

Report No. 73162-LK

# Sri Lanka

## Demographic Transition

### Facing the Challenges of an Aging Population with Few Resources

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## Abbreviations and Acronyms

APPF	Approved Private Provident Funds
DCS	Department of Census and Statistics
DHS	Demographic and Health Survey
GoSL	Government of Sri Lanka
GDP	Gross Domestic Product
EPF	Employment Provident Fund
HIES	Household Income and Expenditure Survey
LFS	Labor Force Survey
OECD	Organization for Economic Co-operation and Development
NGO	Non-Governmental Organization
NTA	National Transfer of Accounts
PCPS	Private Contributory Pension Schemes
PSIA	Poverty and Social Impact Analysis
PSPS	Public Service Pension Scheme
SFSCTP	Samurdhi Food Stamp and Cash Transfer Program
SLDHS	Sri Lanka Demographic and Health Survey
TFR	Total Fertility Rate
TEWA	Termination of Employment of Workman Act
WDR	World Development Report

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## Acknowledgements

This report discusses some of the economic implications of demographic transition in Sri Lanka, focusing on employment and productivity related issues on one side; and performance of cash transfer programs aiming to assist the poor and vulnerable groups on the other. The analytic evidence provided here complements and builds on the World Bank's 2008 aging report.

This report was written by a team led by Cem Mete (Lead Economist). The team consisted of Indralal De Silva (Consultant and the author of the background paper on population change and demographic bonus), Nistha Sinha (Senior Economist and the author of the background paper on labor), Denis Nikitin (Consultant and the author of the background paper on National Transfer Accounts), Stefania Cnoblach (Consultant and the author of the background paper on vulnerabilities and cash transfer programs), Rehan Jamil (Consultant), Afra Chowdhury (Consultant), Susrutha Goonesekera (Social Protection Economist), Shalika Subasinghe (Consultant), Anita Fernando (Team Assistant) and Izabela Chmielewska (Team Assistant).

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Preliminary findings of this report were presented at the July 2011 Workshop on Aging organized by the Centre for Poverty Analysis in Colombo. The findings were also presented to researchers and NGO representatives at an event hosted by the University of Colombo, also during July 2011. The results summarized here, and those that are described in more detail by the accompanying background notes, helped inform the preparation of several strategy documents: the National Human Resources and Employment Policy for Sri Lanka (led by the Secretariat for Senior Ministers), the ongoing work on policies to encourage gender equity in the workplace (led by the Ministry of Labor) and the ongoing work on social protection strategy (led by the Department of Planning, Ministry of Finance).

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## Executive Summary

1. The Government of Sri Lanka (GoSL) has prioritized investments in education and health reforms starting from the 1930s, recognizing that easily accessible education and health services are a small price to pay for having a healthy and economically active nation. Since then, overall mortality and infant mortality rates have fallen and life expectancy has continuously risen. As a result of low fertility rates and high life expectancy, the current demographic trends in Sri Lanka include a declining share of children and increasing share of elderly, and (for now) an increasing working age population. Sri Lanka has a unique window of opportunity to take advantage of the high share of working age population to stimulate economic growth, but the other two emerging population issues spur questions on their own.

2. With low fertility and high life expectancy, Sri Lanka is currently undergoing a period of demographic bonus with a larger working age population compared to the size of dependents consisting of children and elderly. In 2000, the fertility rate fell below the replacement level. This is a period for reaping the benefits of a favorable age structure (demographic dividend) in order to achieve rapid economic development. This window of opportunity would end in 2017, if one follows the U.N. Population Department definition of demographic dividend where the proportion of children and youth under 15 years fall below 30 percent of the population and the proportion of people 65+ years and older is below 15 percent. This period will be followed by a gradual decline in the share of working age population and increasing dependency ratio, due to continued aging.

3. In this context, this report quantifies Sri Lanka's demographic change by providing updated population projections and by applying National Transfers Accounts methodology documenting how the demographic change and aging contribute to life-cycle deficit and to Sri Lanka's employment and labor market. The challenges and opportunities associated with the upcoming demographic transition are highlighted focusing on the functioning of the labor markets and the social safety net system.

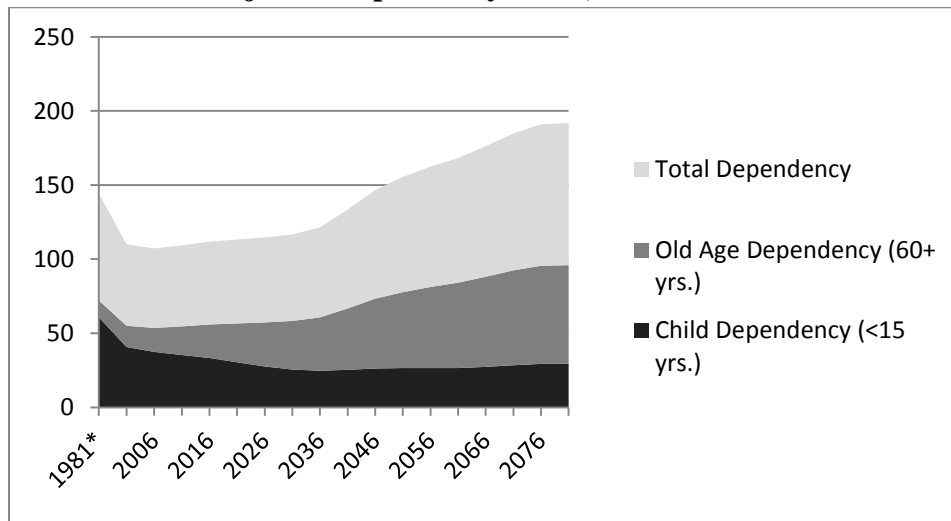
4. The report discusses different avenues that the country can take to make its labor market more efficient and inclusive, and offset some of the disadvantages faced by the poor and vulnerable households. The analysis in this report suggests the timely policy actions can enable Sri Lanka to effectively cope with its changing demographic structure, as outlined below.

## Main Findings

**I. Sri Lanka is currently experiencing a demographic window of opportunity conducive for rapid economic development. The key aspects of the demographic transition include the following:**

- **A large workforce:** The age structure of the population is such that 67 percent of its population is currently at the working age. The working age will remain significantly larger than the dependent population until 2017 (the end of demographic bonus if one follows the UN definition, as discussed previously). Such a large workforce can play a crucial role in advancing the country's economy, if utilized to its fullest potential.
- **An aging population:** The percentage of elderly population (age 60 and over) is expected to increase from 12.5 percent to 16.7 percent in 2021. By 2041, one out of every four in Sri Lanka is expected to be an elderly person.
- **An upcoming increase in the dependency ratio:** In 2001, there were 55 dependents for every 100 working age persons. The overall dependency will increase to 55.9 by the year 2016, and to 58.3 by the year 2031. As a result of rapid increase in old-age dependency, which outpaces the decline in youth dependency, the projected overall dependency will increase significantly after 2041.

**Projected Dependency Ratio, 2001 to 2081**



Source: De Silva (2012), background paper prepared for this report.

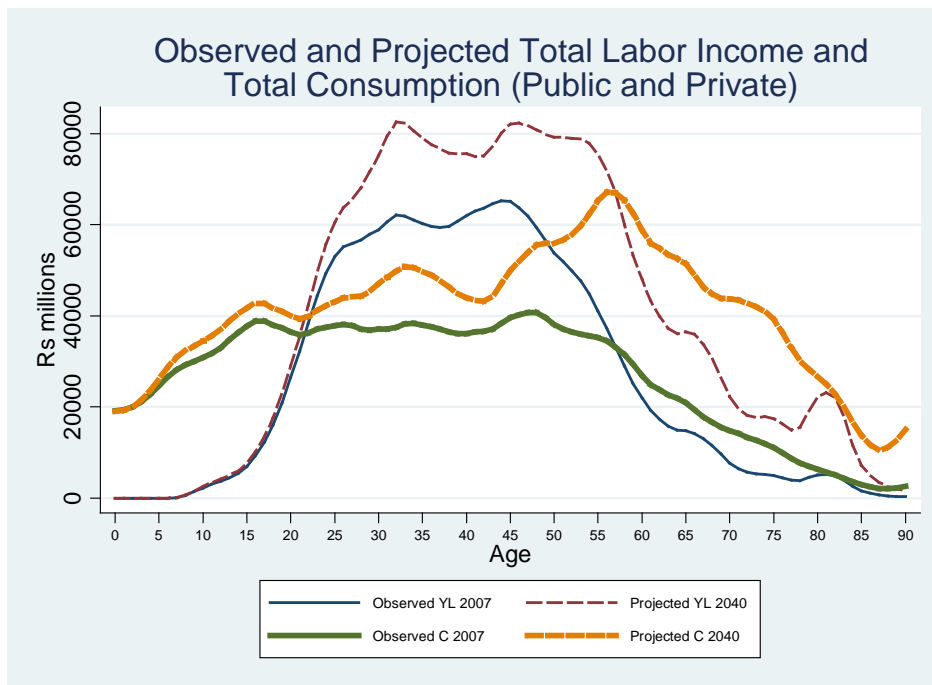
- **An upcoming large increase in the aggregate lifecycle deficit (the difference between the [public and private] consumption and labor income earned by each age group).**
  - The National Transfer Accounts analysis for Sri Lanka reveals a relatively early age of negative life cycle deficit: Sri Lankans start earning income earlier than their peers in other countries and become net earners relatively early as well. In Germany and the

Philippines, for example, labor income begins to exceed consumption only by the age 27, versus 22 in Sri Lanka. On the income side, this pattern is driven by the relatively early age of labor force entry in Sri Lanka. On the consumption side, it is linked to a relatively low enrolment rate in institutions of higher learning.

- Total income of persons age 22 to 56 remains higher than their total consumption, but after the age of 57, consumption is higher than income. Compared to many other countries, elderly Sri Lankans work longer and earn labor income well into their seventies and eighties. Even though formal sector employees retire between ages 57 to 60, many of the elderly who are informal sector workers with low pay cannot afford to stop working. Also, in Sri Lanka public spending flows primarily toward the young and is centered on education, while persons of advanced age receive little public support. As a result, despite a youth bulge and considerable reliance on remittances, a majority of elderly continue to work later in life.
- With demographic transition, children's share in life cycle deficit will decline, but the share of elderly will grow. The relative expansion of the elderly group will put pressure on the working age population to finance the upward transfers. Per capita view of life cycle deficit suggests that per capita expenditure of elderly population is comparatively much higher. Therefore, even if elderly population is able to earn income from labor activities, their consumption far exceeds their income and the older they are the greater the deficit. As the dependency ratio increases, the economy-wide lifecycle deficit will grow significantly keeping everything other than age distribution of the population constant, including employment rates, retirement age and education/skills composition of the workforce.



## The lifecycle deficit will grow significantly over time



**II. One of the two drivers of the life cycle deficit is the labor income profile of the population. At this time, key characteristics of the Sri Lankan labor market include the following:**

- **A large informal sector.** In Sri Lanka, most workers are employed in informal jobs; with 63 percent of women and 70 percent of men being employed in informal jobs. The probability of being employed in informal work decreases significantly with age. In contrast, the probability of being employed in public sector work increases significantly with age, reaching a peak around age 49, close to the retirement age. This is consistent with international evidence, which suggests that informal sector employment can act as an important first job for many Sri Lankan youth as they transition from school to formal work.
- **Low female labor force participation and high youth unemployment rates.** Even though Sri Lanka is currently experiencing a large workforce with 67 percent of its population being at the working age, only 56 percent of this working age population is employed – a result of low participation and high unemployment rates among women and youth. For women, labor force participation has a U- shape with respect to education – completing O level and A levels significantly reduces the probability of participation while university education increases the probability by 20 percent. Childrearing responsibilities are associated with significantly reduced female labor force participation; this negative association is large enough to swamp impact of education on women’s market work.
- **Significant occupational segregation and earning gap (30 - 36%) by gender within industry and occupations especially in the private sector.** Gender parity in earnings exists in the

public sector. For women, there is considerable district level variation in employment rates; districts with plantation estates having the highest participation rates.

- *A service sector is the dominant source of demand for both male and female labor.* The service sector not only accounts for nearly 60 percent of the GDP, almost 45 percent of all male-employment and 40 percent of all female-employment are in this sector. Proportionally more women are employed in modern services (10 percent) compared to men (8 percent). The country's emerging technology industry also faces a shortage of highly skilled workers due to outmigration of scientists and also inadequate quality of higher education institutions.
- *Restrictive labor regulations.* While restrictions on nonpermanent hiring and employer dismissal rights can increase employment security, if excessively restrictive they would also discourage formal job creation. The evidence suggests that, in Sri Lanka, the efficiency costs of employment protection legislation outweigh the benefits in terms of worker protection. Labor regulations are regularly cited by Sri Lankan firms as one of the top five constraints in doing business surveys.<sup>1</sup>

**III. Consumption is the other key component of the life cycle deficit calculations.** *It is the sum of private and public expenditures, the latter estimated considering the public expenditure profile of the country and public service utilization rates (e.g., schooling, health service utilization etc) of individuals of different ages. Thus the efficiency of public service delivery in each sector would have a significant influence on the distribution of consumption. This report, however, only focuses on cash transfers and the extent to which they assist the poor and the vulnerable in a rapidly changing demographic environment. The key findings are as follows:*

- About 9 percent of the Sri Lankan population is estimated to be poor, considering the national poverty line. The number of female-headed households has increased significantly in the recent decades as well as the number of people with disabilities due to both the civil war and an aging population.
- At the same time, spending on social assistance programs decreased as a percentage of GDP from 2.2 percent in 2004 to 0.3 percent in 2009. As a result, within a five year period Sri Lanka moved from being one of the countries with highest safety net spending in South Asia to a country with very little resource allocation for safety nets.
- *Samurdhi Food Stamp and Cash Transfer Program (SFSCTP):* Samurdhi is the main state-sponsored targeted welfare program to support the poorest strata of the population. Samurdhi has relatively good coverage (60 percent of the poorest decile), but its performance is low with respect to both targeting (22.6 percent of funds transferred to the poorest decile, and 61.3 percent to the non-poor) and adequacy (the transfers cover on average 8 percent of the poor beneficiaries' consumption). Its beneficiaries are 89.6 percent in rural areas and 2 percent only on estates; 64 percent of beneficiaries are in households with no elders. The absence of Samurdhi would increase poverty with 1.2 percentage points. The program also reduces the poverty gap by 11.6 percent: Rs.2.8 for each Rs.1 reduction of the poverty gap (not taking into account the administrative costs).

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<sup>1</sup> World Bank. 2012. More and Better Jobs in South Asia. Washington, DC: World Bank

- *Disability/Relief payment:* This program provides support to the people with disabilities. Working age population with a permanent and total incapacity for work qualify for this payment. Disabled soldiers receive disability pensions. The disability/relief payments are strongly progressive — with 63.4 percent of the funds going to the poorest decile. They also have a rural bias, with 91.6 percent of the funds being transferred to the rural population. Overall, these payments reach 2.3 percent of the population, and cover 6.3 percent of the beneficiaries' consumption. The poorest decile of the population is covered more than twice as much (5.4 percent), but gets 63.4 percent of the funds spent, and their benefits represent one-third of their consumption. Nonetheless, due to the small scale of the program, its effect on poverty and poverty gap are negligible.
  
- *Pensions:* The pension system covers 10 to 15 percent of the elderly (age 60 and over). The mandatory pension system covers mainly the formal sector. Workers in the informal sector could opt to be covered by different contributory pension schemes, but these are voluntary, and benefits and contributions are not indexed. The pension system, as captured by HIES, is highly adequate (corresponding to 89 percent of the consumption of the beneficiaries from the poorest decile), but it transfers only 11 percent of its funds to the poorest 10 percent of the population, and it covers 13.9 percent of the same population segment. Seven-in-ten beneficiaries are non-poor, and more than three-quarters are in rural areas but almost none on estates. Although the primary objective of the pension schemes is not poverty reduction, they are part of a policy mix aimed at addressing old-age vulnerability and poverty. Overall, the pension system contributes to reducing poverty with 1.6 percentage points, but it reduces the poverty gap by 18 percent at a much higher cost than other main cash transfers considered here: Rs.9 for each Rs.1 reduction of the poverty gap (not including the administrative costs).
  
- *Remittances:* The distribution of remittances is progressive, as almost half of the transfers reach the poorest 10 percent of the population. They have a rural bias as well. At the same time, 63.8 percent of the funds are transferred to households with no elders, 26 percent – to households with one elder, and 9.9 percent – to households with two elders. The overall coverage is 12.8 percent of the population, but 35.5 percent of the poorest decile of the population. The remittances correspond to 82 percent of the consumption of beneficiaries from the first decile. Recognizing that the goal of remittances is not necessarily (or at least solely) poverty reduction, we note that they contribute to reducing poverty with 2.8 percentage points, while reducing the poverty gap by 31 percent. This finding supports the view that South Asia is a region where intergenerational transfers are mainly regulated by the family as opposed to the state.

#### **IV. Policy Options**

Building on the National Transfer Accounts framework, this section discusses two sets of policy options. The first part highlights the types of policies that would directly influence the labor income curve. The second part highlights some of the policies that would directly influence the public and private consumption curves. Even though the demographic transition would have

considerable implications for education, health and other sectors, here the case for improving the efficiency of public service delivery is made through a discussion of safety net programs.

- Low female labor force participation rates persist in Sri Lanka despite low fertility rates and high female schooling.
  - Addressing women's family care responsibilities are important, since child rearing responsibilities are associated with significantly reduced female labor force participation. Formal child-care facilities are markedly absent in Sri Lanka, as they are across South Asia. Private and community-owned day care centers could help working mothers overcome the constraints of household duties and child raising. A range of programs can be piloted to assess their effectiveness in the Sri Lankan context, including the provision of tax incentives for day care centers and subsidized child-care arrangements for poor households.
  - Vocational skills and internship programs can be tailored to the needs of females, who tend to work in low-pay occupations and partly because of their concentration in low-pay jobs the gender gap in earnings (in the private sector) is sizable.
  - The poverty status of females would need to be considered during program design, since poor females are disadvantaged not only in terms of labor force participation but also in terms of their likelihood to have health insurance, their ability to make and participate in basic household decisions (on household expenditures, visiting friends etc), their knowledge of health topics etc.
- In the Sri Lankan case, improving the coverage and quality of higher education and vocational training emerge as key priority areas to increase labor productivity. The scope of vocational training can be broad, covering both the younger cohorts of low-skilled workers just entering the labor force and those middle-aged workers who require retraining, including informal sector workers. The private sector's active participation in such skills training would ensure their relevancy, to meet the needs of the expanding services sector as well as selected competencies demanded by the industry.
- Government of Sri Lanka has experimented with some interventions to support youth employment including the provision of vocational training and job search services such as JobsNet. The scale of these interventions remains limited and their effectiveness is not documented. Potential improvements may include an increased role of the private sector in vocational training, more structured internship/apprenticeship arrangements, and stronger linkages between skills training programs and universities across the country.
- Labor market regulations in Sri Lanka must strike a balance between protecting basic rights of workers, including rights to job security with over-regulation of jobs, which discourage formal job creation and limit efficient relocation of labor. Also, considering a life expectancy of 75 years, there is a need to consider gradual increases in the retirement age of formal sector employees (retirement age for public sector employees is 57, while the private sector employees have an option to work until 60 years old).

- There is strong potential to extend social insurance, credit and other services to informal workers. Only one-third of the labor force works in the formal sector, leaving the majority of Sri Lankan workers with limited access to markets, technology, credit, insurance and savings mechanisms. Evidence from Sri Lanka, documented in this report indicates that informal workers often work on a part-time or contractual basis with minimal pay and no benefits or social insurance (despite the theoretical availability of various pensions schemes for informal sector workers). Thus any broad-based social security plan must be complimented by a public social insurance program to extend pension coverage for workers in the informal sector, where the majority of the most vulnerable workers are employed.
- Given the rise of the dependent population, keeping poverty and vulnerability levels in check will be increasingly challenging with limited resources. Sri Lanka's existing social protection system is inadequate and needs improvement to meet the challenges of the new millennium, particularly the demands and needs of an aging population. At this time, private expenditures make up a significant part of the life-cycle deficit of the elderly in Sri Lanka (in contrast to the trends observed in many other aging countries). However, a significant share of the elderly is in a vulnerable situation because they neither receive public support nor remittances. Spending on social safety nets will need to increase, even if Sri Lanka was to maintain sizable flows of remittances to the poor and vulnerable. This spending increase would have to be accompanied with a major reform of the existing system to increase the targeting and adequacy of safety nets transfers. Similarly, considering the low public spending on elderly care in Sri Lanka and high out of pocket expenses, there is a need to readjust public spending priorities in the health sector in a manner that is consistent with significant changes in the age structure of the population.
- Government of Sri Lanka has already attempted to define and influence the intergenerational relationships through family law, but there is a need to assess the effectiveness of the existing provisions. The Protection of the Rights of Elders Act has been passed by the parliament in 2000 (with an amendment in 2011), which includes provisions aiming to reduce discrimination by age. It defines the responsibilities of adults towards the elderly, stating that "children shall not neglect their parents willfully, and it shall be the duty and the responsibility of children to provide care for, and to look into the needs of, their parents". Similarly, the same act outlines the responsibilities of the state, including the provision of mechanisms to help families resolve intergenerational disagreements through conciliation officers and courts.
- The socio-economic impact of conflict on demographic change in Northern and Eastern Sri Lanka needs to be examined to determine if there are any significant regional variations in the overall demographic trend of a steadily aging population. Most of the data sources on demographic change conducted in the last decade exclude data from the districts in Northern and Eastern Sri Lanka, because of lack of access during the conflict period. With regards to demographic change, the critical policy questions include what impact has the Sri Lankan Civil War had on the affected regions' demographics, particularly mortality rates, female health and reproduction, migration, family structures and informal social safety net systems.



# Chapter 1: Demographic Change in Sri Lanka

## 1. Demographic Change

1.1 During the past decades the total size, age and sex structure of Sri Lanka's population have changed significantly. This section summarizes these changes by focusing on trends in fertility, mortality, and international migration; followed by a discussion of future population and dependency projections.

### Declining Fertility Rates

1.2 Fertility began declining in Sri Lanka during the 1960s, in part due to the population planning drives of GoSL. In 1953, TFR was 5.3; by 1971 it was 4.2 and from then began a rapid decline. Between 1995 and 2000 it reached its lowest levels at 1.9 but in 2006-07 it recovered slightly to 2.3.<sup>2</sup> As a result, Sri Lanka remains amongst the countries with lowest TFRs in the South Asia region, alongside Bhutan and Maldives (Table 1).

1.3 This reduction in TFR was a result of increased use of contraceptives, which escalated from 34 percent in 1975 to 62 percent in 1987; stabilizing at around 68 percent in 2007. Contraceptive knowledge is almost universal, and is driven by knowledge of modern rather than of traditional methods. Contraceptive usage starts earlier in the reproductive life of women coming from wealthier households and having higher educational attainment. For these women, the decision of first using contraceptives is more often taken by the couple (more than 70 percent) rather than by an individual; be it the respondent, her husband or public midwife. In poorer households, this decision has been taken by different individuals (as high as 21 percent by the public midwife in the poorest quintile) in 50 percent of the cases.

**Table 1: Total Fertility Rate by Country in South Asia**

Country	TFR			
	1990-95	1995-00	2000-05	2007
Afghanistan	8.0	8.0	7.6	7.1
Bangladesh	4.1	3.6	3.2	2.9
Bhutan	5.5	4.3	3.0	2.2
India	3.9	3.5	3.1	2.8
Maldives	5.6	4.1	2.9	2.6
Nepal	5.0	4.4	3.8	3.3
Pakistan	5.9	5.0	4.1	3.5
Sri Lanka	2.2	1.9	2.1	2.3

Source: UNESCAP (2008).

<sup>2</sup> Ratnayake et al., (1994); Department of Census and Statistics (2009).

### **Box 1: Description of the Main Data Sets Used**

The analysis in this paper relies primarily on three major household data surveys: the Labor Force Survey, Household Income and Expenditure Survey, and Demographic and Health Survey.

**Labor Force Survey (LFS)** is fielded by the Department of Census and Statistics (DCS) between 1992 and 2009. These data exclude the districts of Northern and Eastern Sri Lanka because of the adverse security situation during this time period. LFS sample started as a quarterly survey of 2,000 housing units per quarter in 1990. In 1992 and 1997, an annual LFS sample of 20,000 housing units was selected to give reliable estimates by district level. In 2009, the annual sample was expanded to cover 22,500 housing units.

**The 2007 Sri Lanka Household Income and Expenditure Survey (HIES)** is the most recent representative household dataset that contains information on household consumption, income and transfers. The DCS conducts the HIES once in every five years. The survey is fielded from July 2006 to June 2007 throughout Sri Lanka, excluding the Northern Province and Trincomalee district in the Eastern province. The sample size is 18,544 households.

**The 2000 and 2006-07 Demographic and Health Surveys (DHS)** collect information on household characteristics as well as on the characteristics of the women and children, such as nutritional status and women's reproductive behavior. A note of caution in comparing the findings of the two surveys is that the later DHS includes the Eastern Province, although both exclude the Northern Province from enumeration. The sample size for the 2000 DHS is 8,169 households. Detailed questionnaires were administered to 6,385 women. The sample size for the 2006/2007 DHS was much larger, 19,862 households. Detailed questionnaires were administered to 14,692 women.

### **Declining Mortality Rates and Increasing Life Expectancy**

1.4 Significant declines in mortality often precede the fertility transition, which was experienced by Sri Lanka in the post-World War II period. The sharp decline in mortality was largely due to the eradication of malaria, expansion of health and education services, and better distribution of food supplies due to the general improvements in the country's economy (United Nations, 1976). The social infrastructure that was developed before independence and the improvements in the economic well-being, together with an increase in the average level of consumption (Ministry of Health & Women's Affairs, 1992), rapidly yielded positive results in terms of an increase in the life expectancy among the Sri Lankan population. As a result, the life expectancy of males is currently around 68 years and that of females is around 77 years.

### **Increased Numbers of Female-Headed Households and Migration Trends**

1.5 Female-headed households have increased significantly during the past few decades due to a variety of reasons; widowhood associated with civil war, migration, non-marital fertility and marriage instability and a female life-expectancy premium of 8 years (combined with increased share of elderly) being key. In recent decades an increasing number of women, particularly rural women, have become heads of households. This trend is in part due to the civil unrest and displacement in Sri Lanka. The large-scale migration of males as refugees has created a situation where the females have assumed the task of running the household.



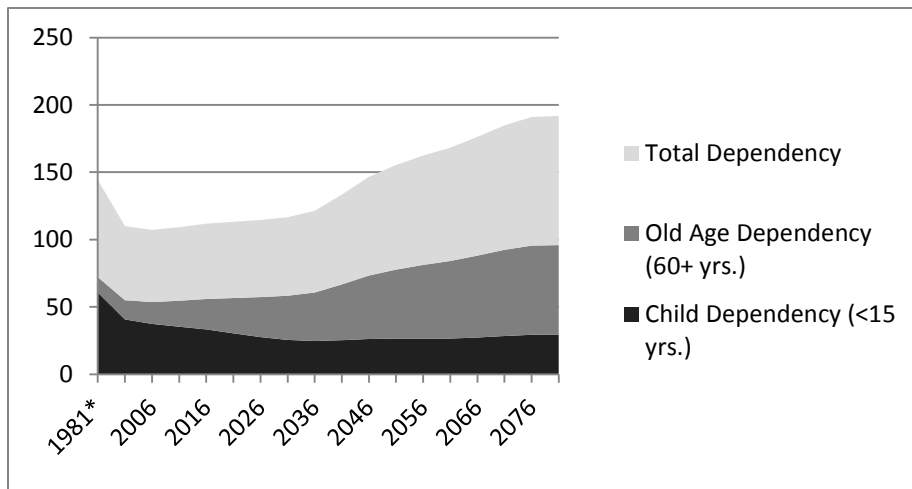
1.6 More recent migration trends however display gender balance. It is estimated that about 1.8 million Sri Lankans work in Middle Eastern and other countries under contract employment agreements (Central Bank of Sri Lanka, 2010). Females accounted for 33 percent of the total migrants in 1986. At present, over 250,000 Sri Lankans leave the country annually for foreign employment (Foreign Employment Bureau Sri Lanka, 2009). Of them nearly one-half are female.

1.7 Among the international labor migrants, the highest proportion is found to be from the 25-29 age group. Over 70 percent of the migrants are in the prime reproductive age group of 20-39 years. Another stream of migration, which started in the aftermath of the 1983 communal riots, is the mass out-migration of Sri Lankan Tamils (estimated to be around 200,000) to countries like Canada, Australia, U.K., Switzerland, France, Germany and Norway.

### Future Population Projections

1.8 The population of Sri Lanka is estimated to be 20.5 million in 2011 and it is expected to increase to 21.6 million by 2021. The population size of Sri Lanka is projected to reach its peak of 21.9 million persons in 2031 and then start declining significantly after 2046.<sup>3</sup> In terms of the proportion of elderly to total population, a strong linear increase is projected: elderly population comprising 9.2 percent of the total population in 2001 would increase to 16.7 percent by 2021. By 2041, one out of every four persons in Sri Lanka is expected to be an elderly person. The expected rapid increase of old-age dependency and decline of child dependency over time are depicted in Figure 1.

**Figure 1: Projected Dependency Ratios, 2001-2081**



Source: De Silva (2012), background paper prepared for this report.

<sup>3</sup> Sri Lanka's sex ratio is one of the most balanced in South Asia. In 1981 there were 104 men per 100 women. In 2011, the sex ratio was 96.6 men per 100 women and by 2081 the sex ratio is expected to reach 92.6 men per 100 women, in keeping with the trend of a greater proportion of women to men that exists in Sri Lanka.

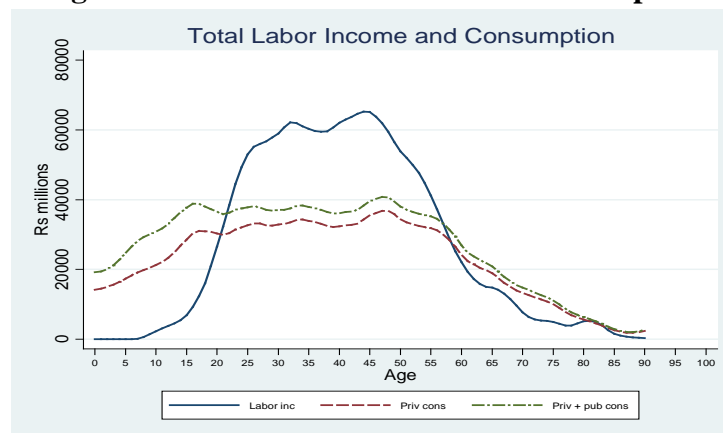
## 2. National Transfer of Accounts (NTA) Analysis and Demographic Projections<sup>4</sup>

1.9 This section relies on the National Transfer Accounts (NTA) methodology (Lee and Mason, 2004; Mason, Lee et al, 2006) in assigning expenditure and income to different age groups. The NTA methodology makes it possible to evaluate the magnitude of difference between the amount of labor income earned by each age group and its consumption level, or the “life cycle deficit.”

1.10 The life-cycle deficit is the sum of net asset reallocations (savings minus net asset income) and net total transfers (the methodology is described in Box 2). For working age adults, the lifecycle deficit is usually positive because this age group receives more income from labor than it consumes. Age cohorts unable to work – usually the very young and the very old – run a negative deficit, consuming more than their labor earnings. Calculations of age-specific reallocations involve two key steps: (i) calculation of age profiles – or the distribution of each NTA component (consumption, labor income, transfers) by age group, and (2) application of macro controls. While the calculation of age profiles routinely relies on household surveys, macro controls come from national accounts data.

1.11 In the case of Sri Lanka, we construct age profiles for income, household consumption, and transfers using the data from the 2007 HIES, the most recent representative household dataset. Figure 2 shows that the vast majority of the labor income is earned by working age individuals 19 to 59 years old, who earn nearly 85 percent of all labor income. In the aggregate, consumption is heavily skewed towards the younger cohorts. Children and youth under 19 account for 22 percent of private and 26 percent of total (private plus public) consumption, while contributing 2.5 percent of labor income.

**Figure 2: Total Labor Income and Consumption**



<sup>4</sup> For a detailed description of the NTA Analysis summarized here, see the background paper: Nikitin, de Silva and Jayasekara, National Transfer of Accounts Analysis for Sri Lanka. Washington, DC: World Bank, 2012.

1.12 Thus, Sri Lanka's aggregate age reallocation exhibits a strong downward trend with a greater proportion of resources flowing toward children. This pattern reflects the large share of children in consumption, and their large proportion in Sri Lanka's total population, as well as the fact that Sri Lanka is in the relatively early stage of demographic transition when compared with countries such as the United States or Japan, which are characterized by the net upward flow of resources toward the elderly, who represent a larger proportion of population and whose benefits are rather costly (Lee 2002).

### **Box 2: Estimation of NTA Components for Sri Lanka**

The age profile for labor income is calculated from the HIES survey data. It includes income from wage employment and agricultural and non-agricultural self-employment, as well as civil servants' pensions. Consistent with the NTA methodology, 1/3 of self-employment income is attributed to labor, and the remaining 2/3 are attributed to assets.

Macro controls on labor income were calculated as follows: compensation to employees plus labor's share of income taxes and taxes on goods and services. While part of the taxes on goods and services (VAT and import taxes) are assigned to consumption, other taxes on production should be assigned to labor in proportion to labor income's share in taxable income. The latter share is calculated from the survey data and is equal to 61 percent.

We distinguish between private and public consumption, and within each of these, three distinct components are identified: expenditure on health, expenditure on education, and other expenditure. Separate age profiles are calculated for each of these components.

*Private consumption.* To calculate private health expenditure age profile, we assign household-level health expenditure to individual members based on their health service utilization rate from the HIES data. The total household health expenditure is regressed on the number of household members within a given age group, which used inpatient and outpatient services.

Private expenditure on education - collected at the household level - is allocated to individual household members indirectly using OLS regression analysis. Household expenditure on education is modeled as a function of the number of household members enrolled at each level of schooling (primary, secondary, tertiary, and not-enrolled) by age category. The regression coefficient is then interpreted as the cost associated with attendance at a given level of schooling of an additional household member of a given age.

Other private consumption is allocated according to the consumption age profile based on adult equivalency weights. Because the disaggregation of household consumption into health and education was not available for 2007, 2006 values were used to make 2007 projections.

*Public consumption.* Public health expenditure age profile is based on age-specific utilization rates of inpatient and outpatient care, which were then applied to the current public spending on inpatient and outpatient services. Public preventative services expenditures were allocated proportionately to population size; while expenditures on medical goods and other health expenditures are allocated proportionately to the utilization rates of inpatient and outpatient services.

Public education is financed from the central government budget at the tertiary level, while primary and secondary schooling is financed from central and provincial government budgets. Thus, we consider the total of central and provincial expenditures allocated to age groups, based on the age profile for enrolment at each age.

Public expenditure on education includes the cost of tuition, subsidized transportation, and - for primary and secondary students - supplies, uniforms, and nutritional support for underprivileged children. Free uniforms and nutritional support could also be classified as transfers; however, we consider these together with educational spending because these are financed by the ministry of education and counted as part of education expenditure. Private transfers are calculated as a total of foreign and domestic remittances, as well as in-kind gifts. Domestic and foreign remittances data are collected in the income section of the HIES survey; the values of the two types of remittances are collected separately. The aggregate controls for foreign remittances come from the Sri Lanka national accounts and are allocated based on the age profile of heads of households receiving such remittances.

1.13 By comparison with other countries, Sri Lanka's life cycle is characterized by a relatively early age of negative life cycle deficit. In Sri Lanka, the total life cycle deficit remains positive (i.e., total consumption exceeding labor income) through age 21 (see Figure 2). In Germany and the Philippines, for example, labor income begins to exceed consumption only by age 27, versus 22 in Sri Lanka (Mason et al., 2009). In a series of cross-country comparisons, Austria in 2000, China in 2002, Korea in 2000 and Kenya in 1994 display comparably early age thresholds at which youth life cycle deficit disappeared (Tung, forthcoming, in Mason, 2009). For the majority of countries, the life-cycle deficit turns into surplus between the ages of 24 and 27. In some extreme cases – Mexico in 2004 and Brazil in 1996 – the surplus emerges around the age of 30.

1.14 On the income side, this pattern is driven by the relatively early age of labor force entry. On the consumption side, it is likely linked to a relatively low enrolment rate in local institutions of higher learning. Public education expenditure accounts for a sizable share of total consumption at younger ages, yet the low supply of opportunities leads Sri Lankan students to seek enrolment at colleges and universities abroad. The total income of persons age 22 to 56 remains higher than their total consumption, but after age 57, the life deficit turns positive again. The timing of the old-age deficit is similar to that found in Germany and the Philippines.

1.15 Notably, the *aggregate* life cycle deficit for the elderly is small, corresponding to the relatively low level of old-dependency due to the small share of elderly in total population. However, as the fertility rates decline and life expectancy increases, the children's share in life cycle deficit will decline and the share of elderly will grow. The relative expansion of the elderly age group will put pressure on the working age population to finance the upward transfers, which will require considerable improvements in labor force productivity. However, – should productivity remain the same – expansion of the labor force is needed; for instance through increase in participation of women, or increasing the amount of time one works.

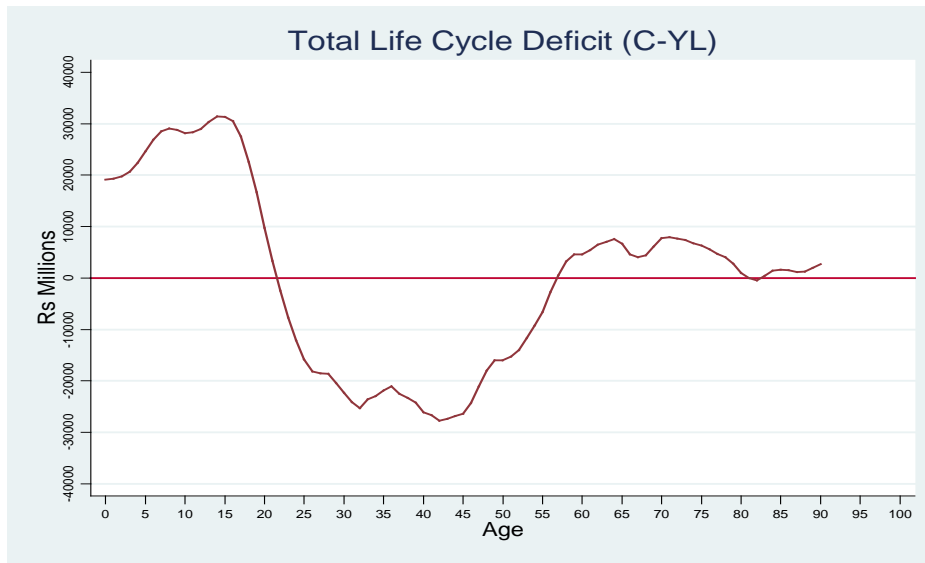
1.16 While one should pursue all three options, the latter two options can be expected to have limited impact. Expanding labor force participation only provides a short- to medium-term solution to the increasing old-dependency problem. This is because eventually even a labor force with 100 percent participation would have to increase productivity to finance the benefits of a continuously aging population. Expanding the amount of work is also less promising; Figure 2 indicates that the life cycle deficit already turns negative earlier than in a number of comparator economies reflecting the fact that an average Sri Lankan starts to work relatively early. Even earlier entry into the labor force is often associated with under-investment in human capital (due to foregone schooling) leading to a less skilled labor force, unless complemented by work-study arrangements. This would lead to loss of productivity since a low-skilled labor force would be unlikely to engage in high-value added activities.

### **Lifecycle Deficit: Per Capita View**

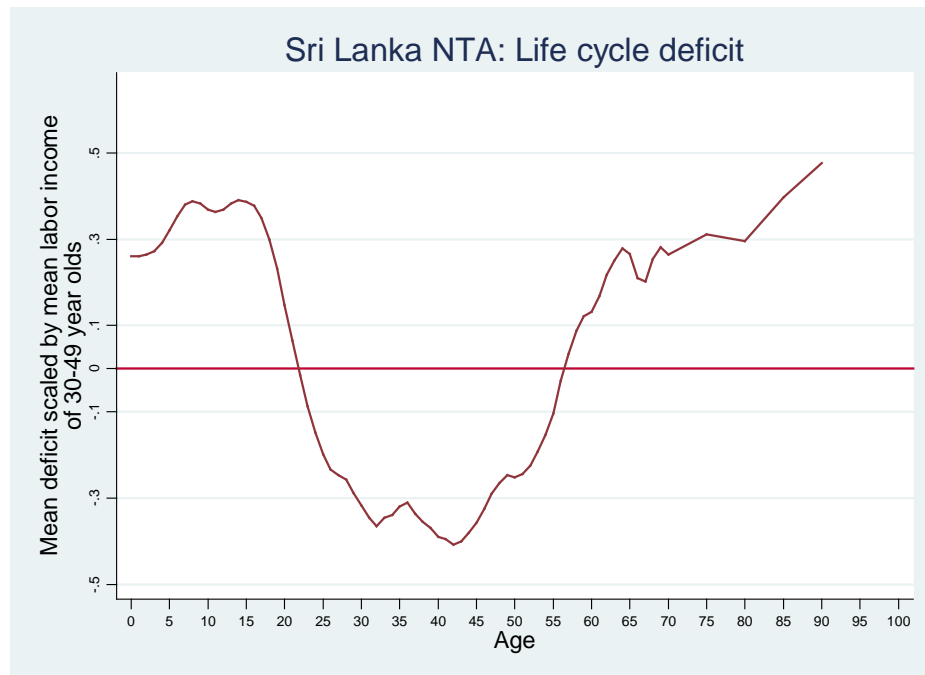
1.17 The per capita life cycle deficit reveals a different picture. The deficit for children and youth under 19 remains high, reflecting the fact that private and public spending on health and especially education is relatively very high at lower ages. *However, the per capita value of the life cycle deficit of the elderly is much larger than what the aggregate view of the life cycle deficit would suggest, the latter being driven primarily by the low numbers of the elderly.* Even though the elderly are able to earn income from their labor activities, their per capita expenditures (public and private) are higher as well. Thus in per capita terms, consumption by the elderly far exceeds their income and the older they are the greater the deficit.

1.18 Figures 3 and 4 illustrate these trends in *per capita* deficit, consumption and labor. In figure 4, to facilitate the cross-country comparisons the y-axis reports the monetary value of per capita deficit scaled by the mean labor income of mature working age adults 30 to 49 year old. The same scaling adjustment, commonly used in NTA studies, is applied to all figures depicting per capita trends. The high per capita deficit of the elderly implies that as the population ages and old-dependency ratio grows, aggregate old-dependency burden will expand more than proportionately, assuming the levels of labor income and consumption remain constant.

**Figure 3: Total Aggregate Life Cycle Deficit (C-YL)**



**Figure 4: Per Capita Life Cycle Deficit**



1.19 Per capita life cycle deficit of the younger population under 20 reflects their high consumption of public services (Figure 4). The nutritional needs of children are lower than those of adults, which are reflected in the use of adult equivalence scales in allocating consumption between household members. Consequently children's total level of private consumption is low; notwithstanding the fact that their private consumption of health and education is relatively high

(see Figure 5). However, their consumption of public education – and to a lesser extent public health – is disproportionately high, which accounts for the high total consumption of children and youth.

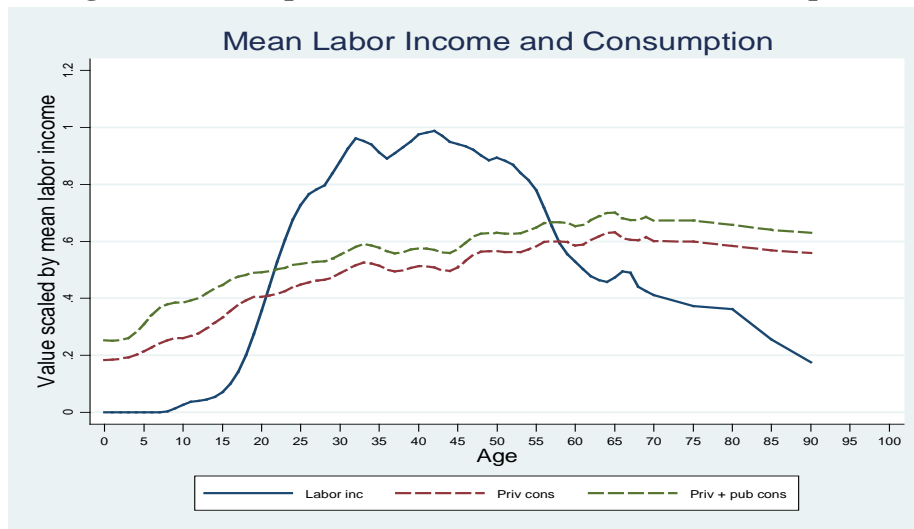
1.20 Total consumption increases with age until the mid-60s, despite higher public consumption of persons fewer than 25 as a result of continuous growth of private consumption and increasing public spending on health after the age of 17. As a result of continuous growth of private consumption and increasing public spending on health, total consumption increases with age after the age of 17 until the mid-60s despite the fact that public consumption is much higher for those less than 25 years old. Increased private consumption reflects the progressively higher private healthcare utilization by people as they age. Specifically, Figure 6 indicates that per capita private expenditure on healthcare rapidly rises in absolute terms for people age 25 and older, reaching 6 percent of median labor income of 30 to 49 year olds.

1.21 Public health spending grows with age, but fails to keep pace with the increasing cost of healthcare (Figure 6). After the age of 47, private expenditure accounts for more than half of total spending on health; and the private share in financing health care costs is even higher for older individuals.

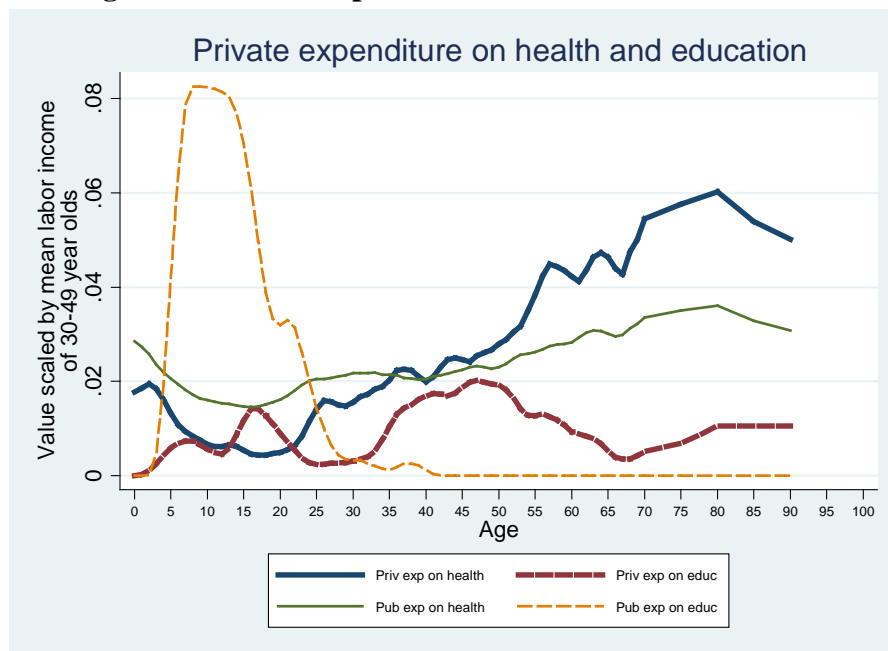
1.22 The trend for private healthcare costs to rise by age is observed in many economies. Governments usually seek to offset the climbing cost through public provision and or financing health services, and Sri Lanka is no exception: per capita public spending on health steadily increases for persons 17 years of age and older. An important policy question is whether the government spending on health is sufficient to control the rising private costs as people age.

1.23 In addition to health, another driver of private expenditure is private spending on education. As expected, private spending on education is high among school-age children and young adults; but what is more interesting is that adults age 40 to 55 have the highest per capita private education expenditure (Figure 6). The trend reflects the fact that children's education is heavily subsidized by public sources, while very little public support is available for adult education, and those that are available are mostly in the form of informal and vocational training. Figure 6 suggests that there is demand for adult learning and that is currently being met by private expenditure; however, there may be scope for additional public investment in adult and informal learning as a way to increase the quality and productivity of the labor force.

**Figure 5: Per Capita Mean Labor Income and Consumption**



**Figure 6: Private Expenditure on Health and Education**



**Sri Lanka in Cross-Country Comparison**

1.24 One of the benefits of NTA methodology is the ability to draw cross-country comparisons. Comparator countries, divided into three sets according to the stages of demographic transition, are reported in Figures A1 to A3 in Annex 1.



1.25 Sri Lankans start earning income earlier than their peers in other countries and become net earners relatively early as well. As one would expect, labor income remains effectively zero in the early ages since relatively few children work for pay, and when they do, they are paid insignificantly. Labor income increases beyond the negligible levels around the age of 15 in most countries. It increases even later in developed countries where secondary schooling is close to universal, returns to schooling are sizable, and the average household income is high. All these characteristics increase the opportunity cost of early entry in the labor force in developed countries and makes it an unattractive option. But even when compared to similar countries or even poorer countries at earlier stages of the demographic transition, Sri Lanka stands out in terms of the relatively young age of earners. China in 2002 comes closest to Sri Lanka; in China, labor income becomes non-negligible at relatively early age too, at around 12 years old.

1.26 Similar to other countries, the labor income curve in Sri Lanka shows a steep increase around the age of fifteen, as a considerable proportion of young people enter the labor force in low-skilled occupations after completing primary and lower secondary schooling. Mexico, Brazil, Costa Rica and Indonesia, among others, display a similar pattern. Sri Lankan youth still remain net total consumers until the age of 21, a relatively young age by international standards, an outcome of early age of labor market entry (on the labor income side), and low secondary and especially tertiary enrolment rates (on the consumption side).

1.27 Elderly Sri Lankans work longer and earn considerable amounts of labor income well into their seventies and eighties. In most other countries, for which national transfer accounts graphs are available, labor income declines more drastically for the people after 65. This is especially true of developed countries, where generous public spending on the elderly substitutes for the declining labor income. In Sri Lanka, however, public spending flows primarily toward the young and is centered on education, while persons of advanced age receive little public support. Additionally, government and semi-government sectors are large in Sri Lanka, accounting for approximately 30 percent of the formal labor force; high labor income after 65 partly reflects a large number of relatively high pension payments to public sector retirees. Other older workers, who are not civil servants or private sector workers, also earn since they are forced to work until very old age (or death) due to poverty and those who stop working tend to do so due to poor health (Vodopivec and Arunatilake 2008)<sup>5</sup>.

1.28 However, the general shape of the consumption curve for age 0 through 25 is similar to those of many other developing countries, in that past the school age, public expenditure remains constant and rather low. By contrast, in OECD and some middle income economies (Brazil in 1996, Costa Rica in 2004) public per capita consumption is higher at both tails of the age distribution: both the young and the elderly receive higher levels of public allocation. For the young, public spending is predominantly focused on schooling, while for the elderly on healthcare.

1.29 What accounts for the small size of public spending relative to private expenditure in Sri Lanka? It does not appear that the level of consumption is inordinately large, making the public share appear small in comparison. In fact, private consumption levels between 40 and 60 percent

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<sup>5</sup> Vodopivec, Milan and Nisha Arunatilake. 2008. The Impact of Population Aging on the Labor Market: The Case of Sri Lanka

of labor income among 20 to 60 year olds in Sri Lanka prove to be on the low side. Among other countries, only Kenya and China have private consumption significantly lower than Sri Lanka's.

1.30 So public consumption is low either because of low supply or weak demand for public services, or both. On the supply side, the evidence suggests that there exists demand for skills and training among 40 to 55 year olds, which is presently met through only private financing. The provision of higher education slots also does not meet the demand for tertiary schooling. Similarly, the results reported above indicate that public financing of health, especially for the elderly, was not keeping pace with the growing cost of healthcare, which had to be absorbed by out-of-pocket expenditures. On the demand side, problems of access and quality of publicly provided services in health and education discourage people from using them.

### **Future NTA Projections**

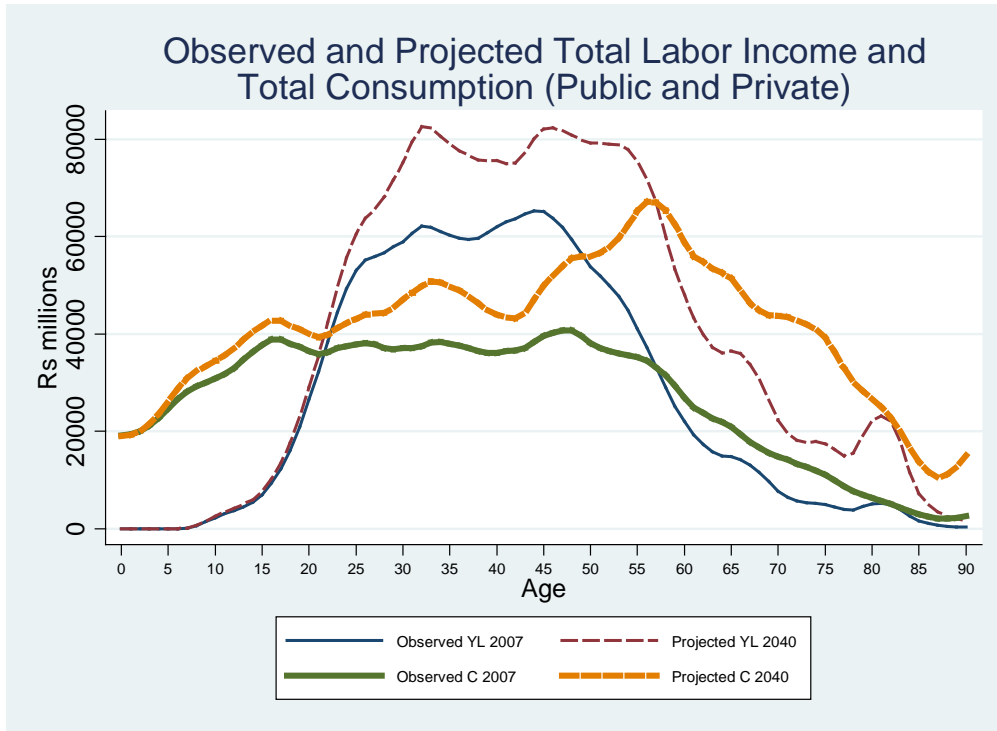
1.31 Based on expected age specific population growth trends, Figure 7 illustrates the growth of total labor income and consumption for different age groups.<sup>6</sup> These projections assume that the current age profile of labor income and consumption remains constant (including employment rates, retirement age and education/skills composition of the workforce); the only variable that drives the differences between the observed and projected curves is the differential population growth for different age groups. Thus, the total labor income expands as the share of working population grows. Since the elderly earn a considerable amount of income, their income would also expand, but the total consumption of the elderly will increase even faster.

1.32 As a result, the total life cycle deficit will expand substantially for the elderly, especially for the 60 to 75 year olds (Figure 8). For people over 60 years old, demographic change will increase the life cycle deficit by more than three fold. The deficit of the young will also grow, but to a much smaller extent (9 percent for people under 20) due to low fertility. It is important to reiterate that these projections do not attempt to take into account possible changes in the cost of services, such as health, which — if they were to change — would impact the biggest users of health services, the elderly and the very young disproportionately, and would alter the projected deficit at the old age. Similarly, no possible additional effects on labor income, e.g., due to increased worker productivity, are accounted for. In fact, these are the areas where policy makers would need to focus on to better manage the economic implications of the demographic transition.

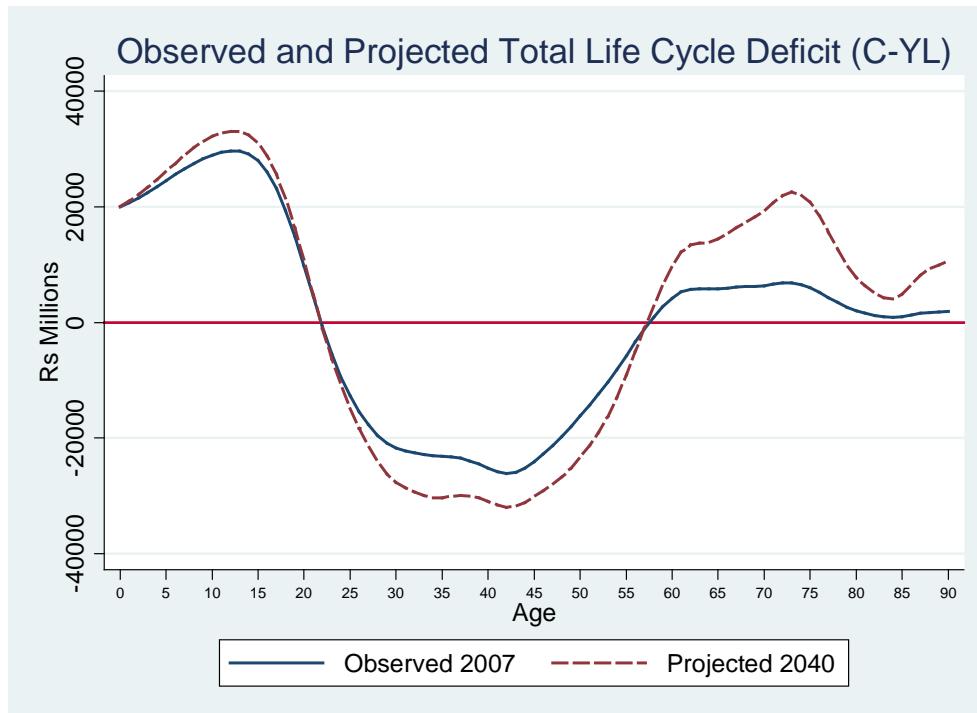
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<sup>6</sup> Projections are based on UN estimates of age specific population growth for 5-year age groups between 2007 and 2040 as reported by De Silva (2012).

**Figure 7: Observed and Projected Total Labor Income and Total Consumption**



**Figure 8: Observed and Projected Total Life Cycle Deficit (C-YL)**



## **The Limited Role of Remittances**

1.33 The role played by remittances in financing the life cycle deficit is rather limited overall. Even though the transfers play a greater role in financing consumption among the elderly on average, these only account for 2.5 to 4.5 percent of their consumption. Despite the progressive pattern of remittances and public transfers with age, these are likely to be inadequate to offset the growing costs associated with aging, especially the cost of healthcare. Given the low public spending on the elderly and modest public transfers and remittances, household members have to finance the deficit through a combination of intra-household transfers and asset reallocation. Sri Lanka's elderly also seek to reduce the deficit by working well past their retirement age.

### **3. Demographic Change and its Impact on Vulnerable Groups<sup>7</sup>**

1.34 Demographic changes will continue to influence the profile of poverty and vulnerability in Sri Lanka. Despite significant health advances, maternal under nutrition and child malnutrition remain key development challenges. Not only will the share of elderly in the population continue to increase, but also female headed households and the number of people with disabilities have grown significantly in recent years. This section explores how demographic change affects the vulnerable groups in Sri Lanka. Table 2 presents statistics on a large set of indicators on fertility, (women's and children's) nutrition and women's empowerment. Here we discuss few selected indicators.

#### **Prevalence of Maternal Under-Nutrition**

1.35 Maternal under-nutrition and its legacy of fetal under-nutrition are now recognized as a major long-term risk factor in the development of adult cardiovascular disease and diabetes. The nutritional status of women of reproductive age improved when compared to 2000, but the percentage of women with low BMI decreased to the detriment of the percentage of women with high BMI (overweight), which increased. The BMI increases with wealth and better education, and decreases for women on estates; these effects are stronger for older cohorts. The rise in obesity poses a question about the food consumed and the health behavior of these women (e.g. knowledge and time for physical activity, quality and quantity of food).

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<sup>7</sup> For a more detailed analysis, see the background papers by Stefania Rodica Cnoblach, *Social Protection Aspects of the Demographic Change in Sri Lanka*. Washington, DC: World Bank, 2012 and *Fertility Challenges in Sri Lanka*. Washington, DC: World Bank, 2012.

**Table 2: Review of Wealth Differentials for Various Indicators**

Indicator	Poorest	Gradient (Wealthiest-Poorest quintile)
% of women ever-giving birth	92.7	-4.7
Total fertility rate	2.4	0
Number of children ever born for women 40-49 year olds	3	-0.9
Number of children ever born	2.4	-0.6
Birth intervals (months)	41.1	5.5
Age at first marriage (years)	20.6	3.2
Age at first birth (years)	22.1	3.0
Average number of children at first usage of contraceptives	1.5	-0.6
% taking the decision to first use contraceptives as a couple	52.9	19.9
% for which public midwife took the decision of first using contraceptives	20.7	-12.9
% currently using a contraceptive method	71.5	-62.4
% currently using sterilization	25.1	-15.2
% currently using other modern method	37.6	-8.0
% currently using a traditional method	8.8	14.1
Average body mass index (BMI)	21.2	3.8
% of women with low BMI	27.8	-21.4
% of women with high BMI	15.4	-33.2
% of women with some knowledge of AIDS	77.9	20.2
% of women with some knowledge of TB	76.2	21.0
% of women with some knowledge of various women's cancers	77.2	19.0
% of women with some knowledge of breast cancer	88.1	9.2
% of women with some knowledge of cervical cancer	24.0	12.4
% of women with some knowledge of womb cancer	64.7	14.8
% of women with some knowledge of oral cancer	35.6	-6.1
% of women listing [...] as a major problem in getting health advice/treatment:		
... permission to go	7.6	-5.7
... getting money	45.3	-38.4
... distance	40.9	-34.2
... taking transportation	39.7	-33.8
... go alone	25.6	-3.8
... no female provider	11.1	-5.0
... no health provider	13.6	-7.4
... no drugs	16.0	-9.6
% of women with health insurance	6.2	24.1
% of married women making decisions on own health care		
... as a couple	37.4	6.3
... themselves	32.5	3.1
% of married women making decisions on major household purchases		
... as a couple	51.6	8.7
... themselves	26.5	-2.8
% of married women making decisions on minor household purchases		
... as a couple	34.1	5.7
... themselves	41.6	-0.3
% of married women making decisions on visiting family/friends		
... as a couple	61.1	6.4
... themselves	21.9	-0.1
% of women working, of which	47.0	-6.8
% of women working in agriculture	64.9	-61.9
% of women working throughout the year	63.1	29.6
% of women getting paid	80.2	9.8
% of married, paid working women taking decisions about own earnings		
... as a couple	42.9	9.2
... themselves	44.1	-1.6
% of married women taking decisions about husband's earnings		
... as a couple	56.6	4.1
... themselves	24.4	-4.6
% of children 0-59 months old who are ...		
... stunted	28.1	-19.5
... wasted	17.4	-5.4
... underweight	30.3	-17.6

Source: DHS 2000 and 2006/07. World Bank staff calculations.

1.36 About one quarter of the women of reproductive age list getting money needed for treatment, lack of nearby facilities, having to take transportation and non-willingness to go alone as major issues preventing them from getting medical advice/treatment for themselves. Money is more of an issue for the older cohorts. About one-tenth of women list the non-existence of a female health provider, of a health provider in general, or of drugs as being major impediments; while only 3 percent list getting permission as a major factor. As expected, all of these reasons become much less of an impediment as wealth or education status increase or as women live in urban areas.

1.37 As health coverage and access is generally free, with out-of-pocket spending paying mostly for private care and medication and recently on private insurance, it is not unusual that only 15 percent of the Sri Lankan women of reproductive age have health insurance. The insurance status is highly dependent on status of work (22 vs. 11 percent for those working vs. not working), wealth status (31 vs. 6 percent in the wealthiest/poorest quintiles), education (4 percent for no formal education to 40 percent for higher education), location (3 percent on estates vs. 18 percent in urban areas), religion (lowest at around 5 percent for Hindu and Muslim women, and high at about 18 percent for Buddhists and Roman-Catholic).

### **Prevalence of Child Malnutrition**

1.38 Despite Sri Lanka's major achievements in the health sector, malnutrition is prevalent among children. About 18 percent of the children 0-59 months old were stunted (an indicator of long-term malnutrition), 15.3 percent were wasted (short-term, acute food shortfalls), and 22.1 percent were underweight (a combination of the two above) in 2006/07. Between 2000 and 2006/07, stunting increased by 3 percentage points, wasting faced a small decrease by 0.6 percentage points, and underweight decreased by roughly 8 percentage points. The trend in stunting is particularly alarming: while the children on estates or among the poorest remained the most affected, the incidence of stunting increased over time in urban areas and among the wealthier households.

### **Increase in People with Disabilities**

1.39 The rapid aging of the Sri Lankan population is accompanied by an increase in the incidence of disabilities. According to the census data, the level of disability increased from 17.4 in 1981 to 55.7 per 10,000 individuals in 2001. Apart from aging, civil disturbances experienced in recent times have also aggravated this situation. The overall picture of disabilities among the elderly set is of a dramatic increase from 1981 to 2001, with the exception of blindness, which recorded only a marginal increase.

### **Declining Poverty Levels but an Increasing Share of Elderly in Households**

1.40 Poverty decreased from 26.1 percent to 15.3 percent during the 1990/91-2006/07 period. The decline was experienced both in the urban and rural areas (from 16 to 7 percent, and from 29 to 16 percent respectively), while the situation worsened on estates (from 21 to 32 percent). At the same time, the poverty rate does not vary significantly by the number of elders in the households: 16 percent among households with 1 and 2 elderly and 15 percent for households

with no elderly. Sri Lankan Government's poverty estimate for 2009 (based on the national poverty line) is 9 percent. During the same year the Gini index capturing the inequality of household consumption distribution was 0.36, having declined from 0.36 in 2006/07.

1.41 The share of children is 60 percent less in the wealthiest than in the poorest quintile, the share of elderly is 25 percent higher. Per capita expenditures on food in the richest quintile is more than three times higher than in the lowest quintile. The share of expenditures on food has an opposite trend: the share of food expenditures is two times lower for the richest than for the poorest quintile. The share of expenditures on health increases from 2.2 percent for the poorest to 3.6 percent for the richest households.

1.42 Almost three-in-four households belonging to the wealthiest quintile report having made health expenditures, while only one-in-two does so in the poorest quintile. The overall average expenditure of households having spent on health is about Rs1000 higher than of households with no health expenditures, and their share of expenditures on food is about 8 percent lower. The same differentials are observed when wealth status is considered.

1.43 A basic multivariate analysis confirms that the household head's age negatively influences both the share and level of health expenditures, while education is positively correlated with both variables. Additionally, being in rural areas or on estates decreases the level of expenditures on health; of the reason behind this could be either low supply/availability of health centers or the type of services frequented, or propensity/possibility to pay for services. Unfortunately, available data do not allow differentiating between these three channels. Compared to the households with no health expenditures, households with elders tend to spend more on average as the number of elderly increases.

## Chapter 2: Employment, Skills and Productivity<sup>8</sup>

2.1 The Government's vision for the future, as laid out in the Mahinda Chintana, envisages an increase in per capita income to US\$ 4,000 by 2016, which would require sustained economic growth at around 8 percent per year. The functioning of labor markets would have a significant influence on achieving such sustained growth. At this time the Sri Lankan labor market faces a number of challenges that relate to the changing demographic profile of the labor force, low rates of youth and female employment, challenges in the reallocation of labor to growing sectors and occupations, prevalence of a large informal sector, a skewed earnings distribution and excessive labor regulations that shape the labor demand environment. These challenges are discussed below.

### 1. The Changing Profile of the Labor Force and Employment Trends

2.2 Labor market outcomes in Sri Lanka are similar to countries in the same stage of demographic transition and are more favorable than its regional neighbors. One exception to this comparison is female labor force participation rate of 39 percent, which is similar to regional neighbors but is below that of middle-income countries and East Asia countries also experiencing demographic transition. Youth unemployment rates (ages 15 to 24) in Sri Lanka, at 28 percent for females and 17 percent for males, are also higher than the middle-income country average.

2.3 Over the last two decades, the percentage of working age population working or looking for work — the labor force participation rate — has remained more or less stable overall: about 80 percent of working age men and 40 percent of working age women participate in the labor force. The labor force participation rates among those aged 35 and older increased, however, this trend is most notable for women. In 2009, nearly 50 percent of women aged 20 to 50-54 participated in the labor market.

2.4 The majority of Sri Lankans are in the working age group between the ages of 15 and 64, but the share of youth (15-24) has declined over the last two decades. If current patterns of labor force participation continue, then the size of the labor force will start to decline after 2026. The share of working age (15-64) population is currently 67 percent, the highest in the South Asia region. This large share of working age population is the potential source of the much talked about “demographic dividend” of greater economic growth and savings that the country could enjoy.

2.5 The share of youth (15-24) among the working age group has dropped noticeably recently however, from 32 percent in 1992 to 23 percent in 2009, reflecting declining fertility rates and a consequent aging of the population. Indeed, the average female labor force participant was 38 years old in 2009, up from 33 years old in 1992. Similarly, the average male labor force participant was 39 years old in 2009, up from 35 years old in 1992.

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<sup>8</sup> For a detailed description of the key findings on labor markets in Sri Lanka summarized in this chapter see the background paper : Nistha Sinha, Demographic Transition and the Labor Market in Sri Lanka. Washington, DC: World Bank, 2012.



2.6 Schooling levels among the working age population is high; in 2009, more than 30 percent of the working age population completed Grade 10 or O-levels. About 20 percent completed collegiate or A-levels, while 15 percent have a university degree. Among the younger cohorts of the working age group, the average years of schooling in Sri Lanka are the highest in South Asia (Madrigal and Paci, 2010).

2.7 National averages mask considerable district level variation in labor market outcomes; for example, female labor force participation rates are high in districts with employment opportunities for women (such as estates). Since the LFS is representative at the district level, we focus on key labor market outcomes for 17 districts excluding North and East provinces. For women, labor force participation rates and employment to population ratios are the highest in Nuwara Eliya and Badulla districts, which have plantation estates. These are also the districts with the lowest unemployment rates for women. Kandy, Galle and Hambantota have the highest rates of female unemployment with close to 1 in 5 working woman unemployed. Among men, there is less of a regional variation, but Kandy, Galle, Matara and, Kegalle have among the lowest male employment to population ratios at about 70 percent. Kandy and Matara also have the highest male unemployment rates of close to 10 percent.

2.8 We analyze the determinants of labor force participation using LFS data from 2006-2009. Controlling for relevant individual and household characteristics, the results show that men are 47 percent more likely than women to participate in the labor force. Female labor force participation has a U-shape with respect to education – completing O levels and A levels (secondary) significantly reduces the probability of participation while university education increases probability of participation by 20 percent. This U-shape is similar to the one usually found in cross-country comparisons and suggests that women with low education (less than O levels) and tertiary education (university) are engaged in different types of jobs. For men, however, labor force participation steadily increases with education.

2.9 Household responsibilities appear to play an important role in reducing female labor force participation but not male labor force participation. Marriage is associated with 16 percent reduction in the probability of female labor force participation. An increase in the share of young children (under age 5) in the household is linked to a reduction in the probability of female labor force participation by 36 percent, but has no impact on male labor force participation. The share of elderly household members (aged 65+) in the household is associated with a small reduction in labor force participation for both women and men but the estimate is statistically significant only for men.

2.10 Men are significantly less likely than women to be unemployed and probability of unemployment also decreases significantly with age. Notably, the probability of being unemployed increases steadily with education and these effects are large for women with university degrees, who are 11 percent more likely to be unemployed. A university degree raises men's probability of being unemployed by 3 percent. An overall unemployment rate of 9 percent in 2009 is notably lower than the 15 percent unemployment rate in 1992, but high unemployment persists among women (9 percent, compared to 4 percent for males) and youth (28 percent for females and 17 percent for males).

2.11 The share of young children significantly increases the probability of female unemployment, but reduces the probability of male unemployment. For women, the result is consistent with queuing for public sector jobs or formal sector jobs because of non-wage benefits such as family benefits – the larger the share of young children in the household the more attractive such “good” jobs would be to women. This finding is also consistent with the deterrent impact of share of young children on female labor force participation. For men, in contrast, the presence of young children could have the opposite impact, increasing the pressure to get a job to support the family. In addition, World Bank (2010) investigates the causes of youth employment in Sri Lanka in more detail, highlighting the importance of (i) rigid forms of social hierarchy and ingrained systems of social and political patronage leading discrimination based on class, caste, gender and ethnicity; (ii) conflict that has left large numbers of Sri Lankans vulnerable and disadvantaged in terms of human capital; (iii) poor English language skills (and more generally lack of skills desired by employers); (iv) queuing for public sector jobs; and (v) insufficient jobs matching services.<sup>9</sup> Youth’s aspirations not matching available jobs and lack of dignity of labor are also proposed as a reason that prevents educated youth from taking up blue collar jobs and farming (Arunathileka and Jayawardena 2010). In the Sri Lankan context, strong family ties also seem to enable youth to spend extended amount of time looking for the “right” job, compared to other countries (Rama 2003).

## **2. The Sectoral Trends (Services, Manufacturing and Agriculture) and Occupational Choice**

2.12 In 2009, the service sector made up nearly 60 percent of GDP, followed by industry (about 28 percent of GDP) and agriculture (about 12 percent of GDP)<sup>10</sup>. The service sector has been steadily expanding in terms of its share of GDP. For example, hotels and restaurants, telecoms, and government services had among the highest sectoral rate of GDP growth in the last quarter of 2009 (World Bank 2010). The labor productivity in Sri Lanka’s service sector is 3.4 times higher than the labor productivity in the agricultural sector and 1.3 times higher than the labor productivity in the manufacturing sector (Bosworth 2010).

2.13 As the service sector expands, demand for workers in this sector is also expected to grow. The service sector expansion relies relatively more on employment growth than does expansion in industrial or agricultural sectors. Among men, employment in the service sector has grown since 1992, to become the dominant employment sector with 45 percent of all employed men. Agriculture and industry still account for roughly 25 to 30 percent of male employment. Among women, agriculture used to be the dominant sector of employment in 1992, but by 2009, employment share of services has grown to nearly 40 percent. In 2009, agriculture also employed close to 40 percent of women. For men and women, employment in modern services accounts for about 10 percent of service sector employment. This modern group of the service sector is potentially an important source of growth for the economy (Table 3).

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<sup>9</sup> The Challenge of Youth Employment in Sri Lanka. 2010. World Bank, Washington DC.

<sup>10</sup> [http://www.statistics.gov.lk/national\\_accounts/Annual2009/quick.pdf](http://www.statistics.gov.lk/national_accounts/Annual2009/quick.pdf)

**Table 3: Composition of Services Sector Employment 2009**

	Traditional	Intermediate	Modern
Women	42%	48%	10%
Men	68%	24%	8%

Source: LFS data for 15-64 year old (working age), various years. Staff calculations.

2.14 There is notable occupational segregation by gender within industry and occupations. Between 1992 and 2009, most female entrants to the labor market found employment in education, health, social work, manufacturing, community and social work, hotels and restaurants, wholesale and retail trade, financial intermediation, and agriculture, fishing, mining in occupations as clerks, professionals, technical and associate professionals, skilled agriculture and fisheries and crafts workers. While women made some inroads into occupations such as managers, senior officials, and legislators, they remained a very small share of employment in these jobs.

2.15 The public sector is an important player in the labor market. The share of public sector employment, especially among women and youth, has increased between 2006 and 2009 from 32% to 37%. The public sector appears to be a preferred employer of choice — a perception perhaps reinforced by the prevalence of informal jobs that offer little job security or benefits, which in turn is an outcome of certain labor market regulations ( USAID 2006); World Bank 2006). As section 2.4 shows, all else being equal, workers in public sector employment earn much more than their private sector counterparts do.

### **3. The Informal Sector**

2.16 Here we define informal workers as those whose jobs do not provide paid leave or some forms of retirement benefits. All unpaid family workers are also considered informal workers. In Sri Lanka, most workers are employed in informal jobs; in 2009, 63 percent of women and 70 percent of men were employed in informal jobs. Most non-agricultural workers are employed in firms with no regular employees and the remaining are employed in smaller firms. Just over 50 percent of paid workers are formal workers and the remaining are informal workers in formal (19 percent) or informal (31 percent) enterprises. As expected, nearly all own account work is informal in nature (and mostly takes place in agriculture). Among the employers surveyed by the LFS, the group is evenly split between formal and informal enterprises. More than half of all formal employers are small firms employing less than 5 workers.

2.17 In 2009, while more than half the workers were engaged in paid work, most of this work was temporary or casual. Among women, 56 percent of workers are employed in paid work, 21 percent in own account work, and 22 percent in unpaid work. The composition of jobs that men are engaged in is similar to that of women, except for the fact that a very small percentage of men are in unpaid work, and a much higher percentage (close to 30 percent) are employed in own account work. A higher percentage of younger workers are paid employees, but most of the jobs held by youth are temporary and casual in nature. Paid informal sector workers on average earn less than their formal sector counter parts. For women, average informal sector earnings is about 40 percent of that of the formal sector; for men, it is about 55 percent.

2.18 The public sector continues to be the largest source of formal jobs in Sri Lanka, while nearly 80 percent of all private sector work is informal in nature. A higher percentage of women than men are in public sector jobs. Between 2006 and 2009, the percentage of public sector employees increased by 5 percentage points for all women and young men.

2.19 The probability of being employed in informal work decreases significantly with age. In contrast, the probability of being employed in public sector increases significantly with age, reaching a peak around age 49, close to the retirement age. This is consistent with international evidence, which suggests that informal sector employment can act as an important first job for youth as they transition from school to formal work (World Bank 2006a). Each additional year of schooling reduces the probability of informal work and raises the probability of public sector employment. Married workers and workers who have high proportion of young children are less likely to be employed in informal work and more likely to be employed in public sector.

#### **4. The Distribution of Earnings, Productivity and Returns to Schooling**

2.20 Real monthly earnings for paid workers declined by about 5 percent between 2006 and 2009. The decline in earnings over this period is estimated to be the largest for those employed in semi-government jobs and smallest for those employed in private sector jobs. High inflation between 2006 and 2009 is one source of reduction in real earnings. Another potential source for the lack of growth in real earnings could be the large working age cohort that created a downward pressure on wages.

2.21 The annual growth in Sri Lanka's labor productivity has been respectable between 1980 to 2008 at 3.1 percent (up from 2.1 percent between 1960 and 1980; and almost four times as the World average; as reported by Bosworth 2010). A potential concern with this productivity growth in Sri Lanka is its composition though: 1.6 percentage points of the 3.1 percent was due to changes in physical capital per worker, 1.2. percentage points due to change in total factor productivity and 0.3 percentage points due to changes in the average education per worker. In contrast, during the same period India's annual labor productivity grew by 4.4 percent and 2.6 percentage points of this growth was due to total factor productivity. This growth in part captures India's ability to adopt policies to take advantage of greater internal and external competition. For India, 1.4 percentage points of the labor productivity growth was due to changes in physical capital per worker and 0.4 percentage points of the labor productivity growth was due to changes in education per worker. Thus, in the Sri Lankan case, potential improvements in total factor productivity emerge as the "low-hanging-fruit" to increase labor productivity further, as discussed in more detail by the next section.

2.22 The public sector and semi-government sector show an earnings premium relative to the private sector; public sector earnings being higher than semi-government earnings. Men earn between 30 to 36 percent more than women in private sector and semi-government organizations,<sup>11</sup> while there is gender parity in earnings in the public sector. As a result, the public sector earnings premium is larger for women than men. For example, in 2009, women's monthly earnings in the public sector were more than 2 times that of private sector earnings and

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<sup>11</sup> Semi-government organizations include tea and rubber estates.

about 1.7 times semi-government earnings. Similarly for men in 2009, public sector earnings were about 1.5 times the private sector earnings and about 1.2 times semi-government earnings. There is also a smaller semi-government sector premium relative to the private sector.

2.23 Compared to the large gender gap in wages in private and semi-government jobs, gender parity in earnings in the public sector can act as a strong incentive for women to seek public sector employment. In order to assess the extent to which women's lower earnings in the private sector and semi-government sector are due to their lower education attainment, lower labor market experience, and other worker characteristics (as opposed to, for example, discrimination) we control for education and a host of employee characteristics, and find that men earn about 35 percent more than women.

2.24 This adjusted gender gap in earnings is much larger than the unadjusted, or raw, gender earnings gap of about 8 percent. The selection corrected earnings regressions show that men have greater returns to schooling and experience in the labor market. The returns to education are 3 percent for women and 8 percent for men. There is a large public sector premium in earnings which remains even after adjusting for selection into paid work and employees' characteristics. Controlling for employee characteristics and allowing for selection into paid work, employment in the public sector leads to 52 percent higher earnings for women and 33 percent higher earnings for men.

## **5. The Role of Labor Regulations in Explaining the Existing Labor Market Outcomes**

2.25 Labor regulations shape the demand side of the market. According to the World Bank Enterprise Surveys, the top five constraints reported by Sri Lankan firms are electricity, government policy uncertainty, macro instability, and competition and labor regulations. The electricity constraint may have eased off in recent years. The remaining three constraints are macro level and they are beyond the scope of this report (except for productivity and skills, which relate to competition and are discussed earlier). This section discusses labor regulations and their potential role in explaining the observed labor market outcomes.

2.26 The World Bank (2006) examines three employment protection institutions in Sri Lanka – the Termination of Employment of Workman Act (TEWA), wage setting in certain sectors, and civil service hiring practices – and finds that each of these affects the demand for labor. The 2004 Investment Climate Assessment identified costly labor regulations as being an important component of easing labor market conditions and for improving Sri Lanka's international competitiveness (Asian Development Bank and World Bank 2004).

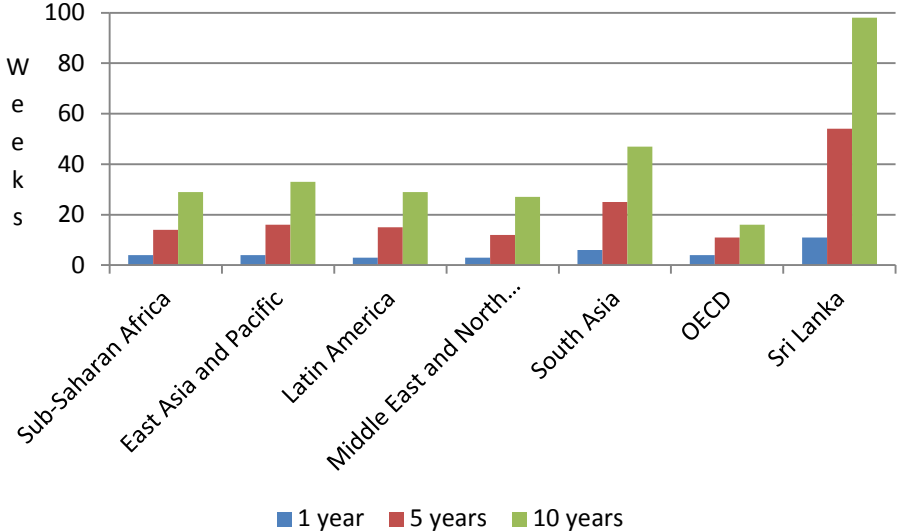
2.27 While restrictions on nonpermanent hiring and employer dismissal rights can increase employment security, if excessively restrictive, however, they would also discourage formal job creation. The evidence suggests that, in Sri Lanka, the efficiency costs of employment protection legislation outweigh the benefits in terms of worker protection (World Bank, 2012).<sup>12</sup> Under TEWA, in firms with 15 or more workers, employees who have worked for more than 6 months become permanent staff. The firm must obtain government authorization to lay off these

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<sup>12</sup> World Bank. 2012. More and Better Jobs in South Asia. World Bank. Washington DC

workers, and obtaining such authorization is seldom an easy process. Indeed, Sri Lanka’s severance pay system is recognized as one that imposes one of the highest costs internationally: Holzmann and Vodopivec (2012) note that not only Sri Lankan severance pay system provides extremely high compensation to laid-off workers and inflicts correspondingly high costs on employers but also its discretionary nature and non-transparency impose additional costs by generating uncertainty about the ability of a company to lay off workers (Figure 9).

**Figure 9: Weeks of Wages Required to be paid in Severance: Sri Lanka, World Region and OECD Countries**



Source: Holzman and Vodopivec (2012)

2.28 Labor regulations are considered to be a reason for firms’ reliance on temporary workers, keeping the number of full-time employees below the TEWA threshold of 15 employees (Investment Climate Assessment, 2004; World Bank 2006). A tabulation of firm size reported in the 2009 Labor Force Survey shows that the bulk of the workers in both agriculture and non-agriculture sectors are employed in organizations with no regular employees. Most workers in the non-agriculture sector are employed in organizations with no paid regular workers, and the remaining workers are employed either in very small firms (less than 5 workers) or in large firms in the case of manufacturing, construction, electricity, gas, water supply. The “missing middle”—very few workers employed in firms with 5 to 99 workers— is likely to be an outcome of excessive labor regulations (World Bank 2006b).

2.29 Finally, 2011 Business Outlook Survey of the Ceylon Chamber of Commerce reveals the importance of a stable policy environment for business. Indeed, this data source suggests that the most detrimental impact on business is due to abrupt / ad-hoc changes to laws and regulations, rather than the actual level of regulations.

## **Chapter 3: How do Selected Cash Transfers Perform in Assisting the Poor and Vulnerable in Sri Lanka<sup>13</sup>**

3.1 This chapter reviews the characteristics and performance of selected cash transfers in assisting the poor and vulnerable households in Sri Lanka. This analysis complements the previous chapter, which examined employment and productivity changes facing the country, to highlight some challenges facing the delivery of public assistance to the poor and vulnerable in the form of cash transfers.

3.2 The cash transfers considered here are Samurdhi (the nation's largest safety net program), pensions, disability and relief payments and remittances. As the demographic transition progresses and resource constraints become increasingly more binding, it will be critical to deliver public assistance (such as Samurdhi and disability & relief payments) to the target groups in an effective and efficient manner. Of course the primary goal of pensions is not necessarily the alleviation of poverty, and similarly remittances tend to serve various objectives and public policy makers may have a limited influence on them. Nevertheless, pensions and remittances are still considered here because their distribution is relevant for assessing the needs of the poor and for the design of social safety net programs.

3.3 Before describing the main characteristics of these cash transfers, we first present how Samurdhi performs in providing benefits to the poorest 20 percent of the population, when compared with the main safety net programs implemented in Eastern European countries (Figure 9). The comparison to Eastern European countries is informative because, like Sri Lanka, these countries are also relatively advanced in demographic transition when compared to their GDP per capita. Similarly, they also have relatively educated and healthy populations considering their wealth level. The performance of the main safety net program in each country is assessed considering three dimensions. First is the coverage, defined as the share of population in the poorest quintile that receives the transfer. Second is targeting, defined as transfer amount received by the poorest quintile as a percent of total transfers distributed. Third is adequacy (or generosity), which is the mean value of the transfer amount received by beneficiaries in the poorest quintile as a share of the average total consumption of beneficiaries in that group.

3.4 Figure 10 shows that Samurdhi does much better than other countries in terms of coverage, with benefits delivered to close to 60 percent of the poorest quintile. It is, however, the worst performer in this group in terms of targeting and adequacy, with about 40 percent of benefits reaching the poorest quintile of the population and the benefit amount corresponding to only 7 percent of the consumption of the target group.

3.5 Figure 11 compares other main cash transfers in Sri Lanka (pensions, Samurdhi, disability and relief payments, remittances) along the same dimensions. For this comparison we opt to consider benefits that reach the poorest 10 percent of the population, since this is roughly the poverty rate in Sri Lanka. Among the key findings is significant reliance on remittances,

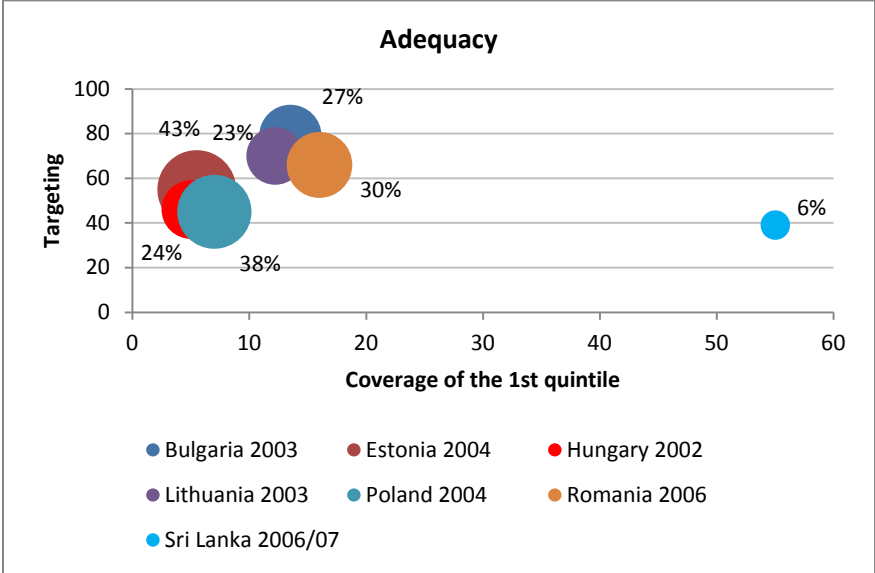
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<sup>13</sup>For more a more detailed analysis, see the background paper: Stefania Rodica Cnoblach, Social Protection Aspects of the Demographic Change in Sri Lanka. Washington, DC: World Bank, 2012.

covering close to 40 percent of the poorest decile. Interestingly, the remittances (as well as the disability payments) are much better targeted to the poorest decile compared to Samurdhi, which is meant to provide relief to the poor. The benefit adequacy of the remittances is also high at 82 percent. The pensions' coverage of the poorest decile is limited, with a reach of about 15 percent of this group. Its adequacy is high though, the benefit amount corresponding to 89 percent of consumption. The disability payments reach about 5 percent of the poorest decile, but their targeting performance is good with 65 percent of benefits reaching this group and the level of benefits correspond to 34 percent of the consumption of poorest decile.

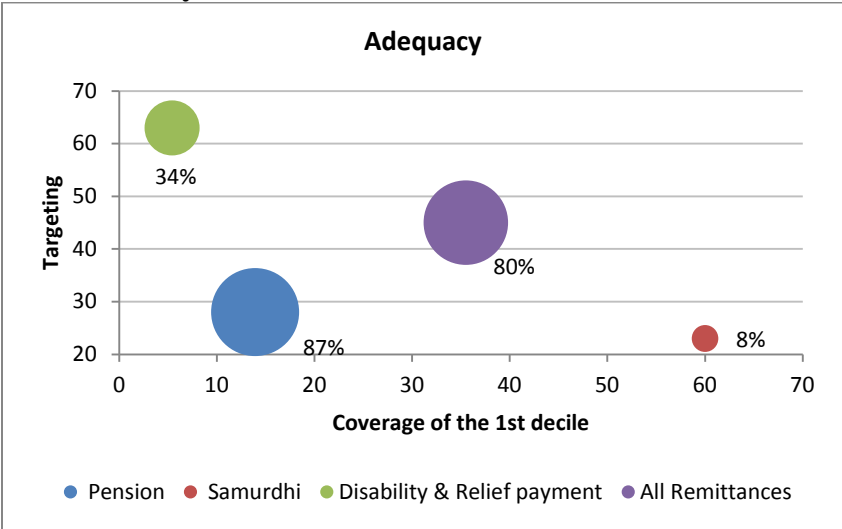


**Figure 10: Targeting, Coverage and Adequacy of the Main Safety Net Programs in Eastern Europe and Sri Lanka (Samurdhi)**



Source: Household Budget Surveys for Eastern European countries (World Bank, 2008)<sup>14</sup> & HIES 2006/07 for Sri Lanka. Authors' calculations.

**Figure 11: Targeting, Coverage and Adequacy of Samurdhi, Pensions, Disability and Relief Payments and Remittances in Sri Lanka**



Source: HIES 2006/07. Authors' calculations

<sup>14</sup> Data for Eastern Europe is taken from World Bank, 2008. Poverty Monitoring Analytical and Advisory Assistance Program: Are the Most Vulnerable Protected? Washington DC: World Bank.

## 1. Existing Social Safety Net Programs

### Samurdhi

3.6 The main state-sponsored safety net program is the Samurdhi Food Stamp and Cash Transfer Program (SFSCCTP). Samurdhi was introduced in 1995 to replace the previous national welfare program; Janasaviya. The Samurdhi transfers program remained the most significant safety net intervention for years, being the second largest in social protection spending allocation after pensions, despite its decline as a percentage of GDP (from close to 1 percent in 2002, to 0.2 percent in 2009).

3.7 The nationwide Samurdhi program is implemented by an extensive administrative structure that runs parallel to the existing government structure with some overlap. There are district, divisional and zonal and village level Samurdhi officers. Samurdhi managers, the key persons in charge of program implementation at the zonal level, are accountable to the government officials at the district and divisional levels. Samurdhi development officers, often hired on the recommendations of local politicians, are responsible for the screening of Samurdhi beneficiaries and for distributing food stamps. As per the original program design, the officers are expected to identify potential beneficiaries using household questionnaires about income sources, living conditions, and possession of durable goods.

3.8 Samurdhi has a relatively good coverage (60 percent of the poorest decile), but its performance is low with respect to both targeting (22.6 percent of funds transferred to the poorest decile, and 61.3 percent to the non-poor) and adequacy (the transfers cover on average 8 percent of the poor beneficiaries' consumption). Its beneficiaries are 89.6 percent in rural areas and 2 percent only on estates; 64 percent of beneficiaries are in households with no elders. The program covers only 3.6 percent of the beneficiaries from rural areas and households without elders, and 4.7 percent of the consumption of beneficiaries from estates. Overall, the absence of Samurdhi would increase poverty with 1.2 percentage points; it also reduces the poverty gap by 11.6 percent: Rs.2.8 for each Rs.1 reduction of the poverty gap (not taking into account the administrative costs).<sup>15</sup>

### Disability/Relief Payments

3.9 Department of Welfare statistics suggest that 73.3 percent of disabled people are supported by their families. The government's policy is to promote community-level support for disabled people by sending social service workers to visit families and to try to develop community organizations for support.<sup>16</sup>

3.10 For working age population, to be eligible for benefits, disabled individuals must be assessed with a permanent and total incapacity for work. If the person was a formal sector employee prior to the onset of disability, a lump sum of total employee and employer

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<sup>15</sup> Poverty gap captures the intensity of poverty and is defined as the mean distance below the poverty line as a proportion of the poverty line where the mean is taken over the whole population, counting the non-poor as having zero poverty gap.

<sup>16</sup> <http://www.ecsatlanka.org/familysupport>

contributions plus interest is paid.<sup>17</sup> In addition, the Sri Lankan government also pays pensions to disabled soldiers.

3.11 The disability/relief payments are strongly progressive<sup>18</sup> — with 63.4 percent of the funds going to the poorest decile. They also have a rural bias, with 91.4 percent of the funds being transferred to the rural population. Overall, these payments reach 2.3 percent of the population, and cover 6.3 percent of the beneficiaries' consumption. The poorest decile of the population is covered more than twice as much (5.4 percent), but gets 63.4 percent of the funds spent, and their benefits represent one-third of their consumption. Nonetheless, due to the small scale of the program, its effect on poverty and poverty gap are negligible.

## **Pensions**

3.12 The pension system in Sri Lanka comprises of both contributory and non-contributory schemes, covering mainly the formal labor sector.<sup>19</sup> The Public Service Pension Scheme (PSPS) is a non-contributory benefit financed from general government revenues and provided to former civil servants. The pension is established based on the final salary and years of service, and it is payable starting age 55 for men and age 50 for women. It is not taxable, but also not indexed for inflation.

3.13 The Employees' Provident Fund (EPF) is a contributory benefit with a larger coverage than PSPS, but providing only lump-sum payments, not a retirement pension. It covers formal sector workers, which are not covered by PSPS; it requires contributions of 20 percent of the wages (8 percent from workers and 12 percent – from employers). Enterprises that opt out of the EPF can cover their employees through Approved Private Provident Funds (APPF) and Private Contributory Pension Schemes (PCPS).

3.14 Workers in the informal sector could opt to be covered by different contributory pension schemes, but these are voluntary and benefits and contributions alike are not indexed. The oldest and largest scheme is the Farmers' Pension Scheme, which reportedly has 680,000 accounts but the number of active accounts is not known (some estimates suggest that more than half the enrollees defaulted). Smaller voluntary schemes for the informal sector are Fishermen's Pension Scheme (started in 1990), and the Self-Employed Persons Pension Scheme (started in 1996). More recently various programs targeting different types of workers were introduced: migrant workers (started in 2007), indigenous medical doctors (2005), small and medium entrepreneurs (2006), artists (2008), senior citizens (2007), journalists (2007), small-scale tea producers, hand loom manufacturers (2004), beauticians.

3.15 Based on the HIES data, in 2006/07, there were about 14 percent of elderly age 60 and over, up from about 9 percent in 2001. At the same time, it is estimated that the pensions system cover only 10 to 15 percent of the population, and some pension schemes provide benefits that are below the poverty line.<sup>20</sup> At the same time, the working age population (15-64 years old)

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<sup>17</sup> <http://www.ssa.gov/policy/docs/progdsc/ssptw/2010-2011/asia/srilanka.html>

<sup>18</sup> This paper does not suggest that all social assistance programs should have poverty reduction as their primary target, as some aim to support categories of population in need for social protection to prevent social exclusion (e.g., disabled). The question is whether they also address the poverty risk of these people, which is one of the dimensions of social exclusion.

<sup>19</sup> World Bank. 2008. Sri Lanka. Addressing the Needs of an Aging Population. Washington, DC: World Bank.

<sup>20</sup> Ibid

stayed constant at about 67 percent of Sri Lanka's population, and only 56 percent of these were employed in 2009. Sinha (2011) finds that most employed workers are engaged in poor quality jobs; in 2009, while more than half the workers were engaged in paid work, most of this work was in temporary and casual jobs, and overall, participation in informal work remained high.<sup>21</sup> It is the latter group, which once aged and out-of-work will have to rely on their savings and their families for support.

3.16 The pension system, as captured by HIES, is highly adequate (corresponding to 89 percent of the consumption of the beneficiaries from the poorest decile), but it transfers only 11 percent of its funds to the poorest 10 percent of the population, and it covers 13.9 percent of the same population segment. Seven-in-ten beneficiaries are non-poor, and more than three-quarters are in rural areas but almost none on estates. Colombo and Gampaha host 40 percent of the beneficiaries. Furthermore, the program covers almost 27.3 percent of the non-poor's consumption, and 36.7 percent of the rural. The system has a high under-coverage and leakage rates (90.8 and 70.7 percent respectively), which could stem from the fact that the poor tend to be mostly in informal work arrangements and therefore do not qualify for receiving pensions. At the same time, the system covers only 2.1 percent of the population living in household with no elders, 10.7 percent of the population living in households with one elder, and 19.7 percent of the population living in households with two elders.

3.17 Although the primary objective of the pension schemes is not poverty reduction, they are part of a policy mix aimed at addressing old-age vulnerability and poverty. Overall, the pension system contributes to reducing poverty with 1.6 percentage points, but it reduces the poverty gap by 18 percent at a much higher cost than the social assistance programs under study: Rs.9 for each Rs.1 reduction of the poverty gap (not including the administrative costs).

## **2. Remittances and Informal Safety Nets**

3.18 At present, over 250,000 persons leave Sri Lanka annually for foreign employment, mainly as contract employees in Middle Eastern countries (Foreign Employment Bureau, 2009). Of those, nearly half are females in their prime reproductive age groups. Migration patterns have thus largely affected the size of the working age population and the relative size of the dependent aging population.

3.19 The aggregate impact of remittances, from within and outside the country, is progressive, as almost half of the transfers reach the poorest 10 percent of the population. They have a rural bias as well, with rural residents receiving 76.5 percent of the remittances (more so for remittances from within the country, where this percent is 87.9). At the same time, 63.8 percent of the funds are transferred to households with no elders, 26 percent – to households with one elder, and 9.9 percent – to households with two elders. The overall coverage is 12.8 percent of the population, but 38 percent of the poorest decile of the population. The remittances reach 14.5 and 13.3 percent of the population living in households with one or two elders respectively, only slightly more than the coverage among households with no elders (12.1 percent).

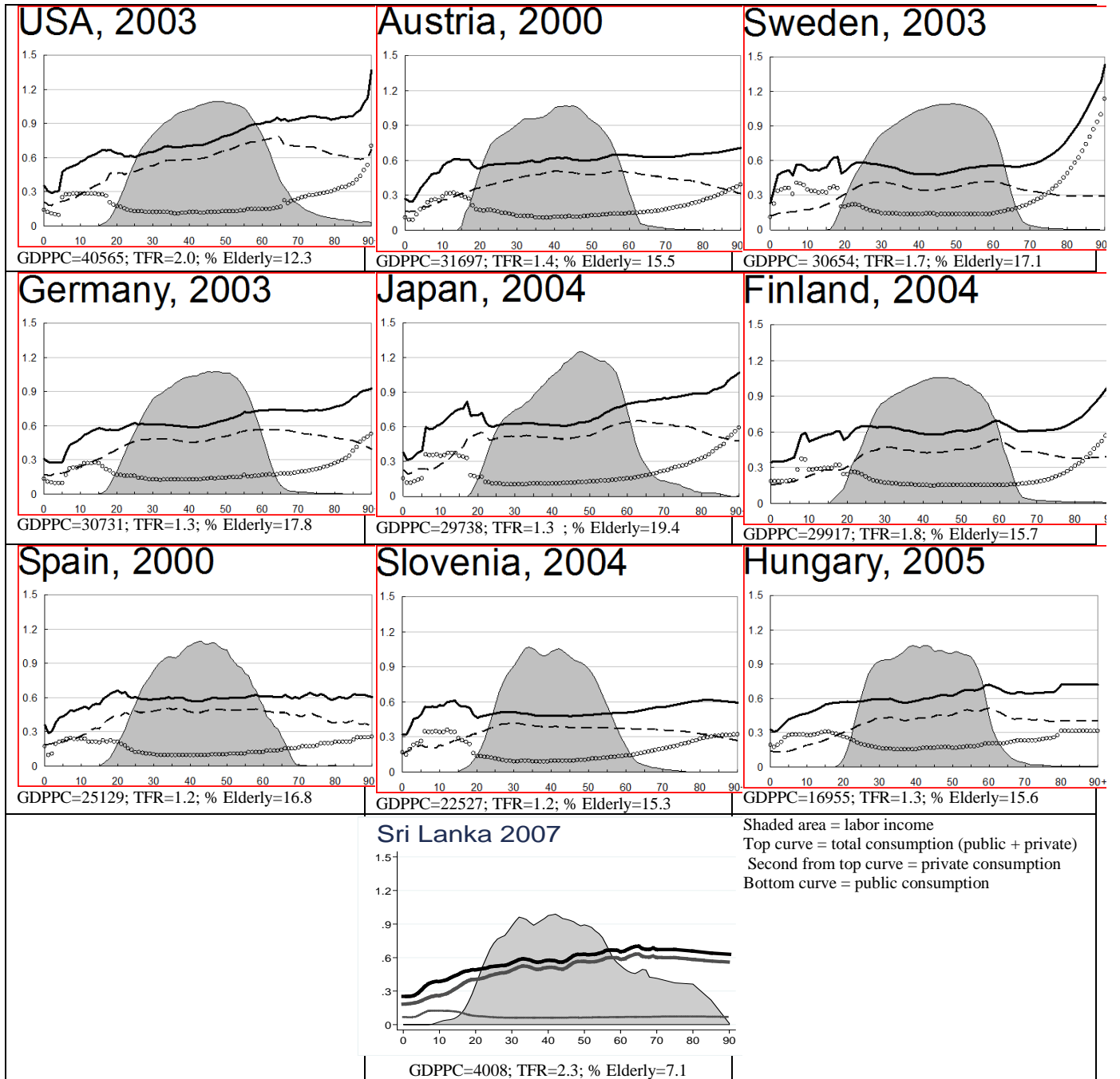
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<sup>21</sup> Sinha, Nistha - "Demographic Forces and Labor Market in Sri Lanka," background paper for the "Sri Lanka: Managing the Demographic Transition" study, 2011.

3.20 The overall adequacy of the transfers is moderate, but higher in the case of remittances from outside the country. The remittances cover 82 percent of the consumption of beneficiaries from the first decile. Recognizing that the goal of remittances is not necessarily (or at least solely) poverty reduction, we note that these private transfers contribute to reducing poverty with 2.8 percentage points, while reducing the poverty gap by 31 percent.

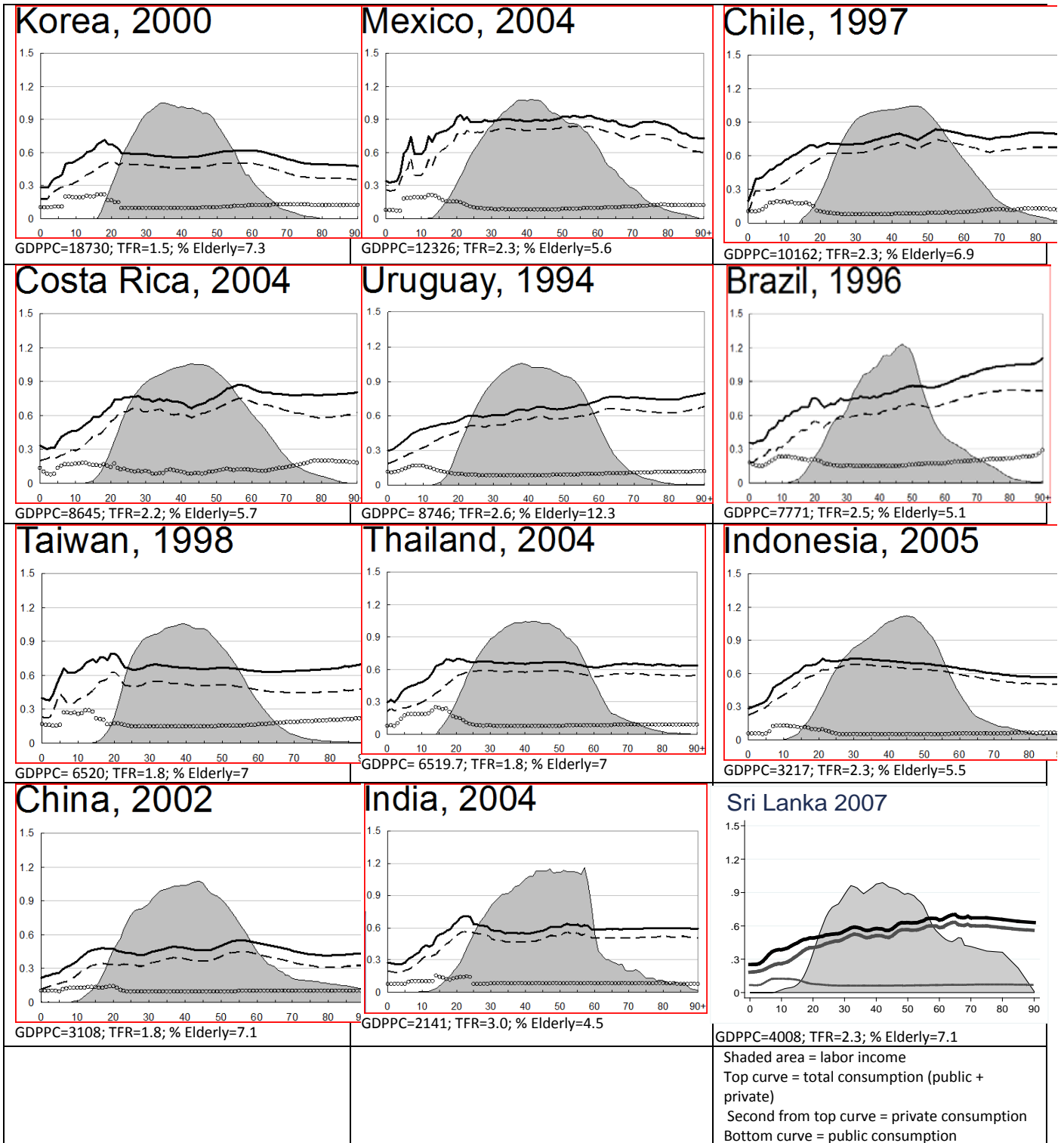
# Annex I. Cross Country Comparisons of National Transfer Accounts

Figure A1: NTAs for Sri Lanka and Developed Countries



Source: Nikitin, De Silva, & Jayasekara, World Bank, 2012

**Figure A2: NTAs for Sri Lanka and Developing Countries at Similar Stage of Demographic Transition and Economic Development**



**Figure A3: NTAs for Sri Lanka and Developing Countries at Earlier Stages of Demographic Transition and Economic Development.**

