

## **ROLE OF INTRA-HOUSEHOLD TRANSFER IN SUPPORTING LIFECYCLE DEFICIT IN INDIA**

Laishram Ladusingh,

International Institute for Population Sciences,

Mumbai-400088 (INDIA).

M.R. Narayana\*,

Institute for Social and Economic Change,

Bangalore- 560072 (INDIA).

---

\*Presently Visiting Professor, Centre for International Research on the Japanese Economy,

Faculty of Economics, University of Tokyo,7-3-1 Hongo, Bunkyo-ku, Tokyo 0033-113, JAPAN

## **ROLE OF INTRA-HOUSEHOLD TRANSFER IN SUPPORTING LIFECYCLE DEFICIT IN INDIA**

L. Ladusingh & M.R. Narayana

### **1. INTRODUCTION**

From birth until death individuals consumed goods and services which pertained to food, education, healthcare, housing and other infrastructure facilities including defense service. For an economy these goods and services are categorized into public and private sectors on the basis of whether funding is at government or household level. During the productive period individual generate income and spend for these essential goods and services. While in economically inactive unproductive stages of life individuals are supported by familial and public transfers and asset reallocation. Flow account measures all flows of services and goods of an economy in monetary value during the specified accounting period. Public policy outlines the regulations of goods and services to be provided to individuals of different age and its monetary value varies from economy to economy. At the household level, the nature of goods and services transfer to economically unproductive children and elders are governed by social values and norms of the society and monetary value of transfer depends on disposable income and social contracts between household members. An elicited concern of developing countries as a consequence of increase in life expectancy and declining family size is about the capacity of families to sustain the support of older members during the process of rapid demographic change (Mason, 1992). Besides, earning household members have the dual responsibility of bringing up dependent children. In developed economies where state-based or market based alternatives for economic

support is prominent, the role of familial transfer is not as significant in traditional developing countries. There seems to be a dearth of literature focusing on the role of intergenerational monetary transfer for supporting dependent children and elders. This study is an attempt to bridge this gap and provide empirical evidence of the magnitude of intra-household transfer in the context of Indian economy.

## **2. SOCIAL AND ECONOMIC THOUGHTS ON FAMILIAL TRANSFER**

In traditional societies investment in children is considered as long term saving for old age (Willis, 1980). Children in turn anticipate return from supporting their old parents as parents owned land and properties which they can inherit. Ikkink et al.,(1999) and Stark (1995) were of the opinion that children who support their old parents are setting a precedent for their own children to follow. Children supporting old parents also considered as repayment of support provided by parents for their education. Though Caldwell (1976) and Goode (1963) hypothesized that over the lifecycle intergenerational flow of resources is initially from young to old, a number of empirical findings (Kaplan, 1994; Lee, 2000; Preston, 1982) suggest that net resources flow from old to young except in developed societies.

In addition there are economic theories which have attempted to explain motivations for familial transfer of resources. Becker's family model (1974, 1991) assumed that each household's head uniformly redistribute resources among family members so that surplus members' resource flows to deficit members keeping altruism motive. The more altruistic the head is the more is the investment in children without expecting any return (Becker & Tomes, 1976). Altruism can also motivate children to transfer resource to their old parents in households where parents have instituted social value of transfer (Lee et al; 1994). Implicit assumption of altruism model of

family transfer is that needy family members received more than what they transfer to other members. Among others who emphasized on quid quo motive on familial transfer are found in the works of Bernheim et al. (1985). Cox's (1987) proposition reflects transfer of money to parents from adult children in exchange for caring their own children. Family members transferring resources to help another member in times of need explained the long-term role of transfers among kin as a source of insurance. However evidence does not support the altruism model or the exchange model or the insurance model over the other models (Schoeni, 1997).

Most of the intergenerational transfer studies in Asia are on parent-child transfers (Zimmer and Kwong, 2003; Ofstedal et al, 1999). In the Philippines, Thailand, Taiwan and Singapore transfer from adult children is the main source of income of older persons (Hermalin et al., 2002). In mainland China between 30 to 50 percent of aged persons received financial support from mainly adult children (Chen and Silverstein, 2000). Agree et al. (2005) from a study of intergenerational transfers in Taiwan and the Philippines found that both the countries are similar in terms of availability of kin but in the case of Taiwan transfer is concentrated among lineal kin, whereas in the Philippines transfer is more broadly distributed among family relations, particularly siblings. Lillard and Willis (2002) have provided evidence of parents paying loan to children that is later repaid and also substantiated that transfer within families serve as insurance for family members in the case of Indonesia. Using Malaysian Family Life Survey, Lillard and Willis (1997) reasserted three theories of transfer: parental repayment for school loans, exchange of money for time, and insurance against risk.

It is noted that the aforesaid studies of familial transfers in Southeast Asia are limited to few countries and did not reflect the economy of respective country. NTA provides a framework based on flow accounts to ascertain the direction and magnitude of flow of familial transfers

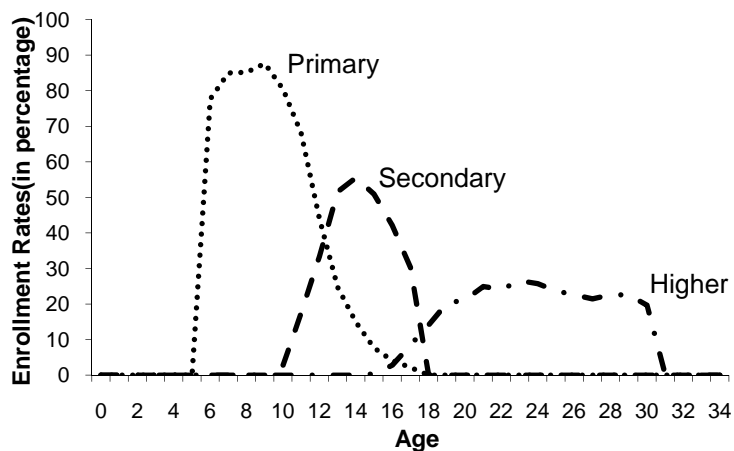
consistent with NIPA. In this paper we intend to evaluate lifecycle deficit (LCD) and role of intra-household transfer to support LCD in India using NTA framework (Mason et al., 2006). To provide a background for comprehensive understanding of these aspects of lifecycle in India, in the following section we discuss factors which have bearing on lifecycle deficit and intra-household transfer.

### **3. FACTORS AFFECTING LIFECYCLE DEFICIT AND FAMILIAL TRANSFER**

Propensity to pay for essential goods and services in the course of lifecycle depends on earning potential of individuals based on education, skill and availability of job. At the same time labor income will depend on macro-economic conditions which cannot be control and speculated by individuals. Employment growth in India had doubled from 1.3% pace of growth in the 1990s over the first five years of 2000s (OECD, 2007). This represents an unprecedented upward shift in India's labor market performance (Nagaraj, 2004; Anant et al., 2006; Government of India, 2006). Secondary and tertiary employment which in 2005 constitutes 19 and 25 percents of labor force respectively, registered 6.2 and 4.7 percents annual growth rates contributed to the gain in employment during 1998-2005 adding about 30 million net jobs in each of the two sectors (OECD, 2007). A dichotomy associated with strong gains in employment in India is that the growth is concentrated in unorganized and often informal part of the economy and organized sector witnessed net loss of employment at the rate of 1 per cent per year over the 1997 to 2004 period. In keeping with the international definition recommended by ILO, in India, the unorganized sector is defined as consisting of all unincorporated private enterprises owned by individuals or households engaged in the sale and production of goods and services operated on a proprietary or partnership basis and with total of less than ten workers. Using this definition and using the unit level data from the 55<sup>th</sup> (1999-2000) and 61<sup>st</sup> (2004-2005) rounds of National

Sample Survey Organizations (NSSO), Deshpande et al. (2007) compared the average daily earnings of regular workers employed formally and informally. The average daily wages of workers in formal sector, bias in favor of urban workers and male average daily average earning exceeds than that of females, though the gap is narrowing down over time.

No economy can afford the risk of undermining investment for human resource development through education. India began its journey towards the goal of universal and free basic education little more than fifty years ago with the Indian Constitutions stating, “ The state shall endeavor to provide, within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years’. Today nearly 4 of 5 children in the age group 6-14 are in school and 2 of 3 are functionally literate (Govinda, 2002). Most schools in India are government funded: only 5 percent of primary schools and 20 percent of secondary schools are not (World Bank, 2003). With 1950-51 as the base year, enrolment in 1999-2000 has increased about six times at the primary stage, 13.5 times at the upper primary stage and 17 times at the two stages of secondary and senior secondary together. Enrolment of girls has registered a faster growth increasing to 9 times, 34 times and 52 times respectively at these three stages (NCERT, 2003). Figure 1, display age specific enrolment rates by levels of education. Though India is yet to attain universal primary education, enrolment rate in primary education is well above 80 percent, enrolment rate for secondary education in the prime age crosses 50 percent and has an extended period of higher secondary education with low enrolment rate. Public expenditure on education and private transfers are closely link with enrolment rates and educational attainment. However the composition of spending on education is heavily skewed towards salaries even though learning achievements appear to be much more responsive to increases in non-salary inputs (Kingdon, 1996; Filmer and Pritchett, 1999).



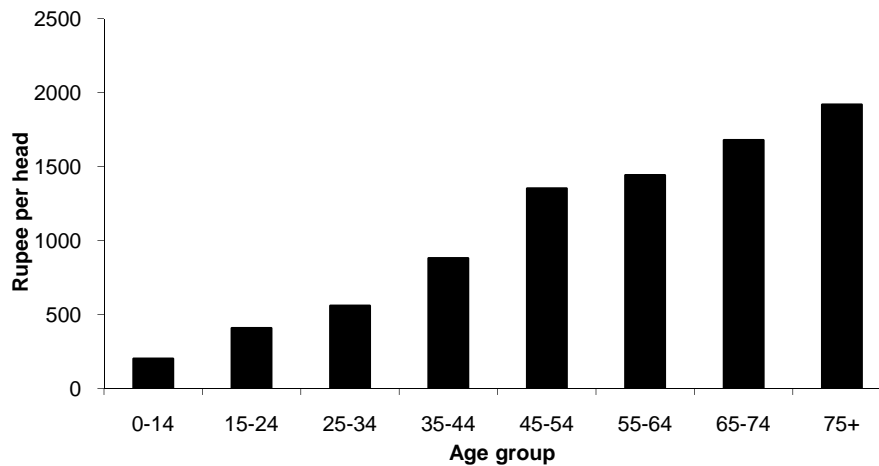
**Figure 1: Enrollment Rates by Levels of Education in India, 1998-99**

**Source:** Authors calculation from National Family Health Survey-II (1998-1999).

Present three tiers Health System in India is founded on the basis of Bhore Committee Report of 1946. In each Community Development Block area (60,000-80000 population), there is one primary health centre (PHC) and three subcentres (SC). Each PHC serves 30,000 populations in plain areas and 20,000 population hilly areas while each SC provides services to 5000 population in plain areas and 3000 population in hilly areas. User charge is about Rs. 2000 per month on the average at the PHC and CHC levels. Poor household members below the poverty line (BPL) are exempted from payment of users' charge.

Public health expenditure is just 1.56 percent of the GDP in 2001-02 as against 0.04 percent in 1970-71, too meager to meet the demand for healthcare. And, unlike in education, most expenditure on health is in fact in the private sector, which accounts for 85 percent of total health expending in India. Health services are already dominated by private players and there are

complaints of poor quality and over-charging in large segments of private health market (Misra, Chatterjee, and Rao, 2003). Dreze and Sen (2002) rightly pointed out that the private sector, even if its quality improves, cannot be a perfect substitute for greater state involvement as it is likely to overlook positive externalities in critical areas of public health such as eradication of communicable diseases, the incidence of which is still very high in India.



**Figure 2: Average Health Care Cost by Age in India, 2004**

Most of household expenditure on healthcare is out-of-pocket cost, as percent of per capita income it has doubled from 2.71 to 5.53 percents during 1960-70 to 2001-03 (Bhat and Jain, 2006). Figure 2 depicts age specific out-of-pocket cost for utilization of healthcare facilities in India. As expected healthcare cost increases with advancing age.

#### **4. SOURCES OF DATA**

Data used in this study are drawn from multiple sources. Age profile of labor income is estimated from the survey of Employment and Unemployment in India (1999-2000) conducted



by the National Sample Survey organizations (NSSO) in its 55<sup>th</sup> round. The survey provides data on wages and salary of employed and earning from own enterprises for self-employed, members of sampled households with reference periods of 365 and 7 days before the date of survey. Information on unemployment persons seeking / availability for work is also provided in this source. A parallel independent Household Consumer Expenditure Survey (1999-2000) by the NSSO is the source of data on food, non-food, education, health care, rent, miscellaneous goods and services and durable articles, with a reference period of 30 days. Macro-economic controls for the financial year 1999-2000 as regards compensation of employees in terms of salary and wages, mixed income (that is, the value added in household enterprise), private expenditures on education, health and others are extracted from the National Accounts Statistics (2005). The NSSO survey of Morbidity, Health Care and Conditions of Aged in India (2000) is the source for drawing age profile of public expenditure on health. Details on education level specific school enrollment and per student public expenditure are based on the NSSO, 52<sup>nd</sup> (1995-2000) are taken from the Indian Public Finance Statistics (2004-2005). The NSSO on quinquennial basis regularly conduct such large scale surveys from 1972-1973 onwards. Sampling design adopted in the NSSO surveys are usually multi-stage stratified sampling covering nationally representative sample of more than 100 thousand households spread over 6000 villages and 4000 urban blocks.

## **5. DEFINITION AND ESTIMATION OF AGGREGATE CONTROLS**

The variable and measurement descriptions of India's aggregate controls for income and consumption are summarized in Table 1. This is based on the NTA's general methodology. India's National Accounts Statistics (NAS) is the official source of basic data for all aggregate control variables.

**Table 1: Definition and Measurement of Aggregate Controls**

<b>Aggregate control variable</b>	<b>Measurement of aggregate control variable</b>
<b>Aggregate income</b>	
Labour income	Compensation of employees + (2/3) of mixed income + net compensation of employees from the rest of world (ROW)
Asset income	Operating surplus of non-household sector + (1/3) of mixed income of household sector + net property and entrepreneurial income from ROW - subsidies
<b>Aggregate consumption</b>	
Public	Government Final Consumption Expenditure (GFCE)
Private	Private Final Consumption Expenditure (PFCE)
<b>Education consumption</b>	
Public	Expenditure on education under GFCE
Private	Expenditure on education under PFCE
<b>Health consumption</b>	
Public	Expenditure on health under GFCE
Private	Expenditure on medical care and health services under PFCE
<b>Consumption Other</b>	
Public	Expenditure on non-education and non-health under GFCE
Private	Expenditure on non-education and non-medical care and health services under PFCE

Notes: (1) Private other consumption includes general public services; defense; social security and welfare services; housing and other community amenities; cultural, recreational, and religious services; economic services (e.g. agriculture, mining, transport, and communication). (2) Public other consumption includes food and beverages, clothing and footwear; fuel and power; furniture, furnishing, appliances, and services; transport and communication; and recreation and cultural services. (3) All private consumption is defined net of consumption (indirect) taxes.

Table 2 presents the estimation results of aggregate labor and asset income. To gain further insights, the estimated incomes are disaggregated by their components. Of the total labor income, the share of compensation of employees is the highest (53.81). Labour share of mixed income accounts for 46.14 percent in the total labor income. Thus, net compensation from the rest of the world (ROW) is negligible. On the other hand, noteworthy components of assets income include (a) almost equal share of household and non-household operating surplus (about 45 percent) and (b) subsidies (10.70 percent).

**Table 2: Estimated Aggregate Labor and Asset Income in India's NTA, 1999-00**

Aggregate control for income variable	Estimated value (in Crore)
<b>1. Labour income</b>	1082291
• Compensation of employees	582357
• (2/3) of mixed income	499345
• Net compensation of employees from ROW	589
<b>2. Total asset income</b>	435172
• Operating surplus of non-household sector	248105
• (1/3) of operating surplus of household sector	249672
• Net property and entrepreneurial income from ROW	-16020
• Subsidies	46585

Note: (a) One crore is equal to 10 million. (b) Figures in parentheses are percent to total labor or asset income.

Source: National Accounts Statistics 2005, Central Statistical Organization, Government of India (New Delhi).

Table 3 presents the estimation results of aggregate consumption by public and private education consumption, health consumption, and consumption other. The results reveal three insights. First, within public (or private) consumption, share of education (or health) consumption is higher than the consumption of health (or education). Second, consumption other is highest within public and private consumption. In particular, the share of consumption other within private consumption is higher than within public consumption. Third, within total education (or health) consumption, public (or private) consumption is higher than the private (or public) consumption. Fourth, within total consumption other, private consumption is remarkably higher (83.11 percent) than the public consumption (16.84 percent).

**Table 3: Estimated Aggregate Consumption in India's NTA, 1999-00**

Variable	Estimated public consumption	Estimated private consumption	Estimated total consumption (in Crore)
Education	41189	22209	63398
Health	15924	69400	85324
Others	193995	954471	1148466
Total consumption	251108	1046080	1297188

Note: (a) One crore is equal to 10 million. (b) Private consumption is net of indirect/consumption taxes. (c) Figures in parentheses are percent to column's total. (d) Figures in square brackets are percent to row's total.

Source: National Accounts Statistics 2005, Central Statistical Organization, Government of India (New Delhi).

## 6. INCOME, CONSUMPTION AND LIFECYCLE DEFICIT

Aggregate labor income, private and public consumptions by sector and lifecycle deficit for broad age groups, which are consistent with NIPA for the financial year 1999-2000, are shown in Table 4. At nominal price, the aggregate consumption is Rs. 12972 billion as against the aggregate labor income of Rs. 10823 billion leading to lifecycle deficit of Rs. 2149 billion in the aforesaid accounting year. These figures are the results of application of NTA framework. It may be noted that prime working age group 20-60 years contribute as much as 92 percent of the total labor income, while the share of below 20 years and above 60 years are 4 percent each. In a way the share of contribution to aggregate labor income by broad age groups captured the sizeable population of children and moderate size of aged population in the country's age distribution.

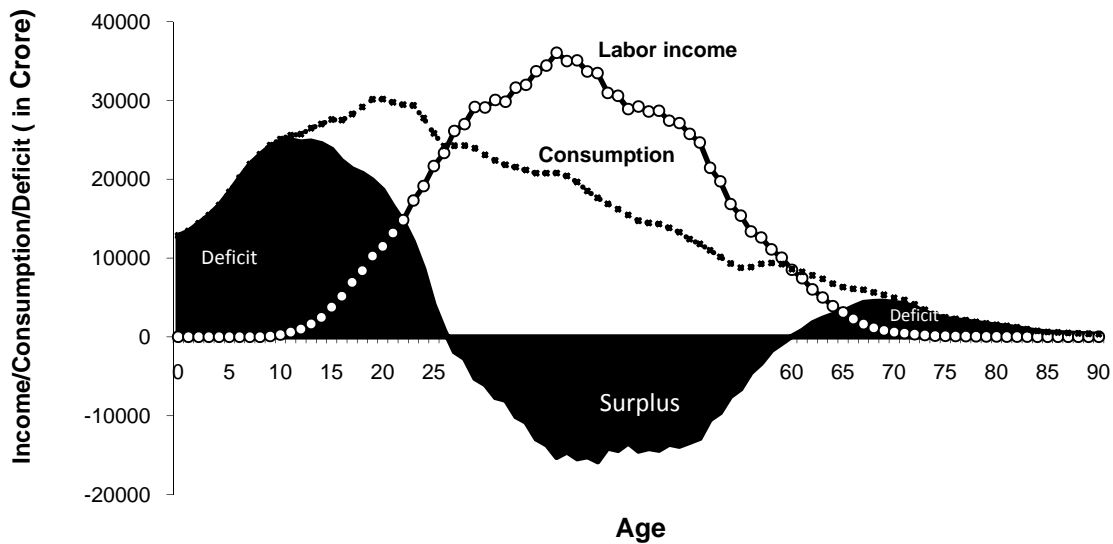
**Table 4: Aggregate Labor Income, Consumption by Sector and Lifecycle Deficit in India.**

	Age Groups					
	Total	0 – 10	10 - 20	20 – 60	60 – 80	80 +
<b>Life Cycle Deficit</b>	214898	180398	233096	-263949	56808	8545
<b>Consumption</b>	1297188	180398	272772	736872	98500	8646
<b>Private Consumption</b>	1046080	127417	210967	614859	85353	7485
Education	22209	4418	12484	5307	0	0
Health	69400	15364	14524	33671	5304	537
Others	954471	107635	183958	575881	80049	6948
<b>Public Consumption</b>	251108	52981	61805	122013	13148	1161
Education	41189	3576	15738	21875	0	0
Health	15924	3683	3450	7626	1062	103
Others	193995	45721	42617	92513	12086	1058
<b>Labor Income</b>	1082290	0	39675	1000821	41692	101

*Note: All figures are in crore = 10<sup>7</sup> INR (Indian Rupees)*

As against the contribution of 4 percent in the total aggregate labor income, population under 20 years consumed 32 percent of the total aggregate consumption both public and private put together. On the contrary, the share of total aggregate consumption is just 9 percent for population above 60 years and the remaining 59 percent of public and private consumption goes to the prime remaining 59 percent of public and private consumption goes to the prime working age group 20-60 years who contribute 92 percent of the total aggregate labor income. This clearly is a case of under investment for elderly population 60 years and above in comparison to the investment to population below 20 years. The scenario also signals near absence of prominent public policies for social security and healthcare for aged population in India. What emerges is investment for children and young is about 3.5 times higher than that of population 60 plus. With the exception of education private consumption for healthcare and others is much higher than that of public consumption.

The discussion so far indicates that young and aged population consumed far more than their share of labor income, as a result young and aged experienced life cycle deficit (LCD). On the contrary for the prime working age population in 20-60 years, aggregate labor income exceeds aggregate consumption experiencing surplus of monetary resources. As a consequence of over consumption of both private and public in comparison to their share in the aggregate labor income, young population under 20 years account for as much as 157 percent of the LCD, while population 60 years and above account for 25 percent. Figure 3 graphically summarized age patterns of aggregate labor income, consumption and life cycle deficit.

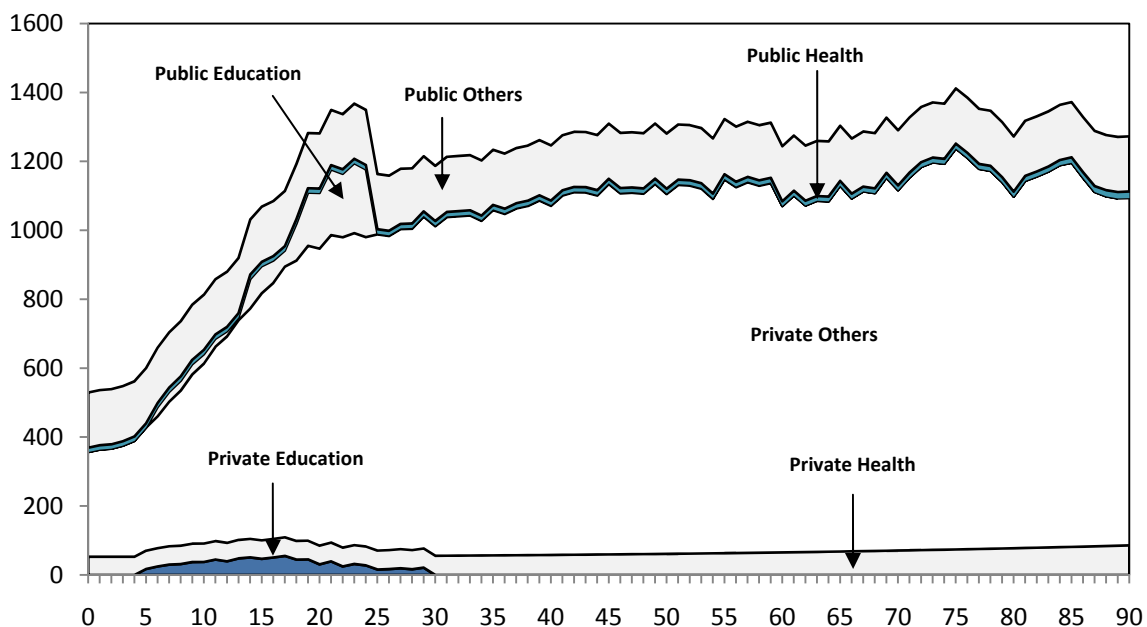


**Figure 3: Aggregate Labor Income, Consumption and Deficit in India, 1999-2000**

Age profile of aggregate consumption depicts age distribution of India’s population with a large number of children and not so sizeable but increasing population of elders 60 years and above. This is translated into larger shaded area under 20 years and relatively small shaded area at advance ages depicting concentration of LCD in young and old ages. Age profile of labor income

shows larger share of aggregate labor income in the prime working age group with surplus shaded area due to income exceeding consumption.

Per capita consumption profiles can be much more relevant from policy point of view. In order to look into the age patterns of consumption for education, health and others by sectors of the Indian economy, we have drawn per capita consumption profiles consistent with NIPA and shown in figure 4. Public and private per capita age profiles of consumption reflects contrasting feature by sectors of the economy. In the private sector, consumption in other than education and health constitute 76.8 percent of the total consumption. Per capita private other consumption is



**Figure 4: Age Patterns of Per Capita Consumptions by Sector**

low during the first five years of life, thereafter sharply increases with age till mid twenties and remains more or less flat till late ages. Per capita private education is concentrated in 6 to 31 years of age showing a humble peak at late teens the stage of higher secondary education but its

share of total consumption is just about 18 percent. Per capita private health profile though is uniformly flat in the adult age groups steadily rises in later ages and constitute 5.6 percent of total consumption of the accounting year 1999-2000. Age pattern of public per capita consumption shows distinctive contrast with that of private consumption

Age pattern of public per capita consumption shows distinctive contrast from that of private consumption mostly concentrated in the school going age group due to high public investment in education in comparison to health. Per capita public consumption profile for others is on per capita basis so it is flat, while that for health it shows a rise at advance ages. The share of public consumption on education, health and others are 2.6, 1.0 and 12.3 percents, making up 15.9 percent of the total consumption. Table 5, summarizes the contrast between public and private consumption.

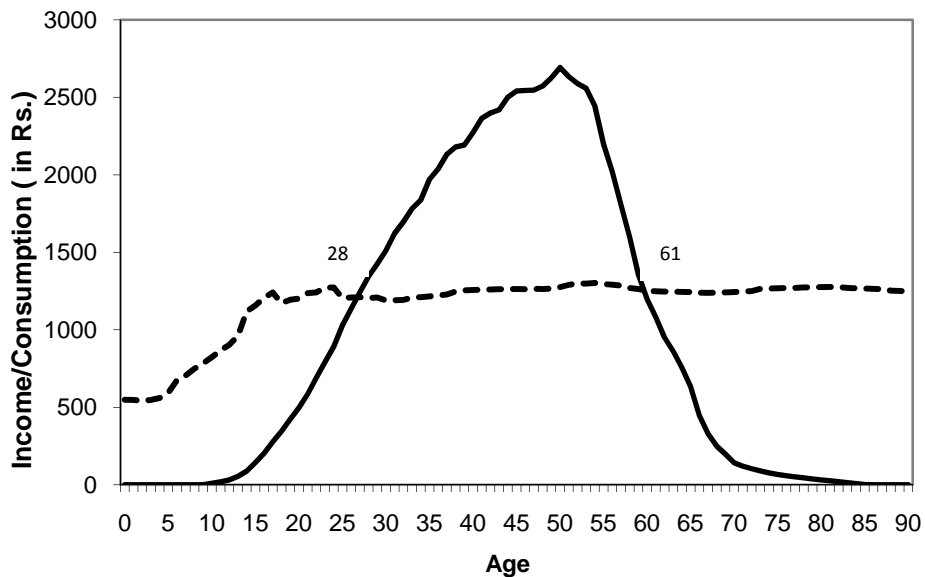
**Table 5: Summary of Per Capita Consumption in India, 1999-2000.**

	Share (%)	Mean Age
Consumption	100	48
Public	15.9	55
Health	1.0	47
Education	2.6	16
Others	12.3	50
Private	84.1	54
Health	5.6	64
Education	1.8	18
Others	76.7	54

Mean age of overall consumption both public and private sectors taken together stands at 48 years, while respective mean ages of consumption for these two sectors in the aforesaid order are 55 and 54 year respectively. For health consumption in these two sectors, mean ages are 47 and 64 years. The higher mean age of private health consumption is also indicative of the fact that



individuals incurred out-of-pocket expenditure for healthcare needs at advance ages, in the near absence of social security and inadequate public health expenditure. As far education mean ages of public and private consumption are 16 and 18 years, once again signaling for longer duration of private support for education. Other public consumption is for infrastructure, defense etc. and the mean age of consumption is 50 years. Whereas in the case of private other consumption it relates to food, clothing, social expenditure etc. and corresponding mean age is 54 years. The foregoing discussion unfolds that in an economy, the public and private sectors contrast each other and also emphasis on different baskets of goods and services are also different. Lifecycle deficit implication of consumption at young and old ages without engaging in economic activities is better capture when the per capita labor income and the per capita consumption age



**Figure 5: Per capita Labor Income and Consumption in India, 1999-2000**

patterns are plotted together as shown in figure 5. The age profile of per capita labor income reflects a number of distinctive features. It is an inverse broad U-shape curve which starts in

early teens, gradually increases with age peaking late in mid-fifties, thereafter declines gradually and tapers towards the end with advance age.

Existence of child labor is evident in the early age of entry into economic work and marginal share of labor income by young persons. In the organized sector wages and salary enhancement of employees is on seniority basis and assets and properties are mostly owned by head of household in joint family system which characterized rural India. This phenomenon seems to have been captured in the late peak of income profile. In the absence of social security system, one has to continue economic activities in low paid unorganized sector or work in owned farm even after retirement or become old enough. This is evident from the continuity in the tapering of income profile up to very old age. Age profile of per capita consumption also exhibits interesting features, particularly, during the school going age and at older ages. Per capita monthly consumption increases sharply from about 6 years of age till it attains early peak at about 19 years showing huge investment for education and continue to increase up to 26 years, the stage for completion of education. The consumption profile crosses the income profile at 28 and 61 years of age, which marked the average ages of entry into labor force and retirement respectively. During the 33 years span of engagement in economically gainfully activities per capita consumption profile is more or less stable with marginal rise in the level at post retirement age due to healthcare cost. What is interesting to note is that retirement do not compel individuals to curtail consumption.

For individuals below 28 years and above 61 years, the gap between the per capita labor income and consumption profiles is the magnitude of LCD. It is much more pronounce after 61 years as compared to that of below 28 years. Per capita life cycle deficit is shown in a stylized manner in

figure 6. NTA framework recognized the role of public and private asset reallocations and transfers as means to support LCD depending on the structure of the underlying economy. For welfare state LCD is mostly funded by public intervention. On the other hand in developing economy and traditional society, LCD is funded by private asset reallocation and transfer.

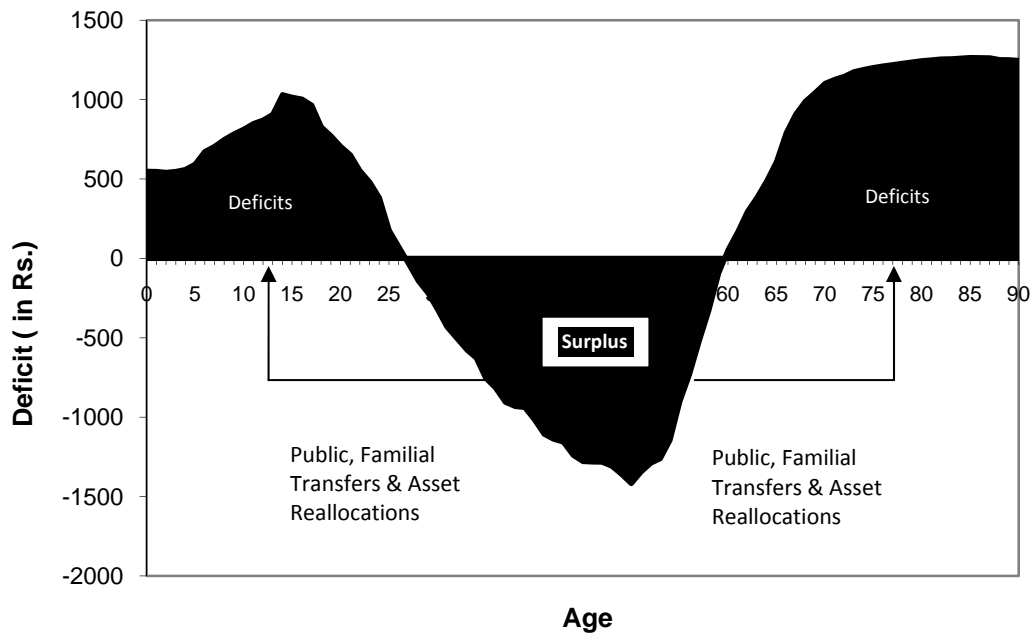


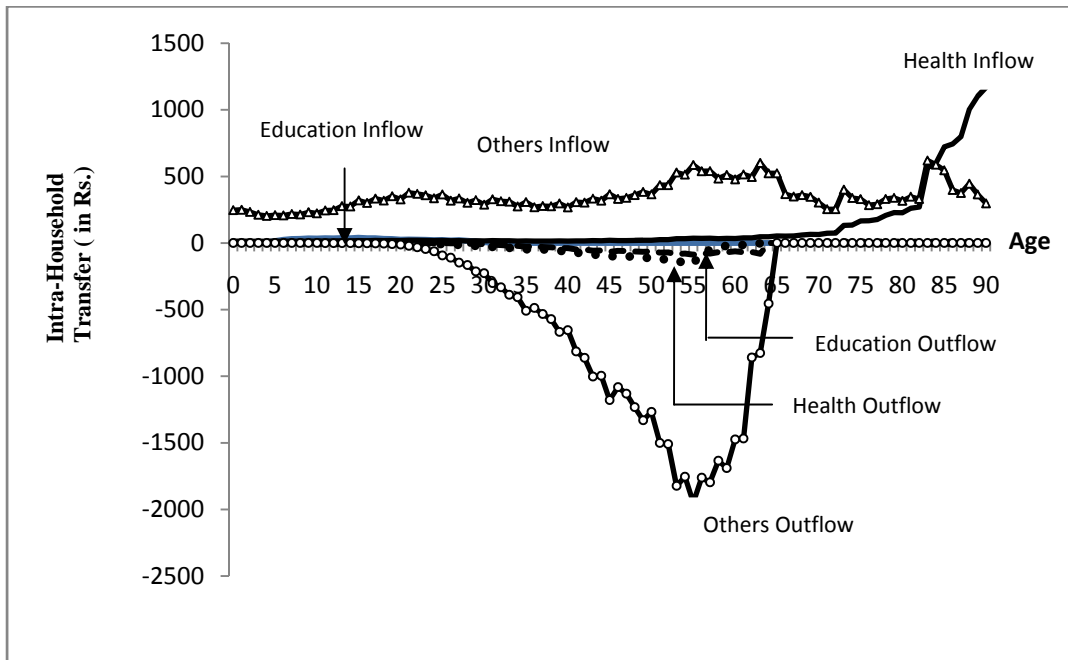
Figure 6: Per capita Lifecycle Deficit in India, 1999-2000

## 7. INTRA-HOUSEHOLD TRANSFER

For traditional and economically under-developed society familial transfer is the main source to make up lifecycle deficit. Intra-household and inter-household transfers are the two forms inter vivo transfer considered under NTA framework (Mason et al., 2006). In this study we shall restrict to estimation of magnitude of intra-household transfer from member of household with disposable income to members of household who cannot finance their current consumption. The importance of intra-household transfer as a means to support LCD of current consumption is its

relevance to India's socio-cultural context and presence of large number of joint families under the poverty line in rural areas.

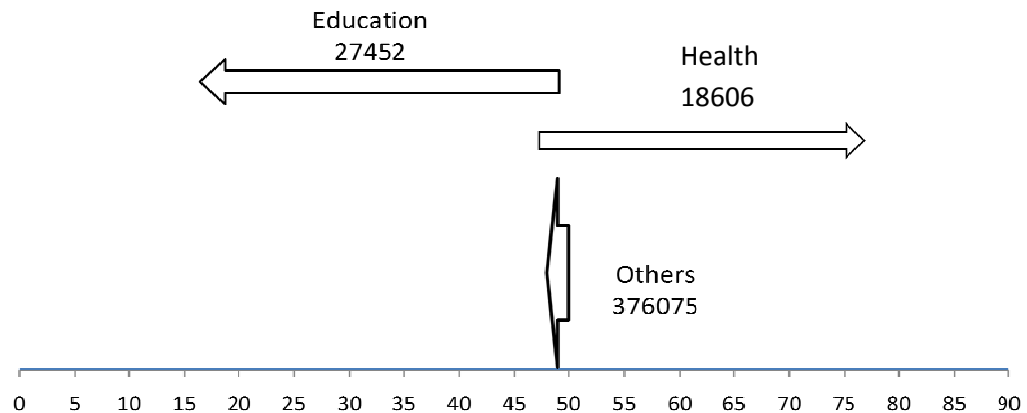
In India, the most commonly used measure of poverty is the proportion of the population with expenditure below an absolute poverty line that is invariant over time in real terms. The level of consumption below which people are living in poverty is set by determining the overall expenditure level at which consumers could purchase a food intake of 2400 calories in rural areas or 2100 calories purchase in urban areas. Poverty rate has fallen markedly from 45 percent in 1984 to 27.5 percent in 2004 (OECD, 2007) and the speed of decline was faster in the period from 1999 to 2004 (Himanshu, 2007; Dev and Ravi, 2007). In spite of the current GDP growth rate of well above 8 percent, India is still one of the poorest countries.



**Figure 7. Per Capita Age Profiles of Beneficiary and Donor of Intra-Household Transfer India, 1999-2000**

Figure 7 shows age profiles per capita intra-household transfer beneficiaries and donors for education health and other consumptions. It is evident that monetary transfer between members of household for consumption other than education and health dominates in magnitude. However, in the eighties intra-household transfer for healthcare picks up and dominates over transfer for other consumptions. Yet another distinctive feature is that donors for intra-household transfer are concentrated in the working age groups and transfer for education is the least in magnitude.

Main consumption need for below 20 years is for schooling and for above 60 year individuals is for healthcare, in addition to other essential goods and services. At the household level lifecycle deficit is finance by earning members with disposable income through social contract intermediated by household head. Applying the methodology and assumptions of intra-household transfer in NTA (Mason et al., 2006), we have charted age profiles of beneficiary and donor for education, health and other privates consumptions.



**Figure 8: Intra-Household Transfer to Support Lifecycle Deficit in India, 1999-2000**

The result is summarized in figure 8. In this figure the direction of the arrow indicates age direction of flow of intra-household transfer, the head and the tail represents mean ages of beneficiary and donor respectively while the thickness of the arrow stands for the magnitude of transfer. The numerical values shown along with each arrow is the monetary values of intra-household transfer in crores ( $=10^7$  INR). Mean ages of beneficiaries and donors are based on separated age profiles of beneficiaries and donors. The total intra-household transfer makes up 88 percent of the lifecycle deficit of below 20 years and above 60 years accounted together. Bulk of the intra-household transfer is for current consumption of goods and services other than health and education. This accounts for 78.5 percent of the LCD of below 20 years and above 60 years members of household. Mean ages of both beneficiaries and donors for other consumption are in the vicinity of 50 years, as other goods and services are consumed by all members. Intra-household transfer for education is 5.7 percent of LCD of below 20 and above 60 years. Mean age of children who received familial financial support for education is 16 years and that of household members who support is 50 years. For healthcare the magnitude of intra-household transfer is 3.9 percent of the LCD of young and old members. Mean age of family members who support healthcare for other members is 46.3 years and that of receiver of financial support is 78.5 years. The main result which emerges from this study is that children in education and elders are in need of financial support for education and healthcare respectively. In the case of India, intra-household transfer is the main source of financing LCD of individuals below 20 years and above 60 years. The support comes from earning members of household with disposable income.

## 8. CONCLUSIONS

This paper makes an attempt to study lifecycle deficit, as a consequence of children and elders consuming both public and private goods and services beyond their income. An accompanying emphasis of the study is to find the magnitude of intra-household transfer to support and finance lifecycle deficit of population below 20 years and above 60 years. The analysis is based on NTA framework and is consistent with NIPA. We have also emphasized the socio-cultural significance of intra-household transfer to support LCD in the context of India. A comprehensive background pertaining to public policies and a brief feature of Indian economy are incorporated for a clear understanding of the process of LCD and intra-household transfer.

From the age profile of per capita consumption, we have found that consumption increases from about 6 years, the age of entry into school till mid-twenties the stage of completion of schooling, thereafter it is more or stabilized and remains at that level even after retirement age. As for age profile of per capita labor income it is found to be a broad inverse U-shape curve which starts from early teens, then gradually rises with age, attains peak in mid-fifties thereafter declines with age steeply and continue to tappers till late seventies. The shape of the labor income captured presence of child labor and indication of compelling elders to work in low paid work in the absence of prominent social security in India. Thirty three years of economically active life is witnessed, as the labor income and consumption profiles cross each at 28 and 61 years. An estimated 92 percent of the total aggregate labor income is being earned during this productive period.

Like in the case of any other developing economy with sizeable population of children and ever increasing aged population, at the aggregate level LCD of below 20 years is 3.5 times than that

of 60 plus population. On the other hand at the per capita level LCD of aged 60 years and over are more pronounced as compared to that of young below 20 years. Education and healthcare costs are the main consumption which has resulted in LCD among the young and aged individuals. Familial transfer from members of household with disposable income to a considerable extent is the means of support of LCD and intra-household transfer accounts for 88 percent of the LCD of young below 20 years and aged above 60 years.

The overall message which this study gives is that in India, there is shortage of public funding to meet a greater share of LCD of the population and children and aged would not have been able to consume essential goods and services but for the intra-household transfer. Under these circumstances, social security is an area which needs to be broadened and strengthened in view of the persistently high level of per capita lifecycle deficit even after crossing the retirement age. India's social security system if not broadened and plan to take-off immediately will face big challenge due to the fast ageing of population, as consumption of healthcare resources increase disproportionately with age. Currently public pension system covered less than 10 percent of the total workforce, that too in the organized sector, leaving out those in unorganized sector, which is so heterogeneous including from shopkeepers to self-employed professionals to daily laborers.



## REFERENCES

- Agree, E.M., Biddlecom, A.E., and Valente, T.W. (2005). "Intergenerational transfers of resources between older persons and extended kin in Taiwan and the Philippines" *Population Studies* 59(2): 181-195.
- Anant, T.C.A., Hasan, R., Mohapatra, P., Nagraj, R., and Sasikumar, S.K. (2006). "Labor Markets in India: Issues and Perspectives" J. Felipe and R. Hasan. *Essays in Industrial Policy*. New Delhi: Oxford University Press.
- Becker, G. (1974). "A theory of social interactions" *The Journal of Political Economy* 82: 1063-1093.
- Becker, G. (1991). *A treatise on the family*. Cambridge, MA: Harvard University Press.
- Becker, G. and Tomes, N. (1976). "Child endowments and the quantity and quality of children" *Journal of Political Economy* 84: 142-163.
- Bernheim, D., Shleifer, A., and Summers, L. (1985). "The strategic bequest motive" *Journal of Political Economy* 93: 1045-1076.
- Bhat, R., and Jain, N. (2006). "Analysis of public and private healthcare expenditures" *Economic and Political Weekly*, January 6: 57-68.
- Caldwell, J. (1976). "Toward a restatement of the demographic transition theory" *Population and Development Review* 2: 321-366.
- Central Statistical Organisation. (2005). "*National Accounts Statistics*". Government of India.

- Chen, X., and Silverstein, M. (2000). "Intergenerational social support and psychological well-being of older parents in China" *Research on Aging* 22(1): 43-65.
- Cox, D. (1987). "Motives for private income transfers" *Journal of Political Economy* 95: 508-546.
- Despande, L., Satpathy, A.K., and Despande, S. (2007). "Personal income distribution and heterogeneity of labor markets in India" *The Indian Journal of Labor Economics* 50(4): 903-926.
- Dev, S., and Ravi, C. (2007). "Poverty and inequality: All India and States, 1983-2005". *Economic and Political Weekly*, February, pp. 509-521.
- Dreze, J. and Sen, A. (2002). "*India: Development and participation*", New Delhi: Oxford University Press.
- Filmer, D. and Pritchett, L. (1999). "Educational enrollment and attainment in India: Household wealth, gender, village and state effects". *Journal of Educational Planning and Administration* 13(2): 135-164.
- Godinda, R. (2002). "India education report" New Delhi: Oxford University Press.
- GoI (1946). "Health survey and development committee" *Bhore Committee Report*, vol. I-III.
- GoI (2006). "Economic survey 2004-2005". *Ministry of Finance, Government of India*, <http://indiabudget.nic.in/es 2004-05/esmain.htm>.
- Goode, W. (1963). *World revolution and family patterns*. Glencoe, IL: Free Press.

- Hermalin, A.I., Chang, M.C., and Roan, C. (2002). "Economic well-being: insights from multiple measures of income and assets" *The well-being of the elders in Asia*. A.I. Hermalin. Ann Arbor: University of Michigan Press. pp. 295-360.
- Himanshu (2007). "Recent trends in poverty and inequality: some preliminary results". *Economic and Political Weekly*, 10 February.
- Ikkink, K., Tilburg, T. and Knipscheer, K. (1999). "Perceived instrumental support exchange in relationships between elderly parents and their adult children: Normative and structural explanations" *Journal of Marriage and the Family* 6: 831-844.
- Kaplan, H. (1994). "Evolutionary and wealth flows theories of fertility" *Population and Development Review* 20: 753-792.
- Kingdon, G.G. (1996). "*Student achievement and teacher pay: A case study in India*". DEP No. 74. STICERD. London: London School of Economics.
- Lee, R. (2000). "A cross-cultural perspective on intergenerational transfers and economic life cycle" *Sharing the wealth: Demographic change and economic transfers between generations*. A. Mason and G. Tapinos. Oxford: Oxford University Press.
- Lee, Y., Parish, W., and Willis, R. (1994). "Sons, daughters, and inter-generational support in Taiwan" *American Journal of Sociology* 99: 1010-1041.
- Lillard, L., and Willis, R.J. (2002). "Patterns of intergenerational transfers in Southeast Asia" *The Journal of Marriage and Family* 64: 627-641.

Mason, A., Lee, R., Tung, A.C., Lai, M.S., and Miller, T. (2006). "Population aging and intergenerational transfers: Introducing age into national accounts" Cambridge, MA: *National Bureau of Economic Research, Working Paper 12770*.

Mason, Karen Oppenheim (1992). "Family change and support of the elderly in Asia: what do we know?" *Asia-Pacific Population Journal* 7(3): 13-32.

Misra, R., Chatterjee, R., and Rao, S. (2003). "*India health report*", New Delhi: Oxford University Press.

Nagraj, R. (2004). "fall in organized manufacturing employment: A brief note" *Economic and Political Weekly*, 24 July.

National Sample Survey Organisation. (2000). "A Note on Attending on Educational Institution in India: Its level, Nature and Cost, National Sample Survey 52th Round (July 1995-June 1996)". *Sarvekshna: Journal of the National Sample Survey Organization*, Vol. XXIII, No. 3, Issue No. 88: 1-39.

National Sample Survey Organization. (2001). "Employment and Unemployment in India, National Sample Survey 55<sup>th</sup> Round (July 1999-June 2000)", Government of India.

National Sample Survey Organization. (2001). "Household Consumer Expenditure in India, National Sample Survey 55<sup>th</sup> Round (July 1999-June 2000)", Government of India.

NCERT. (2003). "Compendium of educational statistics", New Delhi: National Council of Educational Research and Training.

OECD (2007) "OECD economic surveys: India" New Delhi: Academic Foundation.

Ofstedal, M.B., Knodel, J., and Chayovan, N. (1999). "Intergenerational support and gender: a comparison of four Asian countries" *Southeast Asian Journal of Social Science* 27(2): 21-41.

Preston, H. (1982). "Relations between individual life cycles and population characteristics" *American Sociological Review* 47: 253-264.

Schoeni, Robert F. (1997). "Private inter-household transfers of money and time: new empirical evidence" *Review of Income and Wealth* 43(4): 423-448.

Stark, O. (1995). *Altruism and beyond: An economic analysis of transfers and exchanges in families and groups*. Cambridge, U.K: Cambridge University Press.

Willis, R. (1980). "The old age security hypothesis and population growth" *Demographic behavior: Interdisciplinary perspectives on decision-making*. T. Burch, Boulder, Co: Westview Press.

World Bank (2003). "India: A policy note on the grant-in-aid system in Indian education". Report no. 3, South Asia Human Development Sector.

Zimmer, Zachary and Kwong, J. (2003). "Family size and support for older adults in urban and rural China" *Demography* 40(1): 23-44.