under the Union List, State List, and Concurrent List. Social sectors, such as, education, health, and social security (including welfare programmes for elderly) are included in the Concurrent List and the joint responsibility of the national and sub-national governments.

India's public support for elderly takes several forms.¹ First, pension payments for retired government employees in the Central and state governments, including defense personnel.² Second, contribution to social security schemes of employees in the public sector enterprises and unorganized sector. Third, expenditure on social security and welfare which includes old age pension for civilians and programmes of affirmative action for socially backward and economically weaker sections of the society. For instance, National Old Age Pension Scheme was introduced in 1995 for destitute individuals of more than 65 years with no source for livelihood under the National Social Assistance Programme. At present, the extent of monetary assistance is equal to Rs.200 per month per beneficiary and extended to all below-the-poverty line persons and above the age of 60 years. Eligible older persons not covered by this pension scheme are provided with 10 kg of food grains, supplied free of cost, under the Annapurna Scheme since 1999. Fourth, non-age specific public expenditure programmes (e.g. poverty alleviation schemes, and affirmative actions) in which the beneficiaries include elderly. Fifth, welfare programmes by specific departments for senior citizens (e.g. special income tax rebates, higher rates of interest on savings schemes, concessions in bus/train fares, and special interest rate on bank deposits).

Interestingly, the share of expenditure by Central and State Governments on National Social Assistance Programme (or National Old Age Pension Scheme) was about 0.03 (or 0.028) percent of total public expenditure in 2004-05. This indicates that the size of direct

¹ No detailed description of social security for India's aged is attempted here as they are well documented including for the unorganized sector workers. See, for instance, Asher (2006) for a summary or Chapter 2 in Rajan and Mathew (2008) or Part II in Central Statistical Organization (2006) for detailed descriptions.

² In India's NAS, pension for government employees is a part of compensation for employees. Hence, it cannot be included under civilian pensions. For an excellent recent description of India's pension schemes for workers in organized or formal sectors, see, for instance, World Bank (2008).

public expenditure on pensions for aged people is negligible in India. This is perhaps the main reason for considering a low public support to the aged in India. However, NTA methodology below aims at public support for elderly beyond the social assistance in terms of broader public age reallocations.

3. METHODOLOGY OF NTA

NTA is a measure of reallocations or shift of resources from one age group to another, or inter-generational transfers at the national level of aggregation. Reallocations occur because consumption and production differ at different ages of individuals (e.g. production exceeds consumption in working age groups, and consumption exceeds production in childhood and old age dependent age groups). NTA documents the means by which those with lifecycle deficits (e.g. young and old who produce less through labour than what they consume) draw on those with lifecycle surplus (e.g. generated during working ages who consume less than what they produce through labour). The entire methodology of NTA is available in NTA (2011). Using this information, an overview of NTA methodology for this paper is presented below.

Construction of Flow Account is the basis for computation of lifecycle deficit and age reallocations in the NTA. Flow Account measures all income and consumption flows during the prescribed accounting period. Equation (1) defines the NTA's Flow Account identity (suffix "f" stands for private sector, "g" for public sector and "i" refers to individual or age group).

$$Y_{L,i} + Y_{A,i} + (T_{f,i}^+ + T_{g,i}^+), = (C_{f,i} + C_{g,i}) + S_i + (T_{f,i}^- + T_{g,i}^-), \quad (1)$$

where $Y_{L,i}$ is labour income, $Y_{A,i}$ is non-labour or asset income, $T_{f,i}^+$ and $T_{f,i}^-$ are private transfer inflows and outflows respectively; $C_{f,i}$ is private consumption expenditure, $C_{g,i}$

is public (government) consumption expenditure, S_i is savings, $T_{g,i}^+$ and $T_{g,i}^-$ are public transfer inflows and outflows respectively. The LHS shows total inflows and RHS shows total outflows. Rearranging terms in (1), we get:

$$(C_{f,i} + C_{g,i}) - Y_{L,i} = (Y_{A,i} - S_i) + (T_{f,i}^+ - T_{f,i}^-) + (T_{g,i}^+ - T_{g,i}^-), \quad (2)$$

The left hand side of (2) is defined as lifecycle deficit (LCD). On the right hand side, $(Y_{A,i} - S_i)$ is asset reallocations, $(T_{f,i}^+ - T_{f,i}^-)$ is net private transfers, and $(T_{g,i}^+ - T_{g,i}^-)$ is net public transfers. Sum of assets reallocation, net private transfers and net public transfers is equal to total age reallocations and distinguishable between public and private sectors.³ Thus, in economic terms, LCD is a measure of total demand for age reallocations.

Net exports are indirectly introduced in (2) to take care of Rest-of-World (ROW) and equal to:

$$NX = Y_{L,ROW} + Y_{A,ROW} + (T_{ROW}^+ - T_{ROW}^-) + S_{ROW} \quad (3)$$

Where $Y_{L,ROW}$ is net compensation of employees from ROW, $Y_{A,ROW}$ is net property and entrepreneurial income from ROW, $(T_{ROW}^+ - T_{ROW}^-)$ is net transfers from ROW, and S_{ROW} is net borrowings from ROW (or net savings). Thus, the variables in (2) are consistent for an open-macro economy.

³ NTA assumes no particular motives or behavioural model in (2). Or, it is assumed that (2) must hold irrespective of motives or purposes of intergenerational transfers.

It should be emphasized that individual is the fundamental analytic unit in NTA. All transactions are treated as flowing to and from individuals and are classified on the basis of age of individuals. Public and private (e.g. families) institutions mediate the individual transactions and distinguish all flows. Further, NTA introduces age into the National Income and Product Accounts (NIPA, because all variables in equation (1) through (3) are obtained or derived from NIPA and defined by age. In formal terms, the relationship between NTA and NIPA may be established as follows. To start with, the familiar National Income identity is as follows. $[Y = C + I + G + (X - M)]$, where Y is a measure of national income, C is aggregate private consumption expenditure; I is aggregate investment expenditure, G is aggregate government expenditure, X is total exports and M is total imports. Assuming that $(S=I)$ and given that net aggregate public transfers, $\Sigma(T_{f,i}^+ + T_{g,i}^+)$, as well as net aggregate private transfers, $\Sigma(T_{f,i}^- + T_{g,i}^-)$, are equal to zero, and $Y=(Y_L + Y_A)$, equation (1) equals to the National income identity. This establishes macroeconomic relationships and consistency between NTA and NIPA.

In empirical terms, NTA is a computational framework to calculate the per capita age profiles of variables in equation (2). This calculation needs selective adjustment in aggregate controls (i.e. aggregated across all ages and held constant throughout the estimations) to derive aggregate and per capita age profiles. A general adjustment procedure is to derive age profiles to match the aggregate controls. Let x_i be the per capita age profile, N_i the population, and X the aggregate control. Then, per capita age profiles are adjusted using a factor, θ , such that $\theta = \Sigma(x_i N_i) / X$ and final per capita profile and aggregate profile are given, respectively, by: $x_i^* = (x_i / \theta)$ and $X_i^* = (x_i^* N_i)$.

India's is a mixed, federal and open economy. These economic systems are consistent with the institutions in the NTA. Given that India's is and will be undergoing remarkable changes in its age structure and population ageing, computation of lifecycle deficit and its financing by public age reallocations assumes special importance for policy purposes. Thus, NTA is applicable and relevant methodology for analysis of public age reallocations for India's elderly.

4. FRAMEWORK OF NTA FOR INDIA

Applicable of NTA framework in equation (2) requires specific methods and data for measurement of aggregate controls and drawing age profiles of aggregate controls. Table 3 summarizes the measurement and method of age allocation of all the aggregate controls and databases to compute the aggregate controls and draw their age profiles in 2004-05. Throughout, all variables are measured at current prices. A brief discussion on the assumptions and approximations to obtain the aggregate controls and draw age profiles is given below.⁴

4.1. Aggregate controls

Column 1 and 2 in **Table 2** lists the aggregate controls and their measurements in India's National Accounts Statistics. Aggregate labour income is constructed by sum of compensation of employees, labour share of mixed income and net compensation of employees from the ROW (rest of the world).⁵ The key assumption is labour share of mixed income [(2/3)rd of mixed income].⁶ This share is generally assumed in the NTA methodology when no other sources of information on relative share of labour in mixed

⁴ In addition, all variables and age profiles are defined and measured without distinctions by sex (male and female), location (rural and urban) and social status (e.g. by religion or caste). In a country of India's socio-economic diversities, these distinctions may be important and their neglect is a limitation of the present methodology. Non-availability of data by these distinctions, especially for public age reallocation variables, is a major constraint to overcome these limitations.

⁵ In NTA, labour income is measured as pre-tax income. If some indirect taxes are borne by workers by way of reduced compensation, then labour share of net indirect taxes should be added to the labour income. This paper assumes that no indirect taxes are borne by workers. This implies that all net indirect taxes (capital share of indirect taxes minus business subsidies) are added to the private asset income. The aggregate control for private asset income is equal to: (operating surplus of non-household sector + (1/3)rd of mixed income of household sector + net property and entrepreneurial income from the rest of world + net indirect taxes). This aggregate control is used to derive age profile of private asset income, which is one of the variables in private-asset based reallocations. A strong assumption in this computation is that household head owns all assets. This paper does not compute the age profile of private asset income because the focus is not on private age reallocations.

⁶ The relative share of different components of computed aggregate labour income is as follows. Compensation of employees: 58.33 percent, labour share of mixed income: 41.92 percent and net compensation of employees from rest of world: -0.25.

income are available. India is no exception because the National Accounts Statistics does not report this share. Available nationally representative sample surveys on unorganized sector or informal sector are not comprehensive in their coverage of all sectors (i.e. agriculture, manufacturing and services) in the national economy. These surveys include NSS 62nd Round on Unorganized Manufacturing Sector (2005-06), NSS 57th Round on Unorganized Services Sector (2001-02) and NSS 55th Round on Informal Sector in India (1999-00).

Public sector is used equivalent to General Government plus Non-profit Institutions Serving Households (NPISHs). General Government includes national and sub-national governments. Private sector includes India's public enterprises. Both public and private consumption are disaggregated by education, health and other consumptions, because these consumptions are distinguishable by age. Private consumption is measured as pre-tax consumption and indirect taxes are netted out of it. Different components of private consumption are measured net of indirect, assuming that each component's share of indirect taxes is proportional to its share in total private consumption.

Public transfer and asset reallocation variables are the bases for computation of public age reallocations. Public transfers are distinguished by inflows and outflows. Inflows are equal to in-kind transfers and cash transfers. In-kind transfers are the same as public consumption (i.e. sum of public education, health and other consumptions). Payments under the various Social Assistance Programme are measures of cash transfers. Aggregate control for cash transfers is other current transfers from the general government and social benefits not in kind. Other current transfers includes the grants-in-aid to private institutions, especially in health and education sector at elementary, secondary and tertiary levels and training institutions. Public sector outflows are distinguished by direct and indirect taxes and transfer surplus/deficit. Direct taxes are disaggregated by personal income tax and corporate income tax (includes other minor direct taxes).

Aggregate controls for public asset-based reallocations are asset income and net public savings. Asset income refers to net operating surplus plus property income. Property income includes interest, rent and distributed income of corporations. Further, as per the UN System of National Accounts, public capital, such as, public buildings and infrastructure, does not yield asset income.

4.2. Age profiles

Column 3 in **Table 2** gives the methods and databases of deriving age profiles for all aggregate control variables. Throughout, UN projected population by single years in 2004 is used to compute and draw the aggregate and per capita age profiles. The main database is the India Human Development Survey 2005 [Desai et al (2008)]. This is a micro data on households and individuals from a nationally representative sample of 41,554 households comprising 215754 individuals, spread over 1503 villages and 971 urban neighborhoods, and available in the public domain from the Inter-University Consortium for Political and Social Research. Main advantages of this database include the following. Both income and consumption data are available for the same households, and closely correspond with the National Sample Survey Organization's Consumer Expenditure Survey and Employment and Unemployment Survey except for a smaller sample size and coverage. Income data are useful to draw age profiles of labour income, asset income and all components of private consumption. Several additional information, especially on beneficiaries of Social Assistance Programmes are particularly useful to draw age profiles of public cash transfers.

In the absence of data at individual level, specific assumptions are needed to assign income and consumption of household or families to an individuals, because individual is the fundamental entity in the NTA. The problem is important for India's elderly as most of them live within a household and household data may not be useful to make simple statements about their individual income and public and private consumption. Thus, the age profile rules make explicit on the assignment of household variables to individuals. This is evident for labour income from self-employment and private consumption other.

Public consumption variables do not pose the problem of intra-household allocation as they are directly assigned to individuals. Of the public consumption variables, the simplest rule of per capita allocation is applied to public consumption other, because this consumption includes goods and services available to all persons, such as, defence and administrative services. Age profile of public education consumption is derived separately for (a) public formal education based on computed per student consumption by levels of education and (b) public informal education (e.g. adult literacy programme) on per capita basis for the age group 30-60. Public health consumption is allocated to individuals based on their utilization of public health services measured by their expenditure on health treatment in public health institutions.

Using the private expenditure data on education and health at individual level in the India Human Development Survey 2004-05, age profile for private consumption of education and health is derived.⁷ An indirect approach is followed to assign household private consumption other to individual members by using the Equivalence Scale technique. This is in contrast with the age allocation rule for public consumption other on per capita basis.

Public transfers are distinguished between inflows and outflows. Inflows are equal to in-kind transfers and cash transfers. Age profile of public in-kind transfers is the same as public consumption, because in-kind transfer and public consumption is treated equal in NTA. Cash transfers include other transfers from the general government and social

⁷ In the absence of individual level data, however, the household private consumption of education and health are allocated in the NTA by using the following regression technique. The regression model for education is as follows. $CFE_j = \sum \alpha(a).E_j(a) + \sum \beta(a).NE_j(a)$, where CFE_j is household private consumption expenditure of education, $E_j(a)$ is number of enrolled members in each age group [a], and $NE_j(a)$ is number of not enrolled members. In the absence of educational spending on non-formal education system, $CFE_j = \sum \alpha(a).E_j(a)$. Hence, using the estimated coefficients (*), $CFE_{ij} = [\{\alpha^*(a)/\sum \alpha^*(a).E_j(a)\}.CFE_j]$ is the allocation rule for *ith* enrolled member in the *jth* household. On the other hand, the regression model for health is as follows. $CFH_j = \sum \beta(a).M_j(a)$, where CFH_j is household private consumption expenditure of health, and $M_j(a)$ is number of household members in each age group (either single year or broader age group). The estimated regression coefficients [$\beta(a)^*$] are used to allocate the health expenditure for *ith* member of *jth* household as follows. $CFH_{ij} = [CFH_j.\{\beta(x)/\sum \beta^*(a).M_j(a)\}]$, where x is age of *ith* household member.

benefits not in kind. Different components of the other transfers are not separable and, hence, they are allocated on per capita basis. On the other hand, social benefits in kind mainly include Social Assistance Programme (SAP) and are age specific. The age profile for social benefits in kind is drawn by a combined age profile of beneficiaries of all the SAP. This approach closely conforms to the familiar benefit incidence of public expenditure, because the public sector inflows are assigned to the age groups of intended beneficiaries of the transfer programmes.⁸

Public transfer outflows are equal to direct and indirect taxes. Age profile of income tax is based on proportion of total labour income of individuals and corporate income tax is based on proportion of total asset income of the head of household. Hence, corporate tax burden is not shared with co-resident household members. In the India Human Development Survey 2004-05, asset income is a form of income from other sources and includes income from interests, dividends and/or capital gains. Combined age profile of income of these asset incomes is used to draw the age profile of corporation tax and other minor direct taxes. Further, all indirect taxes are allocated based on age profile of private other consumption. This implies that individuals pay indirect taxes in all ages including children. The above approach assumes that incidence of taxes depends on age of an individual who ultimately bears the burden of taxes. The age profile depends on the economic resource being taxed but not on age profile of tax rates. This implies that tax rates do not vary by age. This strong assumption is made for lack of data on different taxes paid by individuals of different ages.⁹

⁸ Expenditure incidence and tax incidence (to be discussed below) is familiar topic in theory and applied public finance. For an interesting empirical study on these incidence for a developing country, see, for instance, Devarajan and Hossain (1995).

⁹ For instance, India Human Development Survey 2004-05 (HDPI-II, Household Questionnaire, section 12.28) includes data on combined consumer taxes, cesses and fees (including water charges) paid by households. Except this, no other data is available on taxes paid by sample households in the Survey. This data is not useful for drawing tax profiles for India for many reasons. First, the data does not distinguish between direct and indirect taxes. Or, the survey provides no data on direct taxes, if we presume that consumer taxes are indirect taxes. Second, cesses, fees and water charges are forms of user charges rather than taxes and there is no way these charges can be separated from consumer taxes in the Survey data. In the same way, NSS 61st Round Household Consumer Expenditure Survey (2004-05) includes one item of expenditure (item 549) on consumer taxes and cesses, which has the same limitations as in India Human Development Survey 2004-05 above. Further, Indian Public Finance Statistics 2004-05 reports data on income tax payable in India by range of income by number of returns but not by age. In fact, Permanent

Public asset-based reallocations are estimated by public asset income minus public savings. Asset income is equal to the sum of capital income (or operating surplus), net (inflows minus outflows) interest on public debts and net (inflows minus outflows) other property income (including distributed earnings of corporations, reinvested earnings of direct foreign investment and rent). Saving is measured by gross domestic saving minus depreciation. A positive public asset income is an inflow for taxpayers and a positive public savings is an outflow. For this reason, public asset based reallocations is equal to public asset income less public savings, and their age profiles are drawn by combining the age profiles of direct and indirect taxes. However, consistency in NTA requires that difference between public sector outflows in the form of taxes and inflows in the form of transfers must equal to the aggregate control of public asset-based reallocations.

5. RESULTS

5.1. Lifecycle deficit (LCD) for elderly

Computed LCD of India's elderly in 2004-05 is presented in **Table 3**. The numbers in second column are equal to estimated aggregate controls and refer to all ages. LCD for elderly is restricted for age group 60+.¹⁰ Total LCD of all ages is equal to INR260265 crore or INR2602.65 billion. This equals to about 11 percent of India's GNP (factor cost and current prices) in 2004-05. The LCD of the elderly is equal to INR88636 or 34.06 percent of LCD of all ages and 2.83 percent of the GNP. It should be emphasized that India's elderly not only share the aggregate consumption by about 8.46 percent but contribute 4.26 percent of aggregate labour income. This is mainly due to prevalence of informal employment (e.g. self-employment), especially in agriculture and service sectors. In the absence of labour income, the LCD of elderly would be equal to their

Account Number includes age of income tax payees. There is no access to this official data for research purposes.

¹⁰ This is the official age of retirement in government jobs. There is no formal retirement age in informal or unorganized sector jobs.

total consumption (INR156132 crore) and about 48 percent of recomputed LCD of all ages (INR327761 crore). Thus, work participation of elderly is a remarkable contributor to partial reduction in the LCD of all ages or self-financing their own LCD.

Health is a major source of public and private consumption of elderly. In particular, as column 4 in Table 3 shows, the share of private health consumption (14.15 percent) is higher than public health consumption (8.90 percent). Elderly share about 7 (9) in public (private) consumption other. Within total consumption of elderly, however, private consumption accounts for about 86 percent with a dominant share of private consumption other (77.82 percent). This underlines the relative importance food and non-food (e.g. housing) private consumption for the elderly. These results are sensitive to age profile rules: per capita rule for public consumption other and equivalence scale technique for private consumption. For instance, the relative share of elderly population determines their share of consumption in public consumption other and non-separation between durables and food consumption may exaggerate the size of private consumption other.¹¹

Figure 1 shows age profile of per capita labour income and consumption for India. Labour income increase rapidly and then slowly, peaking in the early or mid 40's. The crossing age from net consumers to net producers is 27 years and from net producers to net consumers is 61 years or the average duration of stay in the workforce is 34 years. This is closer to the crossing ages at which economic independence changes in select Asian countries in Ogawa et al (2009). For instance, crossing age from net consumers (producers) to net producers (consumers) is 27 (60) years for Philippines in 1999 and 26 (58) years for Thailand in 2004. More recently, Lee and Mason (2011) presented the international comparisons of labour income and aggregate consumption across developed, developing Asian and developing African countries. Their interesting

¹¹ To separate food and non-food consumption, an attempt was made to compute the private consumption of durables in terms of owner-occupied housing. Following the NTA methodology, aggregate control for owner-occupied housing is Net Domestic Product from dwellings and age allocation rule is equivalence scale technique. The computed aggregate control (adjusted for indirect taxes) was equal to INR94156 crore. The age profile for housing showed that elderly share in consumption was 8.91 percent. Excluding housing, elderly share of private consumption other was equal to 8.97 percent. This implied that elderly share of consumption from owner-occupied housing and non-housing private consumption others was comparable in 2004-05.

findings include (1) children in poor countries begin productive economic activity at younger age and, hence, have higher labour income than in developed countries, (b) labour income drops after age 60 in developed countries for various reasons including the incentives and opportunities provided by public sector pension programmes, (c) greater labour income at the extremes of age distribution is a characteristic feature of the poor countries, (d) heavy human capital investment per child in developed countries as aggregate consumption shows a characteristic bulge for children and youth, and (e) population ageing in developed countries is particularly costly relative to developing countries because elderly consume more and produce less. The LCD for India in Figure 1 conforms to the above findings of Lee and Mason (2011) for the developing countries in Asia and Africa.

Further, computed LCD across other age groups (not reported in Table 1) have two important results. First, deficit age group (0-26) or young age dependents have the highest LCD (INR685172 crore), about 8 times higher than the elderly. Second, within the surplus generating age group (26-60), age group 50-59 has 1.43 times bigger surplus than age group 26-49. This is consistent with the seniority or years of experience based labour earnings, especially in the organized sector employment in both public and private sectors.

5.2. Public age reallocations

The computed LCD of the elderly in **Table 3** is the total demand for age reallocations. As shown in equation (2), these reallocations are equal to transfers and asset-based reallocations in public and private sector. However, the scope of this paper is limited to public age reallocations with a focus on elderly. In this analysis, public age reallocations are computed for all the ages and the results on nature, magnitude and implications are separated for the elderly. These computations are useful to draw implications on three major instruments of fiscal policy on elderly: taxation (transfer outflows), expenditure (transfer inflows) and debt (asset-based allocations).

5.2.1. Public transfers

Computed results of the aggregate public transfer inflows and outflows are given in **Table 4**. Net transfers are equal to transfer inflows minus outflows. By definition, net aggregate public transfers are zero to maintain consistency between the National Income and Product Account identity and NTA Flow Account identity [equation (2)]. However, net public transfers may vary across ages as shown by the computed value for elderly (INR -8999 crore). This means that public transfer outflows (or taxes) exceed the transfer inflow for the elderly. This surprising result may be explained by the nature and size of different components of transfer inflows and outflows for the elderly.

Total transfer inflows of the elderly are equal to INR56745 crore or about 10 percent of total inflows of all ages. Of the total inflows of the elderly, share of cash transfers is relatively higher (about 64 percent) than in-kind transfers. Two explanations for this result are as follows. First, of the in-kind transfers to the elderly (column 4 in **Table 3**), share of education-based transfers is zero for elderly and public consumption other is lesser than other age groups because it is allocated on per capita. Health based transfers are smallest in size as compared other transfers not only for elderly but for all ages and possess the lowest inter-age variations. Further, the standard deviation of the aggregate public health transfer inflows by age is lowest (152) as compared to the standard deviation of public education transfer inflows (1382) and public other transfer inflows (3145). Thus, share of elderly in total in-kind transfer inflows is 6.22 percent of all ages. Second, cash transfer inflows as they are related to Social Assistance Programmes are mainly directed to elderly population. For instance, except for National Maternity Benefit Scheme and National Disability Pension, a large number of sample beneficiaries in the India Human Development Survey 2004-05 included elderly and highest number of sample beneficiaries belonged to National Old Age Pension Scheme. The other component of cash transfers (other current transfers from the general government) are considered non-age specific and allocated on per capita basis, which reduces the relative size of this cash transfers to elderly as compared to other age groups. The combined effects of age-specific and non-age specific transfers result in about 15 percent share of

elderly in total cash transfers. The above features of India's public transfer inflows are shown by per capita age profiles of public in-transfers, cash transfers and total inflows in Figure 2. The shape of in-kind transfers is mainly determined by the age profile of education-based transfers up to the age of 26 and flattens for subsequent ages. Cash transfer inflows show variations across ages from age 18, which is the youngest age of beneficiaries of age-specific transfers. Thus, per capita age profile of total public transfer inflows for elderly coincides with the cash transfer inflows.

Transfer outflows comprise the direct taxes and indirect taxes. Direct taxes are separated by personal income tax and corporation tax and other minor direct taxes. The Central/Union/Federal government levies both personal income tax and corporation tax. Indirect taxes include excise duties, levied by the Central Government, and sales taxes, levied by the state governments. As explained in section 4.2, the key assumption for the age profiles is that incidence of taxes falls on the individuals who pay them. Accordingly, age profile of economic resources being taxed is identical with age profile of taxes paid by individuals. Transfer deficit or surplus occurs when transfer inflows are higher or lower than taxes. Because net public transfers are negative, elderly have transfer surplus (INR8999 crore). In the NTA methodology, the transfer deficit or surplus is met through public asset-based reallocations. These reallocations are discussed in the next section.

Computed results of public transfer outflows (**Table 4**) shows that elderly pay both direct taxes and indirect taxes, but the aggregate amount of direct taxes (about 24 percent of all ages) exceeds the indirect taxes (about 9 percent of all ages). In particular, the amount of corporation tax or asset-based taxes is the biggest source of transfer outflows for elderly as they pay about 34 percent of total corporation taxes of all ages. This implies that about 12 percent of public sector transfer deficit is borne by elderly. Overall, elderly bear about 13 percent of total outflows of all ages and a strong negative net public transfers.

The nature and extent of per capita public sector transfer outflows are shown in **Figure 3**. The strong transfer outflows are evident for elderly by all taxes. It should be emphasized that the shape of total transfer outflows profile is particularly influenced by the shape of corporation taxes. This indicates a pattern of ownership of taxable assets to increase with age of household head (because all private assets are assumed to be owned by head of household) in India. Further, total public transfer outflows include all ages because indirect taxes are allocated based on private consumption other than that includes children.

Per capita net public transfers are shown in **Figure 4**. It is negative for the elderly up to age 85. In general, net public transfers to elderly are strongly negative, because the taxes paid by the elderly substantially exceed the public benefits they receive. On the transfer account, the heavy burden on the elderly is attributable in part to India's tax system, higher ownership of assets in older ages and partly on the absence of universal programmes that provide support to the elderly.

5.2.2. Public asset-based reallocations

India's public transfer accounts in Table 4 shows transfer deficit of INR-75931 crore. Public asset-based reallocations show how this transfer deficit is financed by public asset income and saving. As explained in section 4.1 and 4.2, public asset-based reallocation is the difference between public asset income and public savings under the assumption that all public assets are owned and savings are contributed by taxpayers. A justification for this assumption is that in the absence of public asset income and borrowings, taxes would have been higher or lower to the extent of financing the transfer deficit. Hence, a positive asset income is an inflow and a positive public saving is an outflow for taxpayers.¹²

Computed results of public asset-based reallocations are given in **Table 5**. Public asset income is negative (INR-39401 crore), mainly determined by the huge negative net

¹² For a sophisticated and detailed theoretical analysis of asset-based reallocation, see, for instance, Mason and Lee (2007).

public interest (INR-157735 crore). Consequently, public dis-saving finances the transfer deficit to the extent of INR75931 crore. Share of elderly in all inflows and outflows of public asset-based transfers is equal to 12.46 percent because age profile of all variables is based on age distribution of general taxes (or combined age profile of direct and indirect taxes). This is reflected in age profiles of per capita public asset based-reallocations in **Figure 5**. Overall, outflows from the elderly are greater than those required to fund transfer inflows because they pay both interest on previously accumulated public debt and paying off that debt.

6. SELECT IMPLICATIONS OF THE RESULTS

First, the results of public age reallocations for elderly imply that their consumption can be financed by various sources of non-labour income. **Table 6** summarizes the sources of financing elderly consumption by labor income and public age reallocations. At the outset, labour income and private sector age reallocations are the dominant sources of financing the elderly consumption. Most surprisingly, public age reallocations finance elderly consumption by less than 0.50 percent. This finding reveals the strong roles of public sector outflows and dis-saving for India's elderly. Or, net public transfers and asset income do not finance elderly consumption.¹³

Second, the largest burden of financing public transfers in India falls on the age group 60-69 for whom the net public transfers is -15.56 percent of labour income. The burden on other age groups is as follows. -3.82 percent for 26-30; -1.21 percent for 31-40; -3.25 percent for 41-50; and -6.15 percent for 50-59. Thus, within the working age groups, the highest burden is on age group 50-59.

¹³ India's on-going 11th Five Year Plan emphasizes on faster and inclusive growth. This growth strategy aims at widely spreading the benefits of growth, in terms of income, consumption and employment, by the poor, weaker and other vulnerable sections of our society. One of the recognized vulnerable groups is older people. This relates the inclusive growth to issues of elderly population. The NTA framework used in this paper does not address the problem of income distribution (e.g. poverty and inequality) in income or consumption among the elderly. This precludes any distributional implications of our results on India's elderly.

If the above implications for 2004-05 are sustainable, population ageing may not negatively impact on India's public finances in future. This is contrary to the impact of population ageing on public sector in developed countries (such as, USA, Sweden, Austria and Finland) where consumption needs of elderly are largely met by public pensions and health care [Lee and Mason (2011)].

7. CONCLUSIONS AND IMPLICATIONS

Using the framework of NTA, this paper quantified the lifecycle deficit and public age reallocations for India's elderly in 2004-05. The allocations are distinguished by transfers and asset-based reallocations. Major conclusions from the analysis of these results are as follows.

First, the magnitude of LCD of the elderly is remarkable: about 34 percent of aggregate LCD for all ages or 2.83 percent of the GNP. Negative net public transfers and positive asset-based reallocations finance the deficit. This implies that the outflows from the elderly are greater than those required to fund transfers because they pay both interest on previously accumulated public debt and paying off that debt. The heavy burden on the elderly is attributable in part to India's direct tax system on assets and partly on the absence of universal programmes that provide public support to the elderly. At the same time, this result finds a new role for the public transfer outflow of the elderly to reducing the LCD of non-elderly dependent age groups through intergenerational transfers. In terms of net public transfers, the computed burden of financing this intergenerational transfers is equal - 15.56 percent of labour income of age group 60-69. Within the working ages, the burden is highest (-6.15 percent) for the age group 50-59. These results are in contrast with the general presumption that elderly are dependent on non-dependent adults in India. If these implications are sustainable, population ageing may not have long term negative impact on public finances in India.

Second, direct taxes in general and asset-based direct taxes in particular explain the largest public transfers outflows for elderly. This indicates that ownership of taxable assets is held by elderly. Nevertheless, this result is surprising for a developing country like India where consumption-based, indirect taxes are presumed to be a major outflow because of its largest share in total tax revenue.

The above results above offer insights into the role of public support and financing consumption of the aged in India. These insights are missed by policy makers in the absence of estimates of lifecycle deficits and public age reallocations for elderly, as provided by the NTA. Thus, NTA is a useful policy framework to single out the nature and magnitude of public economic support for the aged in India.

This paper is extendable in many ways. First, the results of this paper recognize the coexistence of the private and public intergenerational transfers in India and the importance of private sector in financing elderly consumption. Computation of different methods of private sector intergenerational allocations of resources (e.g. inter-household and intra-household transfers and asset-based reallocations) is important to understand the nature and extent of implicit social contracts, intra-elderly distribution of resources and financing of elderly consumption. Second, the higher share of private sector may explain the long absence of a universal social security arrangement in the form of a public (civilian) pension system for India's elderly. However, if changes in future social and economic conditions reduce the role of private transfers, will a state-sponsored, universal pension scheme for India's elderly become a policy imperative for India? A plausible answer to this question may have important implications on future debates on universal social security and pension system of India's elderly including for the New Pension Scheme since 2004 and co-contributory and other pension schemes, which have been introduced in recent years. This debate assumes special significance because India's total labour force is largely informal or unorganized by about 90 percent with no adequate coverage of social security including old age security. In this situation, sustainability of negative net public transfers of the elderly depends on many social, economic and political factors. They need to be explored in future.

The results and implications of this paper must be qualified by the limitations on the available and used databases to drawing the age profiles of aggregate controls. Availability of new databases may be useful to draw refined age profiles.

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Table 1: Projected age structure transition and population ageing in India: 2007-2050

Indicators	2007	2025	2050
1. Total population (millions)	1134	1395	1593
2. Age structure	Percent of total population		
• 0- 14	31.2	24.5	18.3
• 15-59	60.7	63.5	61.0
• 60+	8.1	12.0	20.7
3. Ageing Index	26.1	49.2	113.0
4. Dependency Ratio (%)			
• Total	57.8	48.2	49.6
• Youth	49.2	36.3	27.4
• Old Age	8.6	12.0	22.2

Source: United Nations (2007b).

Table 2: Aggregate controls and age profiles for computation of lifecycle deficit and public age reallocations

Aggregate controls	Measurement of aggregate controls	Age allocation methods and data sources
1. Labour income	Compensation of employees + (2/3) of mixed income + net compensation of employees from ROW	Age profile is based on the combined age profile of income from salaries and wages and self-employment, using the individual income from wage and salary and household income from self-employment (i.e. farm income and non-farm business income) in India Human Development Survey 2005 [Desai et al (2008)] Self-employment income of household is allocated to individual in a household who reported as self-employed, using the age profile of mean earnings of employees. Accordingly, self-employment income accruing to i^{th} individual in household j [$YLS_{ij}(x)$] is equal to $YLS_j \cdot \gamma(x)$ and $\gamma(x) = w(x) \cdot SE_j(x) / \sum w(a) \cdot SE_j(a)$, where x is the age of i^{th} household; $SE_j(a)$ is number of people in household j who are self-employed or unpaid workers of age a ; $w(a)$ is average earnings of employees. This means that $\gamma(a)$ is the share of total household self-employment labour income allocated to each self-employed who is at age x . Summing across all households, total self-employment labour income is computed at age a .
2. Public consumption	Government Final Consumption Expenditure (GFCE)	
2.1. Public education consumption	Expenditure on education services under GFCE	Age profile is derived by public formal and informal education. Public formal education age profile is based on computed per student public education consumption by levels of education. This computation is based on the following enrolment rates and public expenditure by level of education. First, using estimated attendance data from the 61 st Round of National Sample Survey Organization (July 2004 June 2005) on <i>Status of Education and Vocational Training in India 2004-05</i> , share of attendance in public institutions by levels of education is computed. This share is applied for total enrolment data in the Government of India's <i>Education Statistics 2004-05</i> to obtain attendance in public institutions (i.e. government and local body institutions).. Second, using <i>Indian Public Finance Statistics 2006-07</i> [Government of India (2007)], revenue expenditure on education by all levels of governments (including non-education departments) is obtained. Public education consumption is presumed to be proportional to revenue expenditure by levels of education. Per student public education consumption is obtained by using the computed enrolment data in public institutions. Public informal education consumption is equal to expenditure on adult education and training and allocated on per capita basis for age group 30-60.

2.2. Public health consumption	Expenditure on health and other services under GFCE	Age profile is drawn using the individual level data on utilization of public health facilities in the 60 th . Round of National Sample Survey on Healthcare, Morbidity and Conditions of aged in India in 2004, Public health facilities refers to health services provided by public hospitals and dispensaries (including Primary Health Centres, Sub-centres and Community Health Centres). Utilization is proxied by expenditure incurred on treatment for hospitalized or in-patient (during 365 days prior to the survey), non-hospitalised or out-patient (during 15 days prior to the survey) and other expenditure (e.g. transport expenses to and from the hospital visits).
2.3. Public consumption Other	Expenditure on non-education and non-health services under GFCE	Public consumption other includes general public services; defense; housing and other community amenities; cultural, recreational, and religious services; economic services (e.g. agriculture, mining, transport, and communication). This variable is allocated on per capita basis.
3. Private consumption	Private Final Consumption Expenditure (PFCE) net of total indirect taxes	
3.1. Private education consumption	PFCE on education net of indirect taxes. Indirect taxes on private education consumption are assumed equal to share of PFCE on education in PFCE.	Age profile is drawn by using the individual level data on private education expenditure in the India Human Development Survey 2004-05 [Desai et al (2008)]. Private education expenditure refers to expenditure incurred by currently enrolled students in elementary, secondary and tertiary level education on school/college fees, books uniform and other materials, transportation and private tuition,
3.2. Private health consumption	PFCE on medical care and health services net of indirect taxes. Indirect taxes on private health consumption are assumed equal to share of PFCE on on medical care and health services in PFCE.	Age profile is drawn by using the individual level data on private health expenditure in the India Human Development Survey 2004-05 [Desai et al (2008)]. Private health expenditure refers to sum of expenditure incurred for in-patient as well as out-patient treatment services for short term morbidity during last one month and major morbidity during 12 months. Treatment expenses included hospital surgery, medicine and tests and others (e.g. tips, bus/train/taxi fares or lodging while getting treatment.
3.3. Private consumption other	PFCE on non-education, and non-medical care and health services. This expenditure is defined net of indirect taxes where indirect taxes are assumed to equal to share of PFCE other in PFCE.	Private consumption other includes food and beverages, clothing and footwear; fuel and power; furniture, furnishing, appliances; transport and communication; and recreation and cultural services. Age profile is derived by using Equivalence Scale. The equivalence scale is equal to 1 for adults aged twenty or older, declines linearly from age 20 to 0.4 at age 4, and is constant at 0.4 for those age 4 or younger. That is, $\lambda(a) = (1-0.6) \cdot (a \leq 4)$; $\lambda(a) = 1 - [0.6 \cdot (20-a)/16]$, $(4 < a < 20)$; and $\lambda(a) = 1$, $(a \geq 20)$. Using the above formula, intra-household allocation of private other consumption is equal to: $CFX_{ij} = [CFX_j \cdot \lambda(x) / \sum \lambda(a) \cdot M_j(a)]$, where x is the age of the <i>ith</i> household member.

4. Public transfer variables		
Public transfer inflows	Sum of public in-kind and cash transfers	
4.1. In-kind transfers	Same as public education consumption, public health consumption and public consumption other in 2.1, 2.2 and 2.3 above	Same age profile as derived in 2.1, 2.2 and 2.3 above.
4.2. Cash transfers	Sum of other current transfers from the general government and social benefits not in-kind	In India's NAS and SNA, cash transfers are distinguishable between other current transfers from the general government and social benefits not in kind. Other current transfers from the general government includes grants in aid to institutions in health and other social sectors.. These transfers are considered non-age specific and allocated on per capita basis. Social benefits not in kind mainly include social assistance programmes, such as, National Old Age Pension Scheme, Widow Pension Scheme, National Maternity Benefit Scheme, National Disability Pension Scheme and Annapurna Scheme. These programmes, among others, are age-specific cash transfers. Using the age profile of beneficiaries of all the programmes together in the India Human Development Survey 2004-05 [Desai et al (2008)], age profile of cash transfers is derived.
Public transfer outflows	Sum of direct and indirect taxes	
4.3. Direct taxes	Sum of personal income tax, corporation tax and other direct taxes	Separate age profiles are derived by individual/personal income tax (based on proportion of total labour income of individuals) and corporate income and other taxes [based on proportion of total asset income (e.g. rent and dividends) of individuals]. Source: India Human Development Survey 2005 [Desai et al (2008)]
4.4. Indirect taxes	Total indirect taxes	Age profile is derived by applying the age profile of private other consumption in 3.3 above.
5. Public asset-based reallocations	Difference between public transfer outflows and inflows = Public asset income minus public savings	
5.1. Public asset income	Sum of operating surplus and property income of the Administrative Departments and Quasi-government Bodies	Age profile is based on general tax profile or combined tax profiles of direct and indirect taxes.
5.2. Public saving	Net domestic savings (Gross domestic savings minus depreciation) of the Administrative Departments and Quasi-government Bodies	Same age profile as in 5.1 above.

Note: All aggregate controls are derived and measured by using the data in the India's National Accounts Statistics 2008 [Central Statistical Organization (2008)].

Source: Author

Table 3: Aggregate consumption, labour income and lifecycle deficit of India's elderly, 2004-05

LCD, income and consumption indicators	Total – All ages (INR in crore)	Total for elderly (age 60+) (INR in crore)	Share of elderly in total for all ages (%)	Share within total consumption of elderly (%)
Lifecycle deficit (LCD)	260265	88636	34.06	
Consumption	1844800	156132	8.46	100.00
Public consumption	342542	21304	6.22	13.65
• Education	58795	1	0.00	0.00
• Health	22805	2031	8.90	1.30
• Other	260942	19273	7.39	12.34
Private consumption	1502258	134828	8.97	86.35
• Education	34507	0	0.00	0.00
• Health	94156	13323	14.15	8.53
• Other	1373595	121505	8.85	77.82
Less: Labour income	1584535	67496	4.26	

Note: INR refers to Indian rupee. One crore is equal to 10 million.

Source: Author.

: Table 4: Aggregate public transfers for elderly in India, 2004-05

Public age reallocations	Total – All ages (INR in crore)	Total for elderly population (age 60+) (INR in crore)	Share of elderly (%)
Public net transfers	0	-8999	
Inflows	580553	56745	9.77
• In-kind transfers	342542	21304	6.22
• Cash transfers	238001	35440	14.89
Outflows	-580553	-56745	9.77
(1) Taxes	-504622	-65744	13.03
➤ Direct taxes	-141235	-33383	23.64
▪ Income tax	-49268	-2099	4.26
▪ Corporation tax	-91967	-31284	34.02
➤ Indirect taxes	-363387	-32361	8.91
(b) Transfer deficit (-)/surplus (+)	-75931	8999	-11.85

Source: Author.

Table 5: Aggregate public asset based reallocations for India's elderly, 2004-05

Public age reallocations	Total reallocations— All ages (INR in crore)	Reallocations for elderly (INR in crore)	Share of elderly (%)
Asset-based reallocations (Asset income minus savings)	75,931.40	9463	12.46
Public asset income	-39,400.60	-4910	
Capital income	9,605.00	1197	
Public interest, net	-157,734.60	-19657	
Other property income, net	108,729.00	13550	
Public savings	-115,332.00	-14373	

Notes: (a) One crore is equal to 10 million.

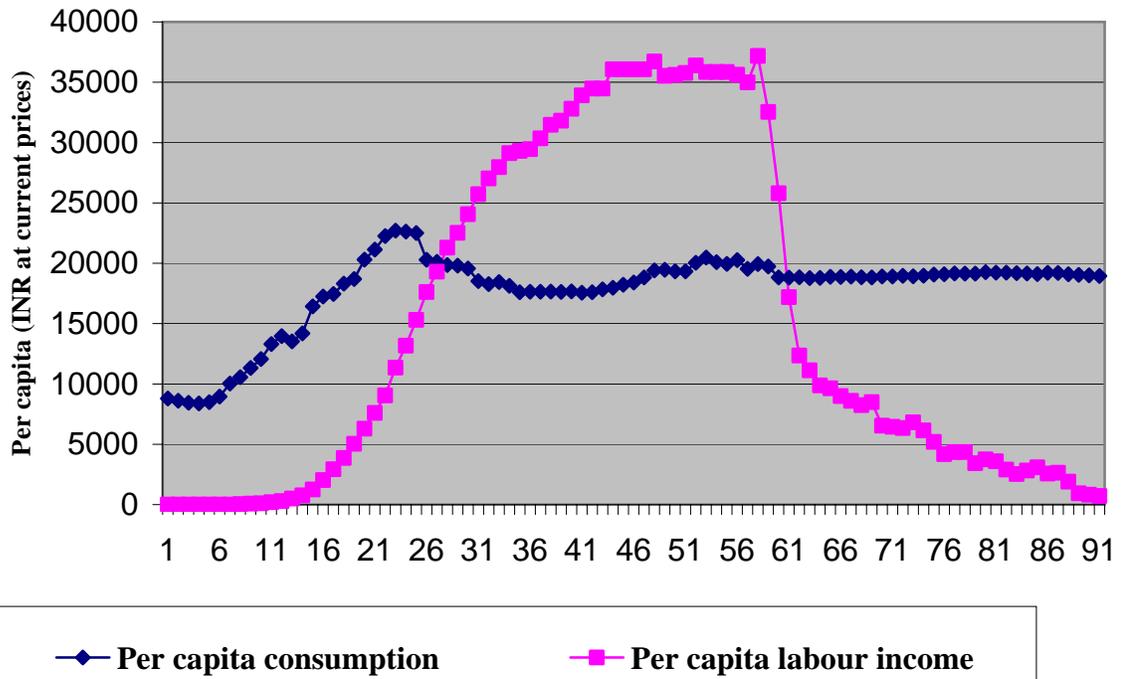
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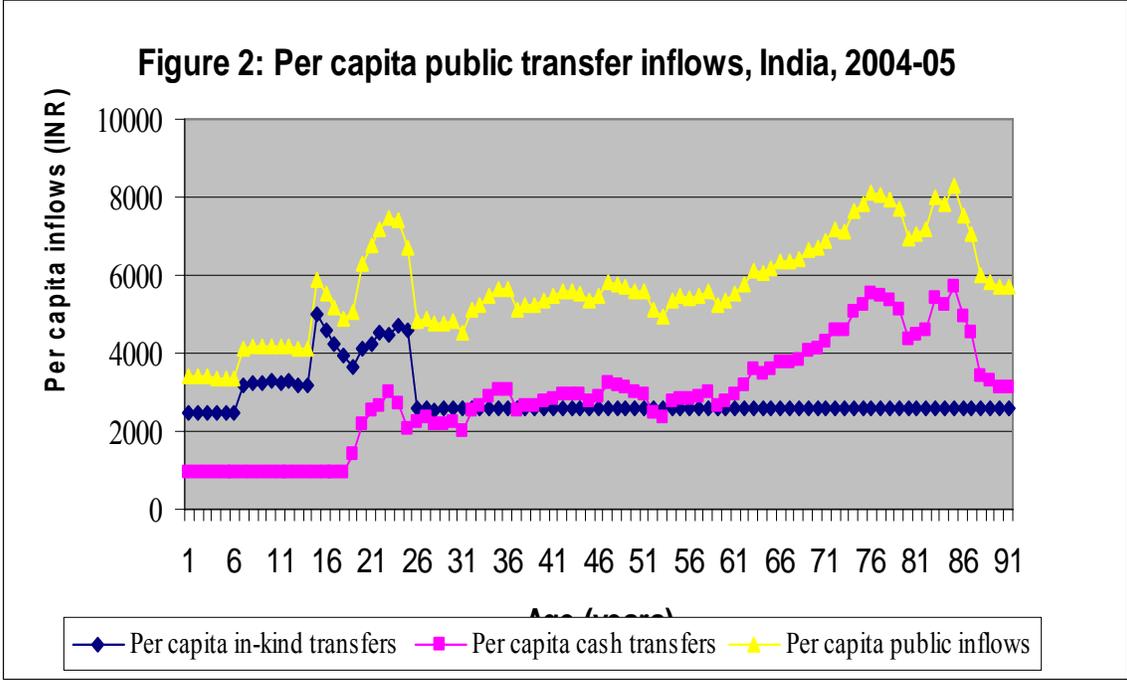
Table 6: Financing consumption for deficit age groups in India, 2004-05

Sources of finance	Computed values for elderly (INR crore)	Extent of financing consumption for elderly (%)
1. Total consumption	156132	
2. Labour income	67496	43.23
3. Public sector age reallocations	464	0.30
• Net public transfers	-8999	-5.76
• Public asset-based reallocations	9463	6.06
4. Private sector age reallocations	88172	57.26

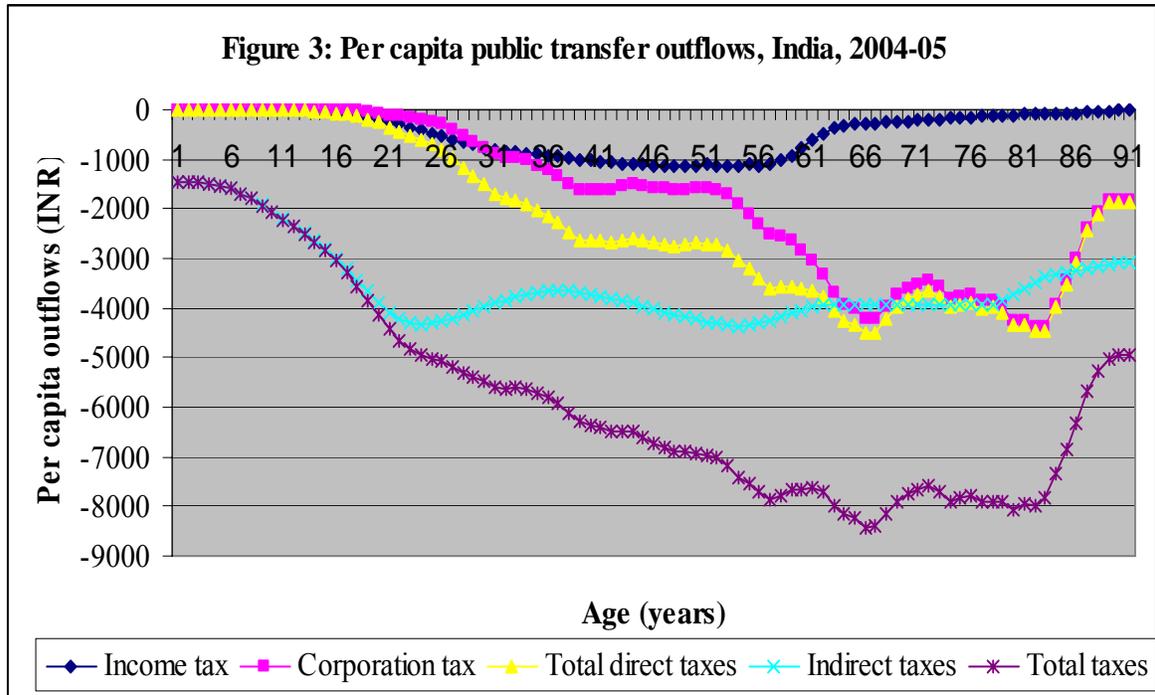
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Figure 1: Age profile of per capita labour income and consumption, India, 2004-05

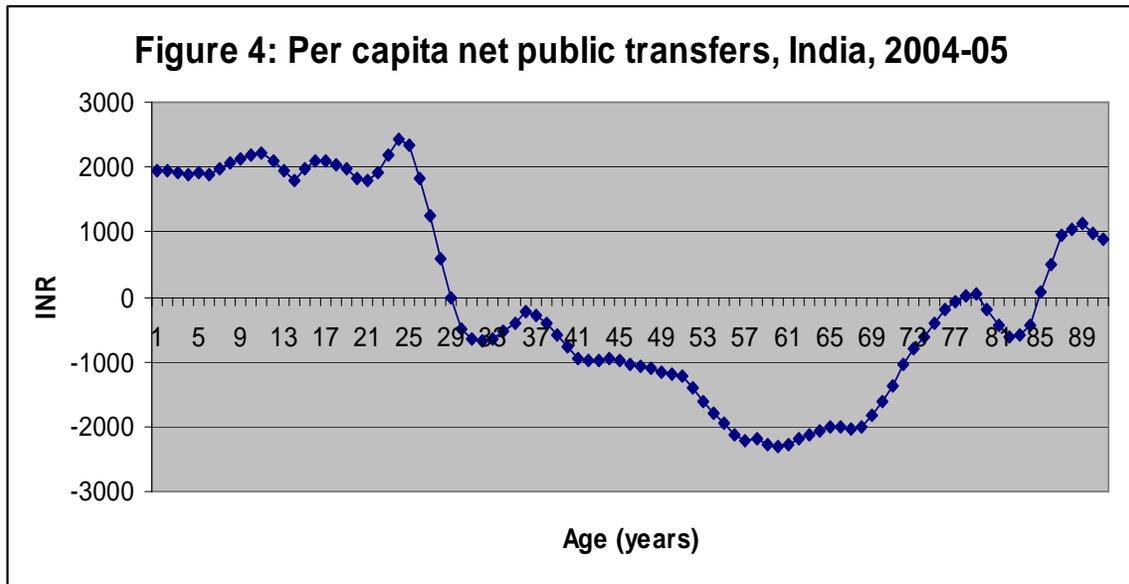




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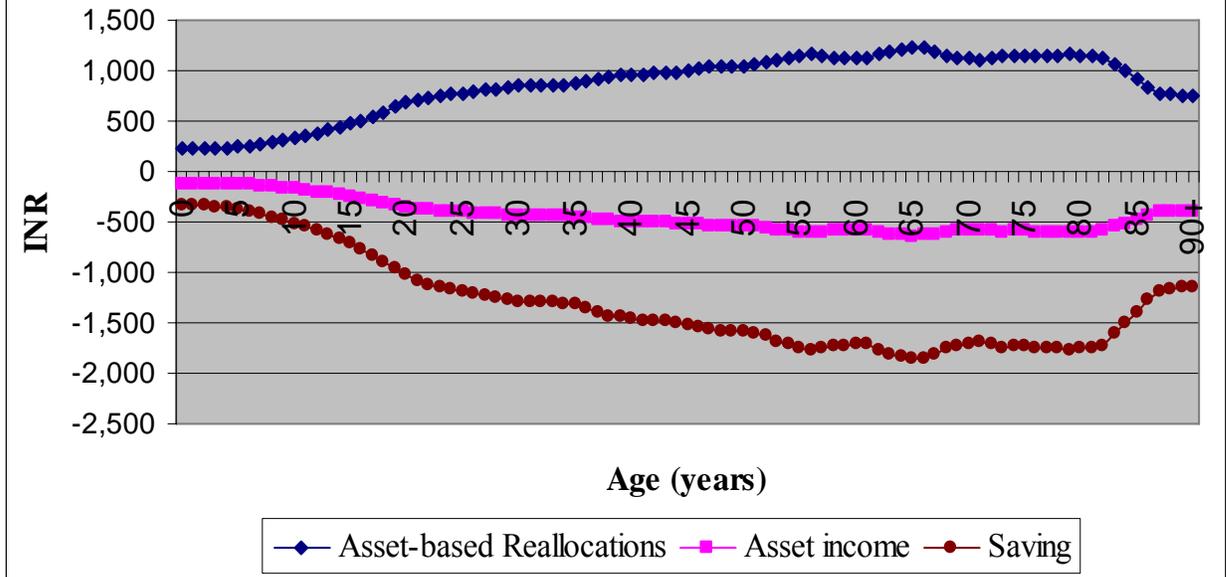


Source: Author



Source: Author

**Figure 5: Per capita public asset-based reallocations,
India, 2004-05**



Source: Author