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The impact of marriage, contraception, induced abortion and post-partum infecundability on fertility decline in Viet Nam between 1997 and 2002 are examined in the present paper. The authors use a Bongaarts model to determine the contribution of each factor to fertility changes in Viet Nam, based on data obtained from the 1997 and 2002 rounds of the Viet Nam Demographic and Health Survey. The authors show that there are significant differences between rural and urban areas. The study reveals that in urban areas, the decline in fertility can be attributed mainly to delayed marriage, an increase in induced abortion and increased post-partum infecundability, while the contribution of the increased use of contraceptives is negligible. In rural areas, the decreasing proportion of married women, contraceptive use and induced abortion are the main factors responsible for the decline in fertility. The authors also find that the high incidence of induced abortions can largely be attributed to limited use of modern contraceptive methods.

The authors recommend increasing access to modern contraceptive methods. They further recommend strengthening and increasing access to sexual and reproductive health services, especially in rural areas and for young people. In addition, the contribution of civil society and the private sector to the provision of sexual and reproductive health services is important in increasing access and coverage. Access to reproductive health services needs to be strengthened in rural areas, particularly in the Central Highlands.

Life-cycle deficits for women and men in India at different stages of the life cycle are examined in the present paper. Disaggregating life-cycle deficits according to sex, which is termed gender accounting, is important for gender-based budgeting, as it helps Governments allocate funds according to gender needs. A Life-cycle deficit is the difference between income and consumption at different stages of the life cycle. The significance of the paper lies in its contribution to understanding the male-female differential in public and private expenditure on health care, education, and other goods and services in monetary terms and

life-cycle deficit. The author finds that, overall, women have a life-cycle deficit, largely due to their lower rates of participation in the paid workforce. However, women perform a large amount of unpaid labour; thus, their life-cycle deficit could turn into a surplus if a monetary value were placed on unpaid labour. However, it is also shown in the present paper that consumption on health-care needs is higher for males in childhood as well as in old age, which can be partly attributed to the discriminatory sociocultural practices that are prevalent in India. As regards education, households tend to spend more on male education than on female education after the age of 15, which is the age at which free-of-charge public education ends.

The author concludes that gender accounting needs to be strengthened so as to allow Governments to allocate funds in order to promote gender equality and empower women. The author also recommends that, in order to achieve gender equality, public funding of health care is not enough. More needs to be done to remove the sociocultural barriers to the use of public services, such as health services.

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The authors recommend closer monitoring of labour brokers and measures to ensure greater transparency of labour broker networks.

Access of Older Persons to Health Insurance and Health-care Services in Viet Nam: Current State and Policy Options 69

Giang Thanh Long and Bui Dai Thu

The authors examine how the introduction of health insurance schemes improved access to health-care services for older persons in Viet Nam, which is a country with a rapidly ageing population. As a consequence of this, the incidence of non-communicable diseases as well as disability are on the increase. Using data from the Viet Nam Living Standard Surveys that were conducted in 2004 and 2008, the authors show that health insurance coverage for older persons increased during this period. However, a large number of older persons are still not covered by any health insurance. The authors also demonstrate that, especially in rural areas, access to health-care centres is still limited, in spite of improvements. The distance to a health-care centre determines, in particular, an older person's access to health care. Moreover, patients often have to use health-care centres that are not part of the insurance system, which in turn leads to high out-of-pocket expenditure.

The authors recommend improving access to health-care centres, especially in rural and mountainous areas, by requiring all health-care centres to join the health insurance system and by further developing communal health-care centres. Furthermore, the introduction of quality standards is required to improve access to quality care for the whole population. In addition, developing preventive care is important in ensuring healthy ageing.

Proximate Determinants and Their Influences on Fertility Reduction in Viet Nam

The present study estimates the fertility-inhibiting effects of the four important proximate determinants, namely marriage, contraception, induced abortion and post-partum infecundability in Viet Nam. It is based on using data obtained from the 1997 and 2002 round of the Viet Nam Demographic and Health Survey (VNDHS). The Bongaarts model is used to determine the contribution of the proximate determinants in fertility change. The analysis shows that the major factors responsible for fertility change are the proportion of married women, level of contraceptive use and induced abortion in rural Viet Nam. In urban areas, induced abortion, post-partum infecundability and the proportion of married women have been ound to be major determinants in fertility change during the above period, whereas contraceptive use has had a marginal effect on it. The estimated total fertility rate (TFR) is probably smaller than the actual one and the difference between the two has narrowed over the period.

**By K.C. Das, Chander Shekhar,
Nguyen Thi Ngoc Lan, and Kumudini Das***

Key words: Proximate determinants, fertility, induced abortion, Viet Nam

Introduction

Every country has a desire to balance its population growth according to its socioeconomic conditions. Three major components affecting population growth are fertility, mortality and migration, and among these components, fertility plays the most important role. A number of factors, such as social, cultural, economic, health and other environmental factors, directly determine fertility. Davis and Blake (1956) first introduced the term intermediate variables of fertility to describe the biological and behavioral mechanisms through which social, economic and cultural conditions can affect fertility. Bongaarts (1978) later developed a model that quantified the effects of the

* K.C. Das is Associate Professor, International Institute for Population Sciences, Mumbai, India, e-mail: daskc@yahoo.com; Chander Shekhar is Associate Professor, International Institute for Population Sciences, Mumbai, India, e-mail: shekhariips@rediffmail.com; Nguyen Thi Ngoc Lan is Technical specialist, General Statistical Office (GS), Government of Viet Nam, e-mail; ngoclanmt42@yahoo.com; Kumudini Das is Lecturer, Pillai College of Arts, Commerce and Science, Mumbai, India, e-mail: daskumudini@yahoo.in.

intermediate variables on fertility. Bongaarts and Potter (1983) identified four key variables or principal proximate determinants that account for the most cross-country variation in fertility levels. They are marriage, contraceptive use, induced abortion and post-partum infecundability. Bulatao (1984) studied the determinants of fertility and attempted to reach conclusions that are relevant for fertility reduction policies in developing countries. They suggest that socioeconomic development has a decisive effect in lowering fertility in the long run, but in the short run, and for specific households, the effect is not conclusive. The study concludes that education, especially of women, reduces fertility, though its effect may take years to appear. Improved health and lower mortality also contribute to lower fertility through both biological and behavioral channels. The effect of female employment, in contrast, is uncertain and undependable. The other determinants, specifically fertility behaviors, such as later marriage, longer breastfeeding and more frequent fertility regulation through contraception or abortion, are also explored.

A study in 1985 exploring the utility of studying the proximate determinants of fertility for subnational variations favour some modifications in the proximate determinant framework and recommended its application in different background characteristics (Singh, 1985). The analysis was carried out with two important background variables, namely education and place of residence in 29 countries comprising five from Africa, 12 from Asia and 12 from Latin America. The study depicted that despite the variety of forms of marriage and stages of demographic transition, the effect of urbanity on the non-marriage index was found uniform, but this was not so in the case of the contraception index. The influence of residence on the contraception index was minor in African countries, moderate in Asian countries and pronounced in Latin American countries. A study done in Thailand in a broader context of rapid fertility decline in a third-world setting reveals the use of four proximate determinants borrowed from the proximate determinant framework. Among other determinants, primary sterility and coital frequency have not been observed to influence the ongoing fertility decline (Knodel, 1979; Knodel, Chamrethirang and Debavalya, 1982). The conclusion arrived at by this study clearly mentions that, "Thailand's reproductive revolution is largely the product of increasing deliberate marital fertility control. In brief, Thailand has already entered into the most advanced stage of fertility transition." (Knodel, Chamrethirang and Debavalya, 1987).

In the context of Cuba, Hollerbach and Sergio (1983) found that, the effect of contraception followed by the effect of marriage patterns had the largest impact on fertility regulation. They concluded that the contribution of these two factors to fertility regulation was greater than the effect of either abortion or post-partum infecundability. Another study of proximate determinants of fertility in India by Shekhar (2004) revealed that fertility reduction is primarily a phenomenon of an

increase in contraceptive use and longer duration of insusceptible period (combined duration of post-partum infecundability and abstinence) prevailing in the society.

A Bongaarts model was used even in Viet Nam to study unexpected rapid fertility decline (Haughton, 1997). Between 1989 and 1993, the total fertility rate in Viet Nam fell from 3.8 to 3.2 children per woman, but there remained a demographic puzzle, which had been noted by several authors (Phai and others, 1995). He concluded that an application of the model shows that high rates of contraceptive use and induced abortion are more than enough to explain rapid fall in total fertility.

Keeping the above background in view, this paper is an attempt to understand levels and trends of fertility and its four principal proximate determinants, as well as to study fertility-inhibiting influences of these proximate determinants in Viet Nam during the period 1997-2002.

Data and methods

The study is based on the analysis of data obtained from the second and the third rounds of VNDHS in 1997 (Viet Nam, 1999) and in 2002 (Viet Nam, 2003). The nationally representative samples of 5,664 and 5,665 ever-married women aged 15-49 years from 205 sampling clusters throughout Viet Nam were interviewed respectively in VNDHS 1997 and in VNDHS 2002.

The Bongaarts model is used here to determine the contribution to fertility-inhibition effects of proportion married, contraceptive use, induced abortion and post-partum infecundability (Bongaarts 1978; Bongaarts and Potter 1983). It also has been found that these four factors explain about 96 per cent of fertility changes in most of the populations. The fertility-inhibiting effects of the most important determinants are quantified in the Bongaarts model by four indices, each of which assumes a value between 0 and 1. When the index is close to 1, the proximate determinant will have a negligible inhibiting effect on fertility, whereas when it tends a value of 0, it will have a large inhibiting effect. The mathematical formulation of the model is given below;

$$TFR = Cm*Cc*Ca*Ci*TF$$

Where,

TFR is the total fertility rate; TF is the total fecundity; **Cm** is the index of proportion married, **Cc** is the index of non-contraception; **Ca** is the index of induced abortion; **Ci** is the index of post-partum infecundability. The average effectiveness of the family planning methods in use have been taken into account while calculating the index of non-contraception.

Having obtained the indices, it is possible to estimate fertility by using the above mathematical formulation. The value of TF is rather stable between 13 and 17 births per woman, with the average value being 15.3. In this analysis, the average of TF has been taken. The decomposition of fertility to find the contribution of each principal proximate determinant between 1997 and 2002 has also been carried out (for detail calculation procedure see Bongaarts and Potter (1983).

Findings and discussion

1. Level and trends of fertility and its proximate determinants in Viet Nam

Total fertility rates for Viet Nam during the period 1997-2002 are shown in table 1. Large socioeconomic variations have been found in the levels of fertility in Viet Nam in 1997. These variations shrank to a great extent by 2002. At the national level, the TFR has decreased from 2.7 to 1.9 children per woman, indicating on average, a Vietnamese woman now gives birth to fewer than two children during her lifetime. In rural areas also the TFR declined around by one child per woman between the two surveys. In this period, a slight decline (0.4) was observed even for urban areas where the fertility level was already low (1.84 children per woman).

Also there are wide regional variations in the level of fertility. The highest fertility was observed in the Central Highlands at both the time points. The lowest fertility level was observed in the South-East region, which declined from 1.87 in 1997 to 1.51 in 2002. The reason behind the highest level of fertility being in the Central Highlands is that the population of this area consists of several ethnic groups, where even today higher fertility norms persist. The majority of women from the region still have only limited access to education and health services, and therefore they do not use modern contraceptive methods. Even though the women in the region may wish to lower the family size, they are often unaware of these methods. On the contrary, the South-East region is well developed, with more than half of the population living in urban areas. In this environment, women tend be better educated, the family sizes are usually lower and among the population, there is greater knowledge and supply of modern contraceptive methods. As a result, the fertility level in this region is lower than in other regions over a long period.

Fertility differentials by education are substantial and are inversely related to educational attainment. Women who complete higher secondary school have the lowest fertility while those with no education have the highest fertility, showing 1.97 children per woman in 1997 and 1.39 children per woman in 2002. Specifically during the period 1997-2002, reduction in fertility was found to be highest among women with no education (1.21 births per women). In this period of five and a half

years,[1] the overall TFR declined by 0.8 children or 30 per cent which is assumed to be a remarkable decline, especially at the already low level of fertility during the period 1992-1996 in Viet Nam.

Table 1. Trends in total fertility rates in Viet Nam by background characteristics

Background characteristics	VNDHS 1997	VNDHS 2002	Decline
Residence			
Urban	1.84	1.40	0.44
Rural	2.90	1.99	0.91
Region			
Northern Uplands	3.14	2.01	1.13
Red River Delta	2.28	1.65	0.63
North Central	3.26	1.92	1.34
Central Coast	3.39	2.37	1.02
Central Highlands	4.28	2.90	1.38
Southeast	1.87	1.51	0.36
Mekong River Delta	2.31	1.69	0.62
Education			
No education	4.03	2.82	1.21
Some primary	3.13	1.98	1.15
Completed primary	2.79	2.13	0.66
Completed lower secondary	2.53	1.71	0.82
Completed higher secondary+	1.91	1.39	0.52
Total	2.67	1.87	0.80

The curve of age-specific fertility rates (ASFRs) is shaped almost like a triangle with peak at age group 20-24 (figures 1 and 2). After the age of 25 years, the curve skews more sharply to the right side in VNDHS 2002 than that in VNDHS 1997. This fertility pattern is categorized as the early-childbearing model. It is likely that the high age at marriage has made fertility levels lower at young ages and family planning has contributed substantially to rapid declines in fertility at older ages of reproduction. It may be emphasized that fertility reduction mainly occurred among women aged 25 and older who have contributed significantly to fertility reduction in Viet Nam. This pattern is common and plausible for populations experiencing a fertility decline. It occurs during the fertility transition when older women, who are more likely to have reached their desired family size make a greater effort to limit their births than do younger women, who are have not yet achieved their desired family size.

There is a difference in fertility patterns by residence, namely between urban and rural areas. Age-specific fertility rates remained lower in urban areas than in rural areas, particularly for almost all the age groups in VNDHS 1997. However, fertility rates beyond age 24 years

1 The TFR for he VNDHS 1997 was calculated for the calendar period 1992-96, with a midpoint of mid-1994. For the VNDHS 2002, fertility rates refer to the 5-year period prior to the survey that corresponds roughly to mid-1998 to mid-2002, with a midpoint of early 2000.

became nearly equal for rural and urban areas in VNDHS 2002. In both the surveys, it indicated relatively delayed fertility behaviour in urban areas compared to rural areas. In urban areas, the peak fertility level belongs to the age group 25-29 years. On the contrary, rural areas are still characterized by early fertility where the age group 20-24 years shows the highest fertility rate. Observing the age-specific fertility rates for VNDHS 2002, one can infer that fertility behaviour of women in the age-group 20-24 years solely creates the rural-urban fertility differentials in Viet Nam.

Figure 1. Age-specific fertility rates, Viet Nam, VNDHS 1997

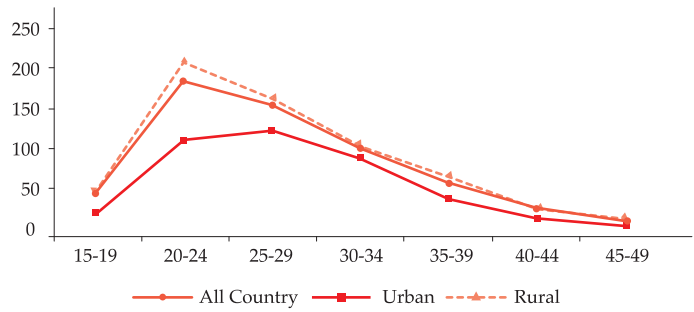
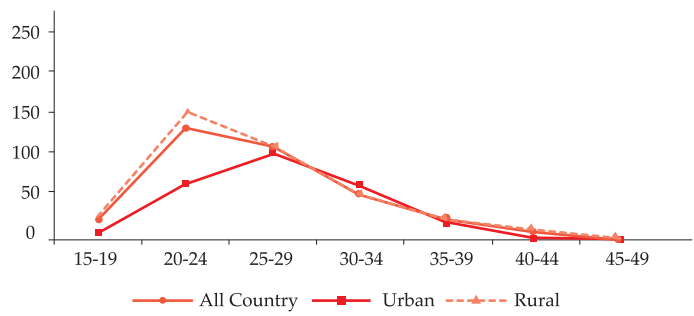


Figure 2. Age-specific fertility rates, Viet Nam, VNDHS 2002



Age at marriage

There has been a transition from traditional to modern patterns of marriage in Viet Nam. A major characteristic of this process is the trend towards late marriage. In the traditional Vietnamese family prior to the twentieth century, marriage was an especially important matter and universal, not only because of its relationship to the lifetime happiness of the couple, but also because of its effect on the extended family and the kinship network (Tran, 1991). Expansion of work opportunities

outside of agriculture, especially for women, has substantially increased the individual's economic independence from parents, thereby helping young couples to determine their own marriage mate. The difficulties associated with job opportunities and living conditions in recent years have also contributed to delay in marriage. Today, young people enjoy greater self-determination with regard to marriage. Although parents in rural areas still have some influence in many instances on marriage decisions of their children, the strength of tradition has greatly diminished. Specially, younger people living in urban areas create larger discrepancy in age at marriage by postponing marriage towards higher ages.

In Viet Nam, marriage generally indicates the point at which a woman begins childbearing. Getting married as an early age often results in childbearing at an early age and high fertility as women who marry early will have, on average, longer exposure to the possibility of becoming pregnant. Very few children are born outside marriage in Viet Nam. Unlike the pattern observed in many other countries, the median age for someone getting married for the first time in Viet Nam did not increase during the period 1997–2002, with the median age being 21 years (Viet Nam, NCPFP, 2003).

Table 2. Proportion of currently married women and age-specific marital fertility rates by residence in Viet Nam, 1997 and 2002

Age	VNDHS 1997						VNDHS 2002					
	Proportion married			ASMFR			Proportion married			ASMFR		
group	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
15-19	0.028	0.088	0.077	101.9	134.8	131.3	0.021	0.046	0.041	115.3	124.4	123.5
20-24	0.329	0.572	0.520	198.1	264.7	253.4	0.267	0.519	0.464	140.5	213.3	201.6
25-29	0.635	0.805	0.767	152.3	167.8	165.1	0.654	0.841	0.800	136.4	127.1	128.9
30-34	0.773	0.874	0.858	87.9	101.7	99.1	0.763	0.920	0.888	77.2	60.4	63.7
35-39	0.822	0.869	0.859	36.4	57.5	52.8	0.879	0.898	0.897	25.6	28.0	27.5
40-44	0.776	0.836	0.822	9.6	22.6	19.5	0.841	0.863	0.857	2.9	12.3	10.5
45-49	0.730	0.793	0.778	3.0	3.7	3.4	0.783	0.832	0.820	1.6	2.3	2.1

Source: author's computation.

The data in table 2 indicate that the proportion of currently married women is found to be highest in the age group 35-39 years. During the period 1997-2002, there has been a very slight increase in the overall proportion of women who are currently married, from 63 to 64 per cent. While, the overall proportion of women who are currently married has increased very slightly between the two surveys, the proportion of women aged 15-24 years who are currently married has declined. In particular, 52 per cent of women aged 20-24 years were married in 1997, compared with 46 per cent in 2002. Since the age-specific fertility rates are found to be highest at ages 20-24 years (see figures 1 and 2), reductions in the proportions of women married in that age group

would be expected to have a larger effects on the overall fertility levels. The level of age specific marital fertility rate peaks in the age group 20-24 years and afterwards it declines at older ages. In the age group 20-24, both rural and urban areas experience an almost equal decline in the proportion of currently married women between the two surveys. In both the settings, marriage postponement clearly was observed. Table 2 shows a decline in the proportion of currently married women aged less than 25 years between 1997 and 2002. As a result, age-specific fertility might have declined significantly in these first two reproductive-age groups (15-19 and 20-24 years).

Table 2 also provides age-specific marital fertility rates (ASMFR) by residence for the years 1997 and 2002. A cursory look reveals a significant reduction in the marital fertility rate across all the age groups, with the age group 20-24 years contributing the largest decline. Factors other than marriage, with the main one being contraception, are responsible for the decline in the marital fertility rates. From table 2, one can see that there has been a sharp decline (around 58 births per thousand married women) in ASMFR of urban women in the age group 20-24 years between 1997 and 2002. For rural married women aged 20 to 34 years, the decline in fertility stood at 40-50 births per thousand between the two points of time. However, the level of marital fertility rate in all the age groups is still high. The total fertility marital rate (TMFR) calculated from ASMFR for 2002 is about 2.8 children per married woman. It means a married woman on average tended to have almost three children in 2002.

Contraceptive use

The level of current use of contraception is one of the prominent indicators used to assess the success of family planning programs. It is also a widely used measure in the analysis of fertility determinants. In table 3, data on current use of contraception show that there is an increase in the per cent of currently married women using any method of family planning method between 1997 (75 per cent) and 2002 (79 per cent) in Viet Nam. Compared with other countries, the level of contraceptive use is higher among Vietnamese women, but the use of modern contraceptive methods is only 57 per cent with the rest of the women using traditional methods (22 percent). The most commonly used method in Viet Nam is the intrauterine device (IUD), which was being used by 39 and 38 per cent of currently married women in 1997 and 2002, respectively, followed by withdrawal (11.9 per cent in 1997 and 14 per cent in 2002). Despite the predominance of IUD as the leading method in Viet Nam, use of it has actually declined slightly (about one percentage point) during the period 1997-2002. Conversely, the use of contraceptive pills has increased slightly (from 4 to 6 percentage points) during the same period. Unlike other countries, it has been found that the use of traditional methods and pills has increased in Viet Nam while female sterilization and condom use have decreased. There is negligible

difference in contraceptive use among currently married women by residence during the period 1997-2002.

There is a link between the quality of care of family planning services and the service provider. In Viet Nam, family planning services have been heavily dependent on the public delivery system due to the launch of a massive government-supported family planning programme that aimed to reduce fertility in 1993. According to VNDHS (2002) (Viet Nam, NCFCP, 2003), almost 86 per cent of Vietnamese contraceptive users were receiving methods from the public sources and the rest from private sources. In addition, 45 per cent, 22 per cent and 9 per cent of users reported to receive services from community health centers, government hospitals and mobile clinics, respectively. IUD users depended completely on community health centers and government hospital whereas pills users were mainly receiving supply from community health centers and public fieldworkers. Sterilization facilities were available only at government hospitals. The major sources for supplying condoms were pharmacy outlets, community health centres and public fieldworkers.

Comparing the family planning situation in Viet Nam with other South-East Asian neighbouring countries, particularly with Thailand, Indonesia and the Philippines, will definitely help in recognizing the sociopolitical environment and delivery system required to improve the quality of family planning and reproductive health services in the region. In the case of Thailand, the majority of women use pills (44 per cent), followed by female sterilization (30 per cent) and injectables (18 per cent). Nearly 60 per cent of Thai women receive family planning services from public providers. Thus, a big chunk of women in the reproductive age group also receive services from private providers. The Thai service delivery system in family planning (FP) works as a three-tier hierarchical system, placing provincial hospitals on the top, district hospitals in the middle and at the primary level health centre, which caters to the family planning needs of clients (Kongsri and others, 2011). Although Thailand has had a strong family planning programme in place for a long time (Lee and others, 1998), there are still some bottlenecks in it. According to UNFPA (2005), inadequacy of staff, low accessibility in the southern region and the decrease in use of male contraceptive method are the major hurdles.

The family planning programme of the Philippines is as old as the one of Thailand. It started in 1970 with full support from the Government and has continuously received large support from donors (Lee and others, 1998). In spite of this, the use of the modern method of family planning remains quite low (34 per cent, 2008). The overall contraceptive use has stood at around 50 per cent since the last decade. The policy on paper appears to be ideal, however, it has faced major setbacks during various stages of being implemented. Exactly one-third of women use traditional methods of family planning mainly due to strong reservations by Catholic Church against artificial methods and their high handedness

in the political circuit. Women completely rely on publicly supported services, but in the absence of adequate and quality family planning services, they forgo the use of contraceptives. As a result, more than half of the women receive services from private providers, which are not cost effective, and thus cost has become one of the major barriers in use of family planning methods. The unmet need for modern contraceptive methods is found to be the highest (20 per cent) in the region (Casterline and Sinding, 2000; Guttmacher Institute and Likhaan, 2010). Gillespie and others (2007) also found that there was high inequity in outreach of family planning workers in Philippines.

Indonesia has been a role model in success of a family planning programme and is often regarded as a world leader. Initially, the country's family planning programme was supported by private stakeholders. The Government completely took it over in 1970. However, it still receives technical support from donors and professional agencies working in the area of family planning and reproductive health. In recent time, it is envisioned to achieve "Quality Families by 2015". The supreme body to fund, operate and monitor the programme is the National Family Planning Coordinating Board (NFPCB), popularly known as BKKBN in Indonesia. The programme has been supported by all major religious sects in the country to promote modern methods of family planning. The execution of the Indonesian family planning programme is based on a three-tier delivery system — national, provincial and district levels. Village-level units, called PPKBD, are responsible for managing the family planning services at the grass-root levels. Besides a wider mass media campaign, the programme is getting support from field-level volunteers to propagate and promote the services. Despite these attributes, the programme has to increase efforts to bring more gender equity in contraceptive use through empowering women and adopting strategies that aim to enhance men's role in family planning.

Table 3. Distribution of use of contraceptive methods among married women by residence (per cent)

Contraceptive methods	VNDHS 1997			VNDHS 2002		
	Urban	Rural	Total	Urban	Rural	Total
Any method	79.3	74.4	75.3	79.1	78.4	78.5
Any modern method	54.0	56.2	55.8	54.9	57.1	56.7
Pills	4.1	4.4	4.3	6.9	6.2	6.3
IUD	32.5	39.9	38.5	30.3	39.5	37.7
Injection	0.0	0.2	5.9	0.2	0.5	0.4
Condom	11.8	4.5	0.2	12.6	4.2	5.8
Female sterilization	5.3	6.6	6.3	4.8	6.2	5.9
Male sterilization	0.3	0.6	0.5	0.2	0.6	0.5
Any traditional method	24.9	17.9	19.2	24.1	21.2	21.8
Periodic abstinence	14.2	5.7	7.3	11.8	6.5	7.5
Withdrawal	10.7	12.2	11.9	12.3	14.8	14.3
Other methods	0.4	0.3	0.3	0.1	0.0	0.1
Not currently using	20.7	25.6	24.7	20.9	21.6	21.5

Source: VNDHS, 1997 and 2002.

Post-partum Insusceptibility

Post-partum amenorrhea is the interval between the birth of a child and the resumption of menstruation. It is the period following childbirth during which a woman becomes temporarily and involuntarily infecund. Post-partum protection from conception can be prolonged by the intensity and length of breastfeeding. Post-partum abstinence refers to the period of voluntary sexual inactivity after childbirth. A woman is considered insusceptible if she is not exposed to the risk of pregnancy, either because of amenorrhea or post-partum abstinence. Information was obtained about the duration of amenorrhea and the duration of sexual abstinence following childbirth during the three years preceding the survey (Viet Nam, NCPFP, 2003). According to VNDHS 1997 and VNDHS 2002, the rural-urban differentials in the median duration of breastfeeding are very narrow (around one month). Studying the fertility inhibiting-effects of post-partum insusceptibility Mosely and others (1977) have found that in some developing countries, traditional methods of birth spacing are more effective than clinical contraceptives and have taken the view that planners could regard these methods as substitutes for contraception in the target population.

Data in table 4 show that post-partum insusceptibility declined from 9.1 months in 1997 to 8.5 months in 2002 or 0.6 months at the national level. For rural areas, post-partum insusceptibility reduction is slightly higher (0.7 months). On the contrary, there is an increase in insusceptibility for urban areas from 5.6 to 7.5 months between 1997 and 2002. Overall, the median duration of post-partum insusceptibility in rural areas is higher than in urban areas. The observed decline in the duration of post-partum insusceptibility tends to increase in the marital fertility rate, which might have been offset by other inhibiting factors, such as an increase in contraceptive use.

Table 4. Median number of months of post-partum amenorrhea, post-partum abstinence, and post-partum insusceptibility by residence in VNDHS 1997 and VNDHS 2002.

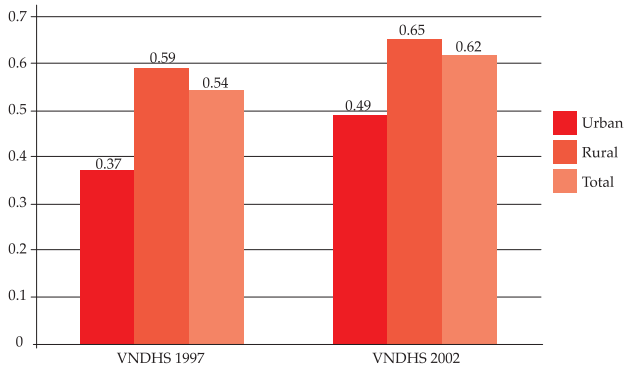
Residence	VNDHS 1997 Post-partum			VNDHS 2002 Post-partum		
	Amenorrheic	Abstinence	Insusceptible	Amenorrheic	Abstinence	Insusceptible
Urban	4.6	2.9	5.6	6.6	4.4	7.5
Rural	9.3	3.3	9.5	7.6	3.8	8.8
Total	8.8	3.3	9.1	7.5	3.9	8.5

Induced abortion

Abortion is legal and widely practiced in Viet Nam. The People's Health Law (1989) stresses the fact that "a woman has the right to undertake induced abortion at her request, to access health-care services for checking and treating gynaecological diseases, to take prenatal and delivery care and to serve as an assistant at delivery care in health services". Abortion services, including menstrual regulation are readily available both in public and private facilities. It is evident from the survey data that women in Viet Nam often resort to abortion due to lack of contraceptions and contraceptive failure. In VNDHS 2002, it was reported that, the drop out rate for users of a contraceptive method is almost 25 per cent in the first year. Except IUD, the discontinuation rate for all other major spacing family planning methods was estimated at 30 per cent and above in Viet Nam. Slightly more than one-fourth of women discontinued using them because they became pregnant as a result of failed contraception methods (Viet Nam, NCPFP, 2003).

Figure 3 presents abortion rates in Viet Nam for the five years period preceding the survey dates. These are total abortion rates (TAR) and are based on reporting of both menstrual regulation and abortion. There is an increase in the total induced abortion rate for the whole country from 0.54 in 1997 to 0.62 in 2002. The same also is found to be true by residence. In contrast to the trend in other parts of the world, it is surprising that women in rural Viet Nam have a higher rate of induced abortion than those in the urban areas at both points of time. Generally, it is difficult to collect reliable information on induced abortion in developing countries (Goodkind, 1994). In the case of Viet Nam, of those who underwent an induced abortion, 64 per cent were using a method of family planning. This indicates that there is also an unmet need for family planning; among the rest of the women, who had sought an induced abortion, 36 per cent of them had not used modern contraceptives. By methods, 49 per cent of the abortion seekers were using the traditional family planning methods in Viet Nam. It seems that the reason behind higher abortion rates, especially in rural areas, is the high desire for a smaller family size and the unavailability of methods with high effectiveness. Also a significant proportion of all ever-married women (36 per cent) could not report the correct fertile period in VNDHS 2002. Thus, women using traditional contraceptive methods, tend to have a high chance of unplanned pregnancy. In particular, stronger son-preference in rural areas due to several social obligations is also one of the prominent causes of induced abortion (Guilmoto, 2009). Those who had strong desire for son are more likely to seek a sex-selective abortion. Of note, however, son-preference in urban areas has declined over the years due to the empowerment of women and higher gender equality.

Figure 3: Total induced abortion rate by residence, Viet Nam, VNDHS 1997 and VNDHS 2002



2. Role of principal proximate determinants in fertility decline in Viet Nam

The four principal proximate determinants are considered inhibitors of fertility. They are found to be lower than their maximum value as a result of delayed marriage and marital disruption, the use of contraception and induced abortion and post-partum infecundability (Bongaarts, 1982). The indices of marriage, contraceptive use, induced abortion and post-partum infecundability, as well as the TFR and TF, as obtained from the Bongaarts model for the years 1997 and 2002 by residence are presented in table 5. In analysing these findings, it should be kept in mind that the lower the value of an index correlates to a higher percentage reduction in TFR due to that proximate determinant.

Table 5 shows that the estimated TFR has declined by 0.36 births from 1.91 to 1.55 between 1997 and 2002 at the national level, as well as in urban areas, but a slightly higher decline was observed in rural areas (0.39 births). The model underestimated TFR as compared to the observed total fertility in all the cases, except for urban areas in 2002 in which the model produced TFR and observed TFR were found to be the same. By 2002, the difference between actual and estimated TFR had narrowed, especially in the rural areas of Viet Nam. Finally, with regard to both time points, the most important index in explaining this fertility decline is the index of contraception followed by the indices of marriage and post-partum infecundability. With the exception of post-partum infecundability, proximate determinants had higher fertility, inhibiting effects in 2002 than in 1997. As the induced abortion rate has increased at later points of time, fertility-inhibiting effects of induced abortion were higher in the 2002 survey than in the 1997 survey. However, the induced abortion index still had the least effect among all the four proximate determinants in declining fertility in Viet Nam during the period of observation for this study.

Table 5. Estimates of selected fertility measures, indices of proximate determinants and actual total fertility rate for Viet Nam, 1997 and 2002

	1997			2002		
	Urban	Rural	Total	Urban	Rural	Total
Index of						
Marriage (Cm)	0.461	0.610	0.576	0.429	0.557	0.526
Contraception (Cc)	0.340	0.336	0.338	0.340	0.309	0.317
Induced abortion (Ca)	0.885	0.884	0.885	0.816	0.824	0.822
Post-partum infecundability (Ci)	0.830	0.714	0.725	0.769	0.733	0.741
Total fecundity rate (TF)	15.3	15.3	15.3	15.3	15.3	15.3
Estimated total fertility rate (TFR)	1.76	1.98	1.91	1.40	1.59	1.55
Actual total fertility rate	1.84	2.90	2.67	1.40	1.99	1.87
Differences						
(Actual TFR - estimated TFR)	**0.08**	**0.92**	**0.76**	**0.00**	**0.40**	**0.32**

Decomposition of the role of the four major determinants on fertility decline between 1997 and 2002 by residence in Viet Nam

Knowing that the proximate determinants model is multiplicative in nature, but additive while measuring the fertility inhibiting effects, is possible to further decompose these effects into other factors (Bongaarts and Potter, 1983). The decomposition of the change in TFR in Viet Nam by residence between 1997 and 2002 is given in table 6. In the first column, percentage change in TFR is presented for each of the determinants responsible. In the next column, the decomposition results are standardized to add to 100 per cent. In the third column, the absolute change in the TFR is presented, taking into account the contributions made by various proximate variables. The negative sign before the values suggests the decline or fertility reducing effects of the respective proximate determinant.

Table 6. Decomposition of the change in total fertility rate in Viet Nam during 1997 and 2002 by residence

Factors responsible for fertility changes	Urban			Rural			Total		
	Percentage change in TFR	Distribution of percentage change in TFR	Absolute change in TFR	Percentage change in TFR	Distribution of percentage change in TFR	Absolute change in TFR	Percentage change in TFR	Distribution of percentage change in TFR	Absolute change in TFR
Marriage Proportion	-6.8	-33.2	-0.12	-8.6	-43.8	-0.17	-8.7	-46.4	-0.17
Contraception	-0.1	-0.5	0.00	-7.9	-40.6	-0.16	-6.3	-33.6	-0.12
Induced abortion	-7.8	-38.3	-0.14	-6.8	-34.9	-0.13	-7.1	-37.9	-0.13
Post-partum infecundability	-7.3	-35.8	-0.13	2.6	13.1	0.05	2.2	11.9	0.04
Interaction	1.6	7.7	0.03	1.2	6.2	0.02	1.1	5.9	0.02
Total	-20.4	100.0	-0.36	-19.5	100.0	-0.39	-18.7	100.0	-0.36

Results in table 6 indicate that TFR in Viet Nam declined in urban areas by 20.4 per cent, or in absolute term by 0.36 points, between 1997 and 2002. This decline is 0.39 points or 19.5 per cent in rural areas. For Viet Nam as a whole, an 18.7 per cent, or 0.36 points, decline in TFR was observed during the same period. The decomposition analysis for the urban area suggests that one-third of the total fertility decline in Viet Nam between 1997 and 2002 was due to an increase in induced abortion, and slightly more than one-third of the total decline was due to an increase in post-partum infecundability, as well to a reduction in the proportion of married among women, primarily due to marriage delay. The contribution of contraceptive use was quite small (0.5 per cent), suggesting a negligible impact of contraceptive use on fertility decline. Thus, it is clear that a change in induced abortion, post-partum infecundability and proportion married were the predominant factors responsible for fertility change in urban areas of Viet Nam during the observed period. For rural areas and the country as a whole, it was found that a change in the proportion of married women, contraceptive use and induced abortion were the main factors responsible for fertility decline. On the contrary, reduced duration of post-partum infecundability increased fertility of about 13-12 per cent in TFR in the respective populations between 1997 and 2002. In rural Viet Nam, the decomposition analysis suggests that marriage delay among women contributed more than two-fifths of the total fertility decline followed by contraceptive use (40 per cent) and induced abortion (35 per cent). In Viet Nam as a whole, the contribution of marriage delay in fertility decline between 1997 and 2002 was found to be highest (46 per cent) followed by induced abortion (38 per cent). The use of family planning also had contributed significantly (33 per cent) to declining fertility during the above period. The contribution of interaction in fertility change, which primarily occurs due to the overlapping of two or more proximate determinant factors (Shekhar and Ram, 2006), remained minimal in both the rural and urban settings of Viet Nam.

To summarize, the contributions made by the four principal proximate determinants in changing TFR in urban and rural areas between 1997 and 2002 are presented in figure 4 and 5, respectively. The figures are plotted to indicate the trends in the total fertility rate, the total natural marital fertility rate (TN), the total marital fertility rate (TM), and the total fecundity rate. There is an increase in natural marital fertility, owing to shorter post-partum insusceptibility in rural areas. The fertility-inhibiting effects from induced abortion, marriage and contraception have enlarged and accelerated decline in TFR, TM and TN in rural Viet Nam. In the urban areas of Viet Nam, induced abortion, post-partum infecundability and marriage were factors leading to decline in TF, TN and TFR. Thus, the decline in the proportion married of women and increase in induced abortion in both settings accelerated the fertility inhibition effects in Viet Nam.

Figure 4: Fertility-inhibiting effects of principal proximate determinants in urban Viet Nam 1997 and 2002

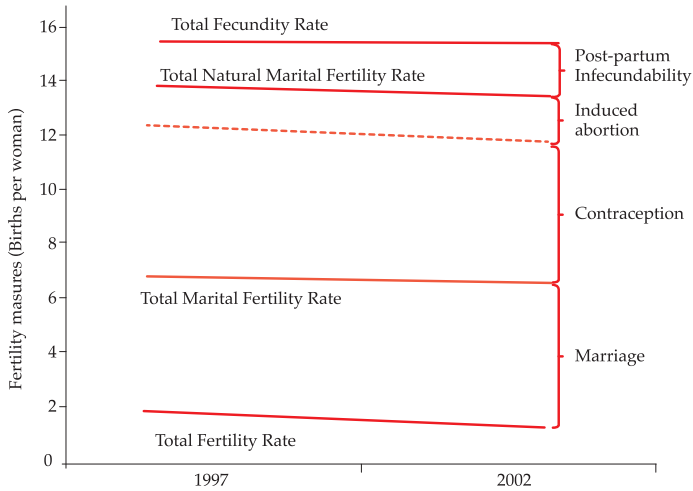
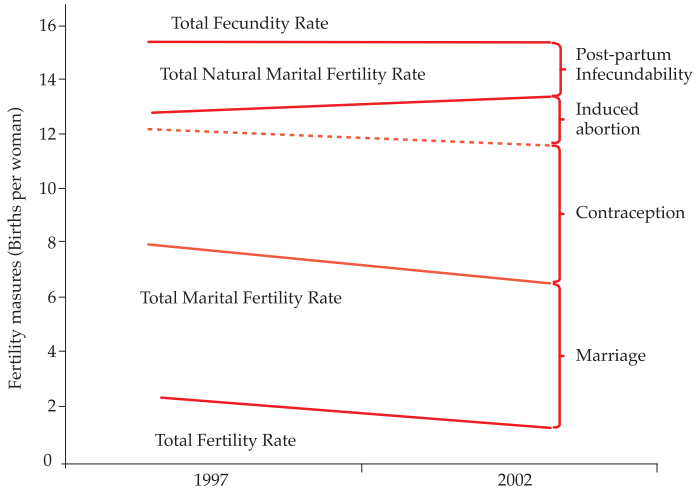


Figure 5: Fertility-inhibiting effects of principal proximate determinants in rural Viet Nam, 1997 and 2002



Conclusion

The results of the study suggest that the primary fertility-inhibiting effects at a given point of time in rural and urban areas are, in order of magnitude, contraception, proportion of marriage and post-partum infecundability. These effects are the lowest in the case of induced abortion. However, specifically in urban areas, the predominant factors that contributed to the fertility decline that occurred between 1997 and 2002 were, in order of magnitude, an increase in induced abortion, duration of post-partum infecundability and postponement of marriages. During the same period, the leading factors responsible for the fertility decline in rural areas, in order of magnitude, were postponement of marriages, increase in induced abortion and contraceptive use. Among women living in rural areas, the declining role of post-partum infecundability is of concern if it is not compensated by increased use of effective family planning methods. In the study, it is clearly indicated that estimated TFR is smaller than the actual one. The difference between actual and estimated TFR have narrowed over time, with a residual of 0.4 children per woman evident only in rural areas. This may be due the overlapping of two factors associated with fertility-inhibiting effects. For example, some women living in rural areas may be using family planning methods while being in a post-partum infecund state, or some may be using a family planning method during the post-induced abortion period.

The findings of the present paper have certain programmatic and policy implications. First of all, programme managers in Viet Nam need to offer a wider network of family planning services at the grass-root level, especially with regard to supplying spacing methods. This would help to bring down the high use of traditional methods and the number of induced abortions, which can in part be attributed to the high failure rate of traditional family planning methods. It is important to note that the findings show that 64 per cent of induced abortion seekers were using some form of a family planning method, with the predominant one being traditional. Notably, the utilization of sterilization is very low as it is available only at government hospitals. In order to ensure wider choices and regular accessibility of affordable family planning services at the local level, Viet Nam should not rely only on public sources, but it should encourage non-governmental organizations, volunteers and public-private partnerships to provide such services.

Any programme strategy pertaining to family planning should focus on addressing regional and gender inequity in accessing and/or utilizing contraceptive services. In this regard, priority should be given to the Central Highlands region. It also needs to contain a culturally suitable family-life-education programme for youth and focus on gender equity and reproductive health issues, including menstrual cycle, alternative contraceptive choices and safe abortion practices. These programmes and other social sector initiatives should uniformly give equal importance to women empowerment and the discarding of sex-selective abortion. In the long run, this would give men a greater role in dealing with family planning and reproductive health issues. Government, representatives of civil society, women's organizations and youth groups and the private sector must come together to deal with the larger issue of sex-selective abortions in Viet Nam.

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Gender Accounting of Consumption and the Life-cycle Deficit for India

In the present paper, labour income, consumption and the life-cycle deficit (LCD) by gender for India is considered. From the individual's perspective, private and public consumption for education, health and other goods and services has been taken into account. For either sex, the share of public consumption is about 17 per cent of the total consumption for health, education and others. Throughout the life cycle, the per capita annual labour income of a woman is lower than that of a man; even at the peak age of earning, it is only about one-sixth of a man's per capita labour income at the corresponding age. Though a male consumes more for health, education and other goods and services, the gender gap is not as wide as that of income from labour. At the per capita level, a male experiences a monetary surplus during the working age range of 20 to 64 years and faces a life-cycle deficit only before entering the labour market and during old age, but a female must deal with a life-cycle deficit all through the life cycle.

By Laishram Ladusingh*

Keywords: Gender accounting, labour income, consumption, life-cycle deficit, private, public.

Introduction

The economic and demographic transition of a country is closely linked with the economic life cycle of its population. The economic life cycle is characterized by a long spell of dependency in the early and later stages of life and not- too-long span of an economically productive life in between the dependency periods. Individuals earn income and consume goods and services in their life time. During the period of economic dependency, consumption exceeds production, thereby resulting in a life-cycle deficit during that timeframe. However, during the economically active period of life, production overflow creates a consumption surplus. Public policies are set to regulate the goods and

* Laishram Ladusingh is Professor of Demography and Statistics, International Institute for Population Sciences, Mumbai, India, e-mail: lslaishram@iips.net.

services provided to individuals of different ages; some are for everyone and others are earmarked for specific age groups, with their monetary value varying from economy to economy (Ladusingh and Narayana, 2011a). At the household level, the kinds of goods and services available to male and female earning members, dependent children and older persons are governed by social norms and social contracts among household members.

When it comes to individual perspectives of the economic life cycle, the gender role in society and economy has a strong bearing on the magnitude of the male and female differential in consumption and in LCD. Females spend considerable time in childbearing and raising children and thus provide more family services that are in the nature of domestic chores than their male counterparts. Compared to males, females are more likely to do domestic chores and kin-keeping activities on a continuous basis throughout life cycles (Beales, 2000; Knodel and Ofstedal, 2003; Lopata, 2002). There has been considerable transformation in the sociocultural and occupational structures in India over the last few decades. Literacy rates for both males and females have improved. More women than before are joining mainstream economic activities and women-oriented industries are growing in number. The changes in sociocultural and women-friendly occupational structures are also associated with the demographic transition, and more particularly with increased life expectancy. However, the cohort of women in India in their sixties and still older ones are not likely to have been benefitted from the aforesaid development.

Employment growth in India was 1.3 per cent in the 1990s. It doubled between 2001 and 2005 (OECD, 2007). This represents an unprecedented upward shift in the country's labour market performance (Nagaraj, 2004; Anant and others 2006; India, 2006). Employment in the secondary and tertiary sectors, which in 2005 constituted 19 and 25 per cent of the labour force, respectively, grew 6.2 and 4.7 per cent annually and contributed to the gain in employment during the period 1998-2005, adding about 30 million net jobs in each of the two sectors (OECD, 2007). Employment gains in India have been concentrated in the informal sector of the economy. Deshpande, Satpathy and Despande, (2007) compared the average daily earnings of regular workers employed formally and informally. They found that the average daily wages of workers in the formal sector was biased in favour of urban workers and male workers. The average daily earnings of male workers exceeded those of female workers, though the gap has been narrowing.

In order to move towards a more gender-equal society, the country's fiscal policy must take into account the need to allocate funds in the budget to implement policies and programmes to overcome sociocultural beliefs and practices that hinder gender equity. Gender budgeting is an analysis of budgets to ascertain the relative benefits or losses of men and

women for a fiscal year (Chakraborty, 2010). The importance of gender-responsive budgeting (GRB) lies in the fact that human development depends on the empowerment of socioculturally disadvantaged girls and women. This segment constitutes not only a large share of the population but also an extensive huge human resource base. UNDP (2008) provides empirical evidence that gender equality investment results in growth and development. The importance of GRB came into focus globally after the Beijing World Conference on Women (1995), though Australia, the pioneer in this activity, started GRB a decade before this landmark conference. More than 90 countries have endorsed GRB as a valuable tool for engendering budgets and policies (Mishra and Sinha, 2012). In India, GRB was initiated with the requirement that 30 per cent of funds allocated in the Ninth Plan (1997-2002) be directed into activities that benefit women. For the budget statement of 2005/06, the share of allocations for programmes/schemes that substantially benefit women needed to be quantified (Das and Mishra, 2006).

The approach followed for gender accounting is to disaggregate benefit incidence of public programmes and schemes by sex. A number of methods have been adopted to explore the gender dimension in redistribution or fiscal incidence. In the mid 1990's, the Commonwealth Secretariat commissioned a study to develop tools for GRB analysis (Elson, 1999). Auerbach and others (1991, 1992) have suggested that "generational accounting" is a more robust method for assessing fiscal liabilities and incidence. Demery (2000) postulated an approach to GRB analysis based on the measurement of individual preferences for publicly provided goods. The simple and most common method is the benefit incidence analysis (BIA), developed by Meerman (1979) and Selowsky (1979). The method involves allocating unit cost according to individual utilization rates of public services. These methods of gender accounting involve disaggregation by sex of public programmes, but do not have a provision for the aggregation of share of benefits from the intra-household allocation of resources. In addition, the aforesaid methods do not disaggregate incidence of benefits by age, but fiscal policies are likely to have different incidences across different ages.

Keeping in view the importance of public fiscal policies and the allocation of household income and consumption on the economic life cycle of individuals, this paper provides an account of the consumption and life-cycle deficit by sex, using the national transfer accounts (NTA) framework of Mason and others (2009). NTA is an analytical framework for accounting for the life-cycle deficit with the introduction of age into the national accounts. The consumption in an economy from an individual perspective includes publicly (government) sponsored targeted programmes for health care, education, poverty alleviation, social assistance and other goods either in kind or in cash and private (household) consumption for, among other things, education, health care, housing, food and non-food goods. The significance of the paper lies in

its contribution in understanding the male-female differential of public and private consumption for health care, education, and other goods and services in monetary terms and LCD consistent with the national income and product accounts (NIPA). This paper is an advancement of the earlier study by Ladusingh and Narayana (2011a) and Ladusingh (2012) on consumption and LCD in India in which no distinctions were made between males and females. Understanding the consumption and LCD consistent with the system of national accounts (SNA), is important for reorientating public policies to have an emphasis on gender equality, especially in the context of the inevitable ageing of the population.

The organization of this paper is as follows - definition of concepts and terminology, data sources and methodology followed by the results in three parts, consumption by sectors, economic life cycle and LCD. The paper ends with a summary and a conclusion.

Definition, data sources and methodology

a. Definition and Data Sources

The life-cycle deficit at each age is the excess of consumption over labour income. For this paper, a distinction is made between public-funded and private- funded consumption focusing on three sectors, namely, health, education and other goods and services in one category. To determine the monetary value of LCD by age, it is necessary to estimate labour income, which, in this paper, is the sum of compensation of employees (including net compensation of employees from the rest of the world) and a fixed part of mixed income (income from own business enterprise). In all societies, children and the elderly consume more than they produce, incurring LCD. Working-age adults have a life-cycle surplus because their labour income is usually more than their consumption needs, but this may not be the case for women. As mentioned above NTA is an accounting framework which introduces age into SNA so that the estimates of labour income, consumption by sectors and LCD are consistent with NIPA.

To derive age patterns of public and private consumption for education, health and other areas and labour income, unit level data that provide this information with public (government) and private (household) distinctions are required at the individual level, particularly for charting the age profile of labour income and others either at the individual or household level, ideally from a family income and expenditure survey (FIES). The India Human Development Survey (IHDS) (Desai and others, 2008), conducted during the period 2004-2005, is the source of micro data on labour income from wages and salaries as well as from self-employment, household expenditure on education, health care, food, non-food, house rent, money borrowed, household credit,

enrolment status of children by public-private ownership of educational establishments, treatment status and place of treatment of individuals for minor and major morbidities. This is a nationally representative survey covering 200,000 individuals from more than 41,000 households spread over 1503 villages and 971 urban localities, and a multi-stage stratified sampling design has been adopted for the survey.

The income of individual members and household income reported in household surveys are subject to certain limitation. This is because income is a constructed variable and no uniform definition of income exists. The problem of defining income arises from the fact that households produce goods and services for sale in the market as well as for self consumption. The non-monetized part of household income is difficult to account. Data from IHDS provide information on the monetized value of household products. This information has been incorporated in the preparation of base data. However, as Deaton (1997) has noted, it is difficult to obtain details of the income of the self employed engaged in agriculture or family business. In the present data, income for the self-employed, particularly of those in agriculture, animal husbandry and casual workers were found missing, especially for females. The missing income for such individuals is being imputed here by using reported income of similar age, sex, educational level and occupational categories. The advantage of the NTA framework is that only the age pattern of labour income is estimated from the micro data and the aggregate level of income is made consistent with NIPA.

Consumption by sectors, labour income and LCD considered in the present study is consistent with NIPA for the accounting year 2004-05. Macro aggregate controls for consumption for health, education and others for public and private household for the financial year 2004-05 are compiled from the national accounts statistics (India, 2008). Macro aggregate control for labour income is the sum of compensation of employees (including net compensation of employees from rest of world) and two-thirds of mixed income.

b. Methodology

The economic life cycle of individuals can be studied more comprehensively in terms of age patterns of labour income and consumption. The life-cycle deficit at each stage is the excess of consumption over labour income. Consumption for health care, education and others things that can be publicly funded or self-financed or financed by other members of the household or borrowed are considered. Private other consumption includes food, non-food, housing and durables, while public other consumption includes defence, research and development and infrastructure. In the following paragraphs, methods for age allocation of consumption for health care, education and others by the public and private sectors are described.

These methods are consistent with NIPA. The methodology for the present paper is based on the approach followed in a multicountry project including India on NTAs outlined in Mason and others, (2009) (www.ntaccounts.org) with modifications to suit available data in India at the micro and the macro levels.

Labour income is estimated as the sum of salary and wages and labour's share of operating surplus or entrepreneurial income. The compensation to employees is equal to wages and salaries and the employer's social contributions. In the absence of information on the labour share of mixed income, two-thirds of total mixed income is assumed to be the entrepreneurial income. The age profiles of employee compensation and of labour income of the self employed and family workers are estimated using survey data. Unreported income is imputed by mean reported income controlling for age, sex, educational level and occupational categories.

For age allocation of private consumption for food, an empirical equivalent scale has been adopted. Most expenditure data are collected for households rather than for individuals. Moreover, some goods are jointly consumed so that allocating their consumption to individuals inevitably involves some element of arbitrariness. In any setting, allocating consumption to individuals is difficult. The Engel method, which uses the share of food in the household budget as the welfare metric, has been applied extensively even though it is widely criticized on conceptual grounds. The consensus among researchers is that this method yields an upward biased estimate of the cost of children. Based on theory, it can be said that the Engel method generally yields a biased result (Deaton 1997). This is because children are more intensive consumers of food than are adults, so parents with children spend more on food items at the cost of adults' goods. As the Engel method is based on adult equivalent consumption, under such circumstances, expenditure on food items has a tendency to exceed expenditure on other goods and services.

Based on the empirical evidence of countries of diverse economies involved in the multi-country NTA project in the present study, age allocation of private expenditure on food is based on an equivalence scale which is taken as 0.4 for children below four years of age, then increases linearly from 0.4 to 1 for individuals between 4 and 20 years to be constant at one thereafter for individuals 20 years and above. The age profile of food consumption is then estimated applying this equivalence scale to the household expenditure as available in IHDS. For the age allocation of non-food expenditure, housing and durables, the equivalence scale as used in the case of food expenditure has been adopted.

The regression approach is being adopted for individual age allocation of household education expenditure. Let E_i^e denote the i[th] household expenditure on education, N_{ij} be the number of persons of age j in the household and D_{ij}^e is a dummy used as indicator for members of household of this age enrolled for education, then it is regressed as

$$E_i^e = \Sigma_j \beta_j N_{ij} D_{ij}^e + \Sigma_j \alpha_j N_{ij} \overline{D}_{ij}^e$$

Consequently, estimated education expenditure for members of households of age j enrolled for education is

$$\hat{E}_{ji}^e = D_{ji}^e \left(E_j^e \hat{\beta}_i^e\right) / \sum_i \hat{\beta}_i^e N_{ji}$$

A similar regression method is used for individual age allocation of household expenditure on healthcare.

When it comes to a methodology for age allocation of public expenditure on education, health and others, the corresponding age patterns from the micro data of IHDS is applied.

Out-of-pocket expenditure on health care for the utilization of public health facilities by individual age of out-patients and in-patients is available from the survey of morbidity and health care.

In the case of India, total public expenditure on education for the levels of education — lower primary, upper primary, secondary and higher education — are available along with the respective number of students enrolled in public academic institutions. This facilitates computation of educational level specific per capita cost of public expenditure on education. The corresponding prescribed years for lower primary, upper primary, secondary and higher education are 6-10 years, 11-13 years, 14-17 years and 18-24 years, respectively. The per capita cost of public expenditure on education and level specific school attendance derived from the household survey is multiplied with single year age distribution of census for the corresponding age range prescribed for different levels of education to obtain the age profile of consumption for public education.

Age allocation of public expenditure other than health and education is on a per capita basis.

Aggregate macro controls for labour income and consumption of health, education and others by public and private consumption are not available by sex as there is no gender-based accounting. Age profiles of public and private consumption for health, education and other goods and services obtained from the aforesaid allocation methods are then used to disaggregate macro-controls by sex using the following formula.

$$SSAMC\ by\ sex(i) = \frac{\Sigma_a ssc\ (i,a) * population\ (i,a)}{\Sigma_a \Sigma_i ssc\ (i,a) * population\ (i,a)} * SSAMC, i = 1,2$$

(where SSAMC stands for sector specific aggregate macro controls, SSC for sector specific consumption, a=age and i=1,2 for female and male respectively.)

Table 1 presents the extracted values of aggregate macro controls for labour income and consumption of health, education and others by public and private consumption and the disaggregation by sex.

Table 1. Macro aggregate control for labour income and consumption by sectors and sex in India, 2004-05 (in million Indian rupees)

		Female	Male	Total
Labour income		2 395 240	13 065 750	15 460 990
Public consumption				
	Health	404 870	337 540	742 410
	Education	267 680	337 370	605 050
	Others	920 760	920 760	1841 520
Private consumption				
	Health	398 980	409 970	808 950
	Education	152 250	229 960	382 210
	Others	7 336 830	8 037 180	15 374 010

Source: Figures for the total are extracted from National Accounts Statistics, 2008; (Ladusingh and Narayana (2011b) and the disaggregation is the author's computation.

To scale the age allocations of public and private consumptions consistent with NIPA for each sector — education, health and others, the population weighted procedure is used; the adjusted age profiles are worked out as

$$C_{ix}^{a} = (NIPA)_x \frac{C_{ix} N_i}{\Sigma_i C_{ix} N_i}$$

Where C_{ix} is the unadjusted age profile for sector x and specific for age i and N_i is population of age i. $(NIPA)_x$ is the expenditure for sector x, available in National Accounts Statistics.

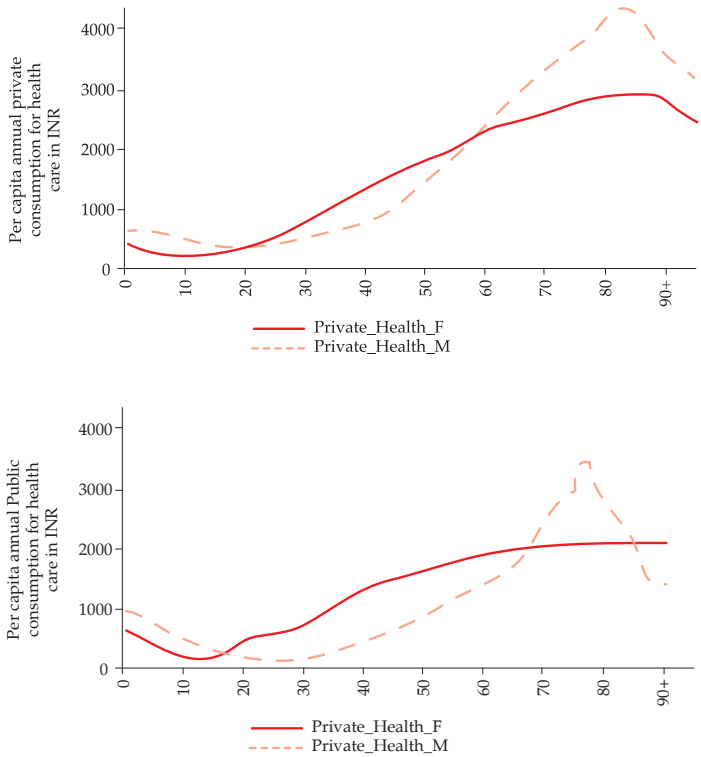
Gender differential in public and private consumption

In the NTA framework, the consumption of resources from government-funded programmes, goods and services is considered as public sector consumption while that of consumption supported by the household is termed as private sector consumption. The sex differential in private

and public consumption captures not only the demographic features but also the fiscal policy of the Indian economy. Figure 1 shows age specific per capita annual private and public consumption for health care in Indian Rupees (INR). It is evident that per capita annual consumption, both private and public, for health care increases with age; it is slightly higher during infancy, drops with age until the mid-teens, then escalates with the advancement in age, peaking in the eighties and thereafter drops with age. The per capita annual consumption for health care is a reflection of age-specific mortality rates, gender discrimination, availability and accessibility of health facilities and targeted programmes of the government. During childhood, private (household) consumption for health care is marginally more for males than for females. This is partly due to gender discriminatory practices in India. It is also can be partly attributed to the fact that biological ly females are stronger than males. A similar pattern of per capita public consumption for health care during childhood has been observed, but it is nearly three times higher for the public sector than for the private sector. Public health policies and programmes in India are not gender biased, however a gender differential exists in the form of social discrimination against female children in accessing health care. From the late teens, both private and public per capita consumption of health care for the female is higher than that of their male counterpart until they reach 60 years. The differential is more for the public sector than for private. This pattern of health-care consumption during the late teens to the sixties captures the prevalence of high maternal morbidities and health-care needs of females during the reproductive period and the government earmarked provision for maternal care, including cash incentives. From about 65 years, male consumption for health care exceeds that of a female and once again this is partly a reflection culturally induced gender discrimination practices in India and partly because morbidities and mortality risks at old age is higher for males than for females. Discrimination against females in health-care at old age can also be partially attributed to social norms that the male usually has the status of being head of the household and the owner of property, while most of the elderly females are likely to be widows, taking shelter in the son's house in general, because of higher female life expectancy.

One important distinction between private sector and public sector is that the level of per capita annual consumption for health care of persons older than 60 years is higher for the private sector than for the public sector. At the aggregate level axis evident from table 1, public consumption for health care for females is more than that for males, whereas it is the other way round in the case of private consumption. However, at the per capita level, it has been noted that during childhood and at old age, that is, in the vulnerable age range, males have preferential treatment to females and during the age range where females are subjected to conception and childbirth, their consumption for health care is higher than that of males.

Figure 1. Sex differential in age pattern of per capita annual private and public consumptions for health in India, 2004-2005

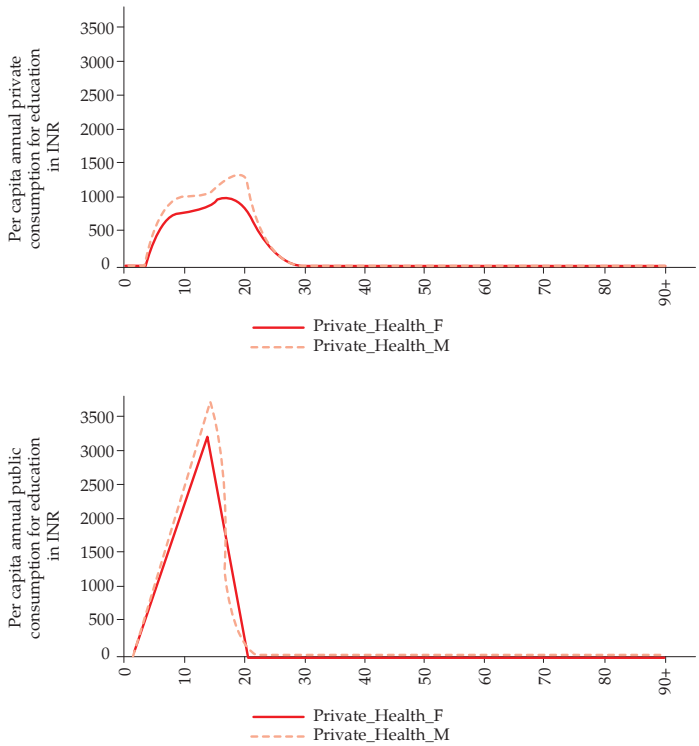


Source: author's computation.

The other important consumption included in this study is for education. From table 1, it can be noted that in the accounting year 2004/05 public consumption for education is 1.6 times that of private consumption. Age patterns of per capita annual private and public consumption for education shown in figure 2 also depict a gender-based discriminatory practice in vogue and government policies and programmes on human resource development. In India, elementary education in government institutions up to 14 years is free under the universal elementary education programme. It is reflected in the rising of per capita annual public consumption for education from the age of 6 to 14 years from 150 Indian rupees (Rs) ($2.41) to Rs. 2600 ($41.70) and drops after 15 years as the government's policies place more emphasize more on elementary education than on higher education. Male and female differentials in age specific public consumption for education are explained by lower enrolment rate and higher dropout rate of females as compared to males. Expenditure in India is a marginal 3 per cent of the GDP. This is being

reflected in the low level in the age profile of per capita annual public consumption for education.

Figure 2. Sex differential in age pattern of per capita annual private and public consumption for education in India, 2004-2005



Source: author's computation.

Two distinct features emerge when it comes to the age pattern of per capita annual private consumption for education. First, the overall level of per capita private education is much lower than that of public education, and second, the age profile of per capita consumption extending up to the early thirties is more clearly education from household (private). The male-female gap in private consumption for education higher for male than for female is visible from the age of 10, the stage of middle primary education with the gap reaches its widest point at 18 years, the stage of college education and continues till the late twenties. This is an indication of a lower enrolment rate and fewer females pursuing higher education, as male children are given priority by parents for education and because of cultural norms, females are married off at young ages.

Public other consumption includes infrastructure, defence, research and development and the allocation on per capita is on the presumption that everyone equally benefits from. As such, no distinction is made in male-female public consumption of other goods and services. Age-specific public other consumption is a flat line showing equal per capita consumption of 1,769 Rs ($28.37) for both male and female at each age.

The bulk of the consumption is for private sector other, which includes, among other things, food, non-food, durables and housing, but does not include health and education. Per capita annual private consumption for other goods and services ranges from 13,000 Rs ($208.50) during childhood to 15,100 Rs ($242.18) at old age. Notably, there is significant male-female differential. What is distinctive is that per capita private consumption for other goods and services is marginally higher during infancy. It reduces slightly during childhood until 10 years of age, and then thereafter rises up to the age of 32, before dropping until the age of 45. After that period, it remains more or less stable.

The foregoing discussion on gender differential on age patterns of public and private consumption for education, health and other goods and services is summarized in table 2 in terms of mean of consumption and percentage share of consumption. Irrespective of gender, the share of private consumption for education, health and other goods and services constitute more than 83 per cent of public and private consumption combined. Private consumption for other goods and services, such as food, clothing, housing, durables, transport, entertainment, social functions and gifts for either sex is at least 77 per cent of the total consumption and 9 per cent for public consumption other than education and health. Female private consumption for education and health are 1.6 and 4.2 per cent of the total, respectively, as against the corresponding figures of 2.2 and 4 per cent for males. The share of public consumption for education and health are 2.8 and 4.3 per cent, respectively, of the total for females, and are 3.3 per cent each for male. Either public or private for both male and female consumption for health has a higher share of the corresponding total consumption than for education. This is an indication of high out-of -pocket expenditure for health care.

To ascertain the mean age of beneficiaries of public and private consumption for education, health and other goods and services, the corresponding mean ages of consumption for males and females shown in table 2 are evaluated. For the computation of mean age of private and public consumption for education, health and others, the per capita consumption by age for the corresponding sectors shown in figures 1 and 2 are used as frequency, while age is taken as a variable for calculation as a mean of frequency distribution. The values of mean age of consumption shall largely depend on the age at which per capita consumption is high.

Table 2: Mean age and percentage share of public and private consumption for education, health and others by sex

	Female		Male		Total	
	Mean age	%	Mean age	%	Mean age	%
Total consumption	46.6	100.0	46.9	100.0	46.7	100.0
Public consumption	43.5	16.8	43.5	15.5	43.5	16.2
Education	12.9	2.8	13.6	3.3	13.3	3.1
Health	57.5	4.3	60.1	3.3	58.4	3.8
Others	45.0	9.7	45.0	9.0	45.0	9.3
Private consumption	50.1	83.2	50.1	84.5	50.1	83.8
Education	14.0	1.6	14.5	2.2	14.2	1.9
Health	60.5	4.2	63.9	4.0	62.5	4.1
Others	45.5	77.4	45.5	78.2	45.5	77.8

Source: author's computation.

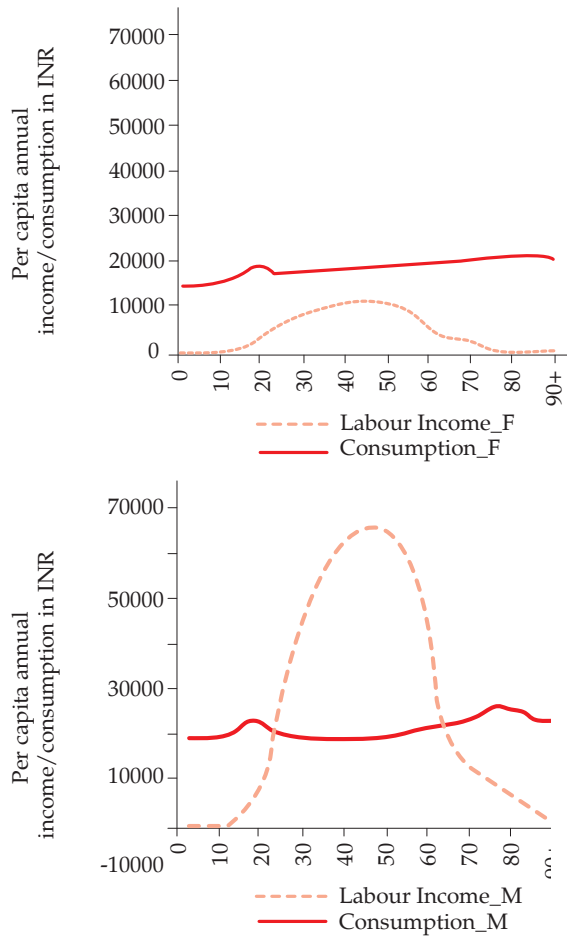
The mean age of private consumption for health for females and males are 60.5 and 63.9, years, respectively, while the corresponding figures for public health consumption are 57.5 and 60.1 years, respectively. The high mean age of consumption for health care for males and females is because the per capita cost for health care increases sharply after 30 years and is concentrated heavily in the age range of 50 to 80 years. This suggests the need for the provisioning of financial resources for health care at the household level through insurance or savings early in the working period, well before retirement. The concurrent indication is to strengthen and increase the accessibility of public health facilities. The mean of private and public consumption for education, it is about 14 years for both females and males. This unfolds two features of education in India: first, the focus of the government's human resource development policy is on primary education, with adequate priority not extended to higher education; and second, the household is not in a financial position to finance higher education. The mean age of about 45 years, regardless of sex for private and public other consumption implies goods and services other than health and education, indicating that these goods and services consists of requirement for adults.

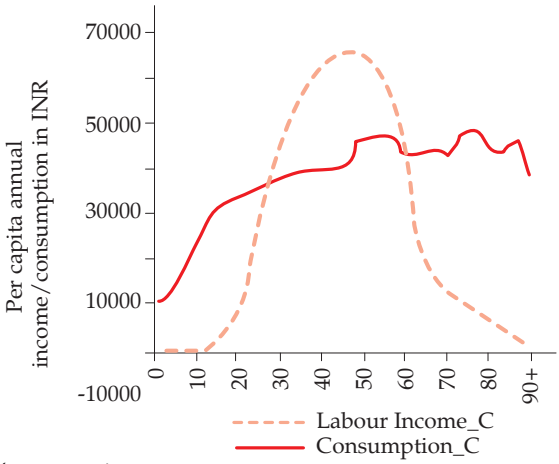
Gender differential in life-cycle deficit

The life-cycle deficit is the excess of consumption over labour income. It is better understood when the per capita labour income by age and the per capita age-specific consumption patterns are plotted together, as in figure 3. In this figure, labour income is represented by the dotted line, while consumption is denoted by the solid line; the y-axis shows

per capita annual income/consumption in Indian rupees, and age is shown along the x-axis. The left figure is for female (F), male (M) and the middle and the right figures are for both male and female combined (C). The age profile of per capita labour income reflects several distinctive features. It is a bell-shaped curve that starts in the early teens, gradually increases with age, peaks in the mid-40s, and remains high until the mid-50s. Thereafter, it declines rapidly, tapering off with advancing age. The male and female gap in annual per capita income is very wide. For females all through the life cycle, the level remains low; even at the peak age of earning, it is only about Rs. 10,000 ($160.00) while it is nearly Rs. 58,000 (927.85) per annum for males. The other distinction is the longer period of engagement in economically gainful activities for males than for females.

Figure 3. Sex differential in per capita labour income, consumption and life-cycle deficit in India, 2004-2005



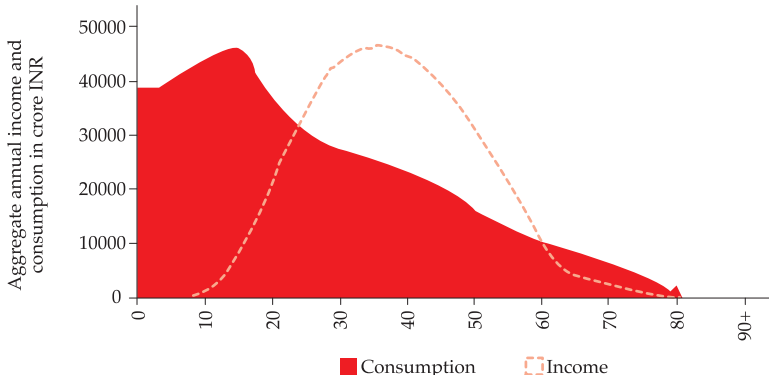


Source: author's computation

The age pattern of consumption shown in figure 3 is for private and public consumption for education, health and other goods and services all accounted together. The age profile of per capita consumption also exhibits interesting features, particularly during the school-going ages and at older ages. Per capita monthly consumption increases sharply from about age four years until it reaches an early peak at about 19 years of age, reflecting consumption for education at this stage of the life cycle. During the working period of the life cycle, the per capita consumption profile is more or less stable with signs of steeping up gradually with age, and rising marginally after crossing retirement age owing to health care costs.

The life-cycle deficit is incurred wherever the age specific consumption profile is above the graph of labour income. For females, per capita annual consumption is well above the per capita annual labour income throughout the life cycle. This implies that females at the per capita level have to live with LCD depending on support from other working members of the household. As for male consumption, the labour income graph is above the consumption profile for ages below 20 years and above 65 years, but during the working age, the consumption profile is below the income profile. It is clear that at the per capita level, the male has a monetary surplus during the working age range of 20 to 64 years and faces LCD only during old age and before entering the labour market. The same is true for both males and females combined, but this group experiences a lower level of monetary surplus in the working age groups and a higher level of LCD in the dependent age groups. Figure 4 displays the totality of the LCD at old and young ages, labour income and the monetary value of all consumption at the aggregate level. The age profile of aggregate consumption indicates that India's population has a large proportion of children and a much smaller, but increasing, proportion of elders.

Figure 4. Aggregate consumption and labour income in India, 2004-05 (in 10 million Indian Rupees)



Source: author's calculation.

This age distribution translates into a larger life-cycle deficit for the under-20 years population and a smaller deficit for the 60-plus years population. The age profile of labour income shows a larger share of aggregate labour income in the prime working age group of 20–59 years and a concentration of surplus due to the excess of income over consumption. Table 3 shows in real monetary values a summary of what is depicted in figure 4. In the case of females, for all broad age groups, LCD is positive, showing that throughout their lifetime, their labour income is not adequate to meet the private and public consumption for education, health and other goods and services. On the other hand, the males' LCD occurs in old age (65-plus years) and in young age (less than 20 years). However, men's life-cycle deficit is negative in the middle broad age groups of 20-29 years, 30-49 years and 50-64 years, indicating that experience a life-cycle monetary surplus in these working age groups. The lifecycle surplus of these three prime working age periods exceeds LCD of old and young dependents. As a result, males have collective monetary surplus in their lifetime after meeting their consumption needs. The life-cycle deficit of the total population has a life-cycle surplus only in the two middle broad age groups of 30-49 years and 50-64 years, and for all age groups LCD is positive as the total LCD of females is more in magnitude than the life-cycle surplus of the males.

The main reason for incurring LCD in the lifetime of the population, as indicated in table 3 is that young population under 20 years consumed more than 40 per cent of private and public goods and services, while they contributed only 5 per cent of the total labour income. The elderly population, those 65 years and above, also marginally contributed to LCD by consuming about 6 per cent of the total consumption as against their contribution of 2 percent to the total labour income. Ladusingh

(2012) accounts in detail how LCD in India is funded by public and familial support.

Table 3. Aggregate labour income, consumption, and life-cycle deficit by sex and broad age, India, 2004-2005 (in million Indian Rupees)

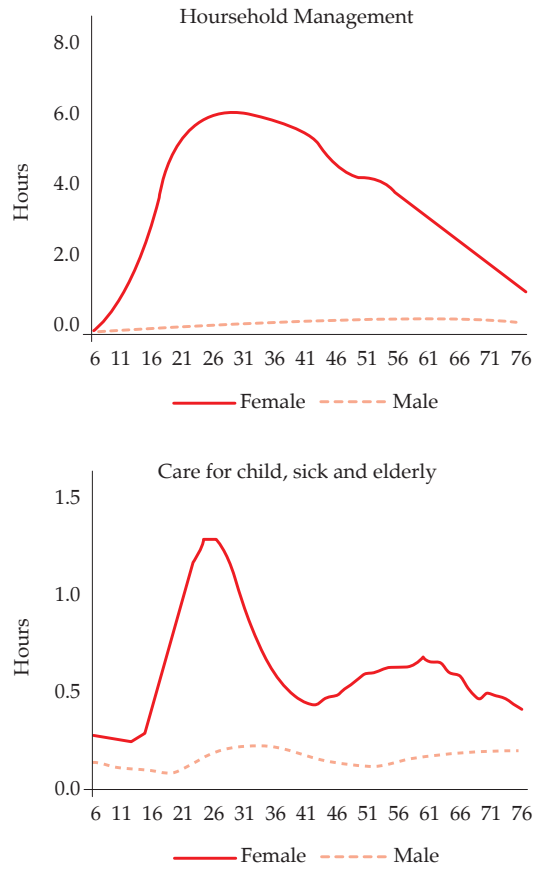
Age Group	0-19	20-29	30-49	50-64	65+	Total
			FEMALE			
Life-cycle deficit	3 828 410	1 050 430	1 099 780	615 940	493 580	7 088 130
Total Consumption	4 009 330	1 592 350	2 384 130	959 390	538 170	9 483 370
Public Consumption	744 690	214 570	377 580	164 340	94 130	1 595 310
Private Consumption	3 264 640	1 377 780	2 006 550	795 040	444 050	7 888 060
Income	180 920	541 920	1 284 360	343 450	44 590	2 395 240
			MALE			
Life-cycle deficit	4 033 830	-913 430	-4 850 820	-1 322 330	259 790	-2 792 970
Total Consumption	4 589 790	1 720 660	2 401 480	1 016 450	544 400	10 272 780
Public Consumption	857 840	195 500	300 000	148 070	94 260	1 595 670
Private Consumption	3 731 950	1 525 160	2 101 480	868 380	450 140	8 677 110
Income	555 960	2 634 090	7 252 300	2 338 790	284 610	13 065 750
			TOTAL			
Life-cycle deficit	7 862 240	136 990	-3 751 050	-706 400	753 370	4 295 160
Total Consumption	8 599 120	3 313 010	4 785 610	1 975 840	1 082 570	19 756 150
Public Consumption	1 602 530	410 060	677 580	312 420	188 390	3 190 980
Private Consumption	6 996 590	2 902 940	4 108 030	1 663 420	894 180	16 565 170
Income	736 880	3 176 020	8 536 660	2 682 240	329 200	15 460 990

Source: author's computation.

Inclusion of non-market home-based activities in SNA would be a significant step for the empowerment of women and gender equity.

Figure 5 shows the gender differential in time spent in minutes per day doing unpaid work for household management and caring for the child, sick and elderly. In India, women spent on an average, 4.15 to 4.45 hours a day as against just 0.30 to 0.45 hours by men, doing unpaid work for household management and maintenance, such as preparing, cooking and serving food and beverages, cleaning, laundry, sewing, shopping for food and care of children and sick, elderly and disabled persons. Women spent 0.64 to 0.72 hours per day caring for children and individuals who needed help in the household, while men hardly spent time doing such unpaid household work (Ladusingh and Pandey, 2013). When such non-market activities are monetized and accounted for as labour income, LCD of females would be considerably reduced and lead to levels comparable to those of males. However, this needs a different concept and approach and is not considered in the present paper.

Figure 5. Gender differential in time spent (minutes per day) in unpaid work for household management and caring for child, sick and elderly



Source: author's computation

Summary and conclusion

Gender accounting is an important tool for promoting women's empowerment and gender equity, identifying their needs and prioritizing resources to meet the earmarked needs, strengthening gender mainstreaming in macroeconomics and keeping track of public expenditure targeted to women. In India, following the recommendations of an expert group tasked with classifying government expenditure to integrate GRB in the budgetary process, the Ministry of Finance initiated the setting up of gender budgeting units in all the ministries in 2004-05. However, Mishra and Sinha (2012) have pointed out a number of pitfalls in the current practice of disaggregating allocations by sex of the beneficiary including the absence of an inbuilt audit system to ascertain

whether what has been promised in the gender budget statement is actually being fulfilled. Moreover, the basis for the allocation of funds to women, particularly the criteria for determining the ceiling, is not mentioned in GRB. More importantly, from the current practice of GRB, there is a way to examine the age pattern of the current practice of GRB, and that of the beneficiary.

The NTA framework (Mason and others, 2009; United Nations, 2013) used in the present paper can be employed for gender accounting in a wider perspective. First, promotion of women's empowerment and gender equality not only depends on provisioning of public funds for women through various governmental programmes but also on women's share in the household consumption of goods and services besides women's own income. Second, women's empowerment and gender equity can be enhanced more objectively when public funds and household resources are provided at the correct age. For example, funds would be made available for a girl to get an education in childhood and employment after completion of schooling.

The analysis of gender differential in consumption for health, education and other goods and services through public-sponsored programmes and schemes and from household allocation show that the incidence of benefit for health care from public funds is much higher than that provided by the household. Second, per capita incidence of benefit for paediatric care is marginally higher for boys than for girls. This reflects a gender discriminatory practice in bringing up children in India. Also, of note, with regard to the provision of health care, there is evidence of discrimination against people of older ages. This calls for budgetary provisioning of health care in childhood and old age through waiving or subsidizing fees for consultation with physicians and hospitalization. Additionally, to reduce the sociocultural discrimination against females in attaining health care at old age, social assistance schemes of the Government can be provided at a higher rate for women than for men. The aggregate healthcare consumption of females is higher than that of males indicating that females benefit from the public maternal care policies. However, at the household aggregate level, consumption of health-care by males is higher than that of females showing discrimination against the females in India.

The focus of the Government on human resource development indicates that there is higher aggregate public consumption for education than private consumption. This also captures the incidence of nearly equal benefits regardless of gender from the public programme that provides free universal primary education. This study does not find evidence of gender discrimination at the household level in terms of educational expenditure.. However, the contribution from public programmes and policies to the total consumption needs for health, education and others constitutes only 17 percent, with the remaining bulk coming

from the household. As such, unless sociocultural barriers are loosened through effective campaigns, public policies alone are not adequate for empowering women and attaining gender equity. A number of factors, such as fiscal policy, the labour market and demographic and sociocultural practices, contribute to the gender differential in the economic life cycle, consumption and LCD. The opening of female-oriented employment opportunities as wells as the rising level of female literacy can bring about a change in the economic value of the female and can contribute to lowering of LCD among females in the coming decades.

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The Role of Labour Broker Networks in Setting the Price of Working Abroad for Thai Migrant Workers

The objective of this research was to study the role of labour broker networks in fixing the price for Thai migrants to work abroad. In order to understand the role of these networks, it was necessary to focus on two specific research questions. The first question was how these labour broker networks are formed; and the second question was why, or for what purposes, are these networks being created. Data was collected through in-depth interviews as well as participatory and non-participatory observations with 37 key informants who were labour brokers belonging to legal labour agencies and labour sub-brokers. Key informants were selected by a snowball technique from Udon Thani, Nakhon Ratchasima, Khon Kaen, Chaiyaphum, and Nongkhai. Data analysis was done using the ATLAS.ti program. The study found that the labour broker networks in the north-east of Thailand are loosely established through ties formed via cultural or community activities without any formal organization. In the main, these networks are set up on the basis of personal relationships among members. The rationale behind the establishment of these networks is to maintain personal relationships and to exchange work-related information. The results of the study indicated that the social networks of labour brokers are informal, and that these networks are linked to other networks that exist among labour brokers and sub-brokers forming larger local and regional networks. The costs incurred by Thai migrant workers having recall to the services of labour broker networks forms part of the overall cost of working abroad. Moreover, it was found that in some cases labour sub-brokers had provided loans to Thai labourers to cover the costs of travelling abroad.

By Dusadee Ayuwat and Thanapauge Chamaratana*

Keywords: Thailand, labour migration, migrant workers, recruitment costs

* Dusadee Ayuwat, Assistant Professor, Department of Sociology and Anthropology, Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand, e-mail: dusayu@yahoo.com. Thanapauge Chamaratana,

Introduction

Since the 1960s, Thailand has been one of the major suppliers of migrant workers to countries in the Middle East and East Asia. These migrants mainly originate from the north-eastern part of Thailand and are often unskilled workers (Chamaratana and others, 2010). Based on the assumption that the remittances of migrant workers will benefit the development of the country, especially in north-eastern Thailand, where job opportunities are limited, the Thai Government supports these potential migrants in their search for work overseas. Between the years 2000 and 2011, more than one million Thai migrants have migrated in order to seek employment overseas (TOEA, 2012). As part of our research, the migration methods of labourers who work abroad were analyzed. During certain periods, as many as 72.04 per cent of Thai labourers relied on private labour agencies. Only 5.45 per cent of workers proceeded through the official process via the Department of Employment (TOEA, 2012). Regulations in place in certain countries placed limitations on the Thai Government's ability to coordinate with overseas employers and made access to detailed information difficult. As a result, negotiations for facilitating employment prospects for Thai migrants were not very successful. The Government has had to grant permission to private labour agencies to send labourers abroad. For the purposes of this paper, an individual who locates labourers, prepares documentation, and completes all the formalities involved with sending labourers abroad is known as a labour broker.

Labour brokers liaise between Thai labourers and foreign employers. These brokers work within the overall framework of the labour agencies they are affiliated to, but gain assistance from their own social networks before they send labourers abroad. Currently, 206 licensed labour agencies operate in Thailand, and 1,121 employees are registered as brokers. Of these brokers, 763 brokers (68.06 per cent of licensed brokers) come from the north-east and have previously worked abroad (Office of Overseas Employment, 2010).

In addition to being monitored by their own labour agencies, labour brokers encounter obstacles in accessing important information with regard to sending labourers overseas from their affiliate labour agencies and their social networks. Agencies do not wish to disclose certain types of important information to the labour brokers, in order to maintain the social relationships that they have with their clients. Hence, labour brokers do not have access to all of the information that could be beneficial for the labourers whom they wish to send abroad. Labourers usually experience problems when they arrive at the workplace (for example, as regards

Visiting Lecturer, Department of Sociology and Anthropology, Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand, e-mail: c_tnp@hotmail.com. This research has been funded by the Research and Training Centre for Enhancing the Quality of Life of Working-age People, the Faculty of Nursing, Khon Kaen University, Thailand.

expenses incurred for interpreters and accommodation, and other personal problems). If brokers were aware of these details in advance, they could mitigate against potential problems in advance and ensure that the issues would not create problems in the future (Chamaratana and others, 2010). No in-depth studies have examined why brokers have difficulties in accessing important information from their affiliate labour agencies; thus, a gap exists in research on the structure of, or the reasons for constructing, such networks.

Another important issue is the social network construction of labour brokers. It is generally assumed that labour agencies, labour brokers and other related individuals link into a social network for economic reasons. However, an in-depth investigation revealed that the basis of these relationships may extend beyond economic benefits; for example, such relationships may be based on shared cultural backgrounds or common hometowns. No in-depth studies have examined the social bases of these relationships; thus, a gap exists in the research pertaining to the key rationale behind the formation of the social networks of labour brokers.

An enhanced understanding of the ways in which labour brokers form their networks and why would provide basic information that may increase the efficiency of social networking. It may also lead to greater benefits for Thai labourers seeking employment aboard.

The concept of a social network

An understanding of the social network construction of labour brokers requires appropriate reasoning. The conceptual basis denotes a composition of an individual or actor in relation with another individual, each with their different roles. According to the concept of the social network, each individual or actor interacts with other individuals in the social network, while each of them fulfils different roles. This relationship may follow the Theory of Exchange. An individual does not only perform the duties that are expected of him according to the task the individual is requested to perform but also according to the perception of individuals' roles in the network on the basis of agreements on mutual exchange of goods and information (Boissevain, 1974; Wasserman and Faust, 1999; Kidluff and Tsai, 2003; De Jong, 2008). Considering these aspects of social networks, we can state that labour brokers relate to one another in performing their duties. The relationships between these workers are based on their perceptions and the decisions that are made with respect to material and mental exchanges.

The concept of a social network emphasises the sustainability of the web of social relationships between individuals that extends throughout an entire society. However, sociological network analysis emphasises how the social relationships of members affect their interrelated behaviours. In this respect, it is necessary to identify the patterns and characteristics

of social networks to explain individual behaviours. By applying Boissevain's concept (Boissevain, 1974), Wasserman and Faust (1999) developed a social network analysis framework that consists of four dimensions: the role of social network members; the basis of network relationships; the direction of flows; and the frequency and duration of relationships.

The various roles of the members of a social network contribute to the creation of multiple relationships. This multiplicity can be explained by role theory (Wasserman and Faust, 1999; Rizer, 1992). In a social network, an individual is related to another individual and has multiple roles to perform in a day. For example, an individual may be a father or a mother, a child, a jobseeker, a labour broker, a member of a labour line, or a companion. Any two individuals can relate to one another in a uniplex (single) relationship or multiplex (multiple) relationship. Each role is based on a norm or expectation that guides an individual's behaviours towards another individual.

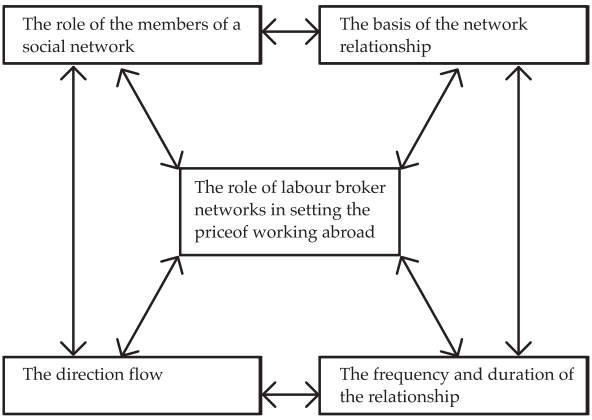
The second dimension, which is the basis of the network relation, is frequently connected to exchange theory (Wasserman and Faust, 1999; Rizer, 1992). It is believed that social relationships between people in a network are based on exchange or transactional contact. Individuals act as expected by society or by a transferred norm and according to their perceptions and decisions with respect to both material and mental exchanges, such as exchanges of money, articles or assistance. All of these items are intended to be returned to the giver. Individuals decide for themselves how to act or what to exchange with other individuals, depending on appropriateness and satisfaction.

The third dimension, the direction of flows, is a factor that leads to balanced or imbalanced relationships, as exchange-based relationships may be either cooperative or competitive. The technical terms for these exchanges are "balanced reciprocity" and "negative reciprocity"; the latter term refers to situations in which one individual may gain at the expense of another individual.

The final dimension, which is the frequency and duration of relationships, evokes the quality of relationships, especially with regard to connection and influential behaviours. In other words, relationships of higher frequency and longer duration have greater influence on behaviour. Nevertheless, the frequency of relationships alone is not sufficient to predict the influence of a relationship on behaviour. The time and roles underlying such relationships are also important.

These four factors were applied in our analysis of social network relationships and the role of labour broker networks in establishing the cost for Thai labourers to work abroad. Figure 1 presents the conceptual framework of this research.

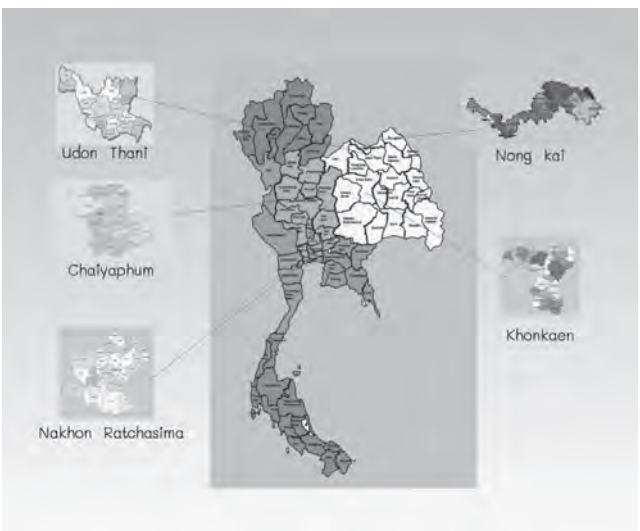
Figure 1. Conceptual framework



Research methodology

Our qualitative research study used a group of labour brokers in north-eastern Thailand as the unit of analysis. There were seven groups of brokers who were affiliated with labour agencies licensed by the Ministry of Labour to contract labourers abroad, and associated labour sub-brokers from five provinces in the north-east: Udon Thani, Nakhon Ratchasima, Khon Kaen, Chaiyaphum and Nongkhai. Figure 2 presents the research area.

Figure 2. Research area



Interview guidelines were designed and used to conduct in-depth interviews and participatory and non-participatory observations. During the course of this study, the research team constantly adjusted the interview guidelines to reflect the current situation or the local context in order to gain a complete data set, which was relevant to our research questions and objective. The particular interview guideline identified key study points, which included: (a) the backgrounds of the brokers and sub-brokers, for example their gender, age, education, marital status, employment, and migration experience; (b) the formation process of a social network for brokers and sub-brokers; (c) the process to determine the recruitment costs based on three perspectives (government policy, labour agency policy, and the agreement between the brokers and sub-brokers); (d) the criteria for setting recruitment costs; (e) the determinants of recruitment costs based on the four dimensions (the overall roles of the members of the social networks, the basis of the network relation based on the social exchange principle, the direction of flows that determine a balanced or imbalanced relationship, and the frequency and duration of relationships); and (f) obstacles encountered in operating the social networks.

For the in-depth interview, the study team started by contacting the leaders or the influencial figures within the social networks of brokers in each province. The team approached these leaders both by making telephone calls and using an official request letter from the Faculty of Humanities and Social Science of Khon Kaen University. The first key informant was identified in Khon Kaen province. The selection of that key informant was based on his extensive experience in practising as a broker in the social networks of brokers in Khon Kaen province. The key informant possessed rich and relavant information for this study. In addition, the particular key informant also had a willingness to share information with the research team and was recommended by high-level officials from the provincial labour recruitment office. Before starting the in-depth interview, the study team made a brief introduction to the study, the purpose of the interview, and the expected benefits from the study and the interview. To ensure the confidentiality and integrity of the process, the team informed the interviewee that the information gained from the interview would be kept confidential and used for the stated purpose only. After the introduction, the interview was started with a set of general questions that led into ones of a more specific nature.

The key informants included 7 brokers who were affiliated with labour agencies and 20 labour sub-brokers who were selected through a snowball sampling process. The reliability and validity of the qualitative information were determined by means of the data source triangulation method through interviews with informants from various sources, field data recording techniques, induction and expert checking procedures (Neuman, 2004).

The process of computation and data analysis was started by examining the data that were collected to identify missing information and discover what additional information was required. Subsequently, data was sorted and categorised according to predetermined codes. The transcribed recordings and field notes were fed into Microsoft® Word. ATLAS. It was used to conduct systematic formatting, analysis, and comparisons before the conclusions were drawn. Finally, social network models were designed for the presentation of the research using the Netdraw and Pajek programs.

Results and discussion

In-depth interviews were conducted with 7 brokers who were affiliated with labour agencies and 18 labour sub-brokers from seven groups of brokers working in the north-east. Two of these groups were from Udon Thani, two groups were from Khon Kaen and one group from each of the provinces of Nakhon Ratchasima, Chaiyaphum and Nongkhai. There were five brokers in both groups from Udon Thani, four brokers in both groups from Khon Kaen, and three brokers in the groups from Nakhon Ratchasima, Chaiyaphum and Nongkhai. Table 1 shows the number of key informants.

Table 1. Number of key informants

Group	Licence Brokers	Labour sub-brokers kers	Total
Udon Thani 1	1	4	5
Udon Thani 2	1	4	5
Nakhon Ratchasima	1	2	3
Khon Kaen 1	1	3	4
Khon Kaen 2	1	3	4
Chaiyaphum	1	2	3
Nongkhai	1	2	3
Total	**7**	**20**	**27**

Some 25 of the brokers were male, while only 2 were female. The brokers were between 41 and 56 years of age. Most of the brokers possessed experience working overseas, and the average person within the sample had previously been employed abroad two or three times. The majority of these informants had worked in Taiwan, while some informants had worked in Singapore, Kuwait and Israel. Prior to working abroad, the majority of these brokers had been farmers or had worked in the agricultural sector. Some brokers had previous experience working as freelance workers, self-employed individuals and government officials.

Most of the brokers had completed high school education. The second and third most frequent levels of education were bachelor's degree and vocational certificate. All the brokers with higher levels of education completed their studies after they had returned from abroad. This characteristic of the sample indicates that the labourers were able to collect their own capital to finance their education. More than half of the labour brokers with a high school education were pursuing bachelor's degrees during the study period.

When these brokers migrated to work abroad, they used an employment agency or a labour broker or received assistance from other individuals in their social networks, such as relatives. Two brokers reported that they had migrated to, and resided in, countries illegally.

The following paragraphs give details of the social network construction and relationships within the network of the north-east labour brokers. The names of the labour brokers are fictitious.

Construction of the social networks of the brokers

There were two types of key informants — the legal labour brokers with circular node and the labour sub-brokers with square node. This was particularly true of brokers from the same province. The brokers within each of the provinces all showed high densities of relationships within each group. There were seven groups of labour brokers, which we referred to as sub-networks:

(a) Udon Thani 1 sub-network consists of Wan, who is a labour broker and group leader, and Thong, Dam, Tong and Tom, who are labour sub-brokers;

(b) Udon Thani 2 sub-network consists of Chart, who is a labour broker and group leader, and Pom, Pam, Dech and Wung, who are labour sub-brokers;

(c) Nakhon Ratchasima sub-network consists of Add, who is a labour broker and group leader, and Ole and Noi, who are labour sub-brokers;

(d) Khon Kaen 1 sub-network consists of Sa, who is a labour broker and group leader, and Tun, Moo and Lek, who are labour sub-brokers;

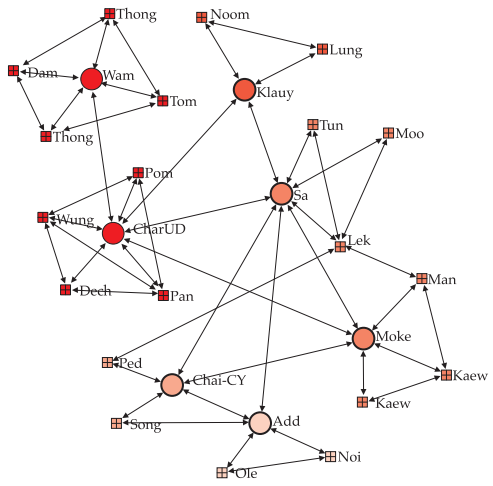
(e) Khon Kaen 2 sub-network consists of Moke, who is a labour broker and group leader, and Man, Kaew I and Kaew II, who are labour sub-brokers;

(f) Chaiyaphum sub-network consists of Chai, who is a labour broker and group leader, and Ped and Song, who are labour sub-brokers;

(g) Nongkhai sub-network consists of Kluay, who is a labour broker and group leader, and Noom, and Lung, who are labour sub-brokers.

Figure 3 depicts the interconnections among the labour brokers' sub-networks.

Figure 3. Social networks of labour brokers



The in-depth interviews with the north-east labour brokers show that they began their networking activities in small communities and through individual social contacts and activities, such as ordination ceremonies, house-warmings, educational activities and funeral services. For example, Kluay was a female labour broker in Nongkhai. Her network included three labour sub-brokers from the same province. Most of them were acquainted with each other through social interactions, such as marriage ceremonies in Nongkhai.

The social networks of the north-east labour brokers were informal. Individual brokers joined these networks because they were friends or relatives or because they had known one another when they worked abroad. The networks were not established by any organisation. Interconnections were loose, as shown by the interview with Add, a broker in Nakhon Ratchasima, whose network included two labour sub-brokers and more than five other brokers. Three of these brokers had worked abroad with Add. During the interview, Add stated that:

"Usually, we know each other from our member line, regardless of the agency to which we belong. We met when we were training. Sometimes we meet one another when we are looking for workers. Sometimes we ask for workers from one another. In the evening, we go out drinking together as friends … Some of us knew each other when we were abroad. We stayed in contact after we got back. Sometimes we travel together. Our families know each other well …."

Add's comments illustrate that the social networks of the north-east labour brokers began with personal relations in little groups in small areas before growing to encompass more people and larger areas.

The majority of the labour brokers reported that they formed social networks primarily because they wanted to maintain personal relationships and, secondly, to exchange various work-related information regarding job availability, the recruitment of qualified workers, contact with other peer workers in other areas, and labour exchanges or jobseeking. Chai, a labour broker in Chaiyaphum, had two network friends in the same province named Ped and Song who were working for him as labour sub-brokers, one in Nakhon Ratchasima called Add, and Sa and Moke in Khon Kaen, the latter being a relative of his wife. Chai reported that:

"Moke was married to my wife's sister. We often meet when there are festivals … Sometimes I want construction labourers. Mostly I send labourers to factories, so when there are construction jobs, I find it hard to find workers. They require a skill certificate. So when I could not find anyone in Chaiyaphum, I ask him, and he is able to help me … He also asks me to find workers for him. Such exchanges take place quite often. When we meet we treat each other to drinks."

Moreover, relationships among brokers from different areas exist, but they are not as close knit as when they are from the same area.

Interrelationships in the social networks of the brokers

The relationships within the social networks were analysed based on a concept advanced by Wasserman and Faust (1999); this concept includes the roles of members, the basis of relationships, the direction of flows, and the frequency and duration of relationships. The results were as follows:

1. The roles of network members

Multiplex or uniplex relationships were found among the network members, who are either friends or people who know one another. The network is a venue for exchanging business information and resources or for business competition. However, all labour brokers in the networks

share a common target (that is, to attain their goal of sending Thai labourers to work abroad). Therefore, the members attempt to maintain relationships by avoiding conflicts among themselves.

2. The basis of network relationships

The social network relationships of labour brokers from the north-east of Thailand are principally rooted in the exchanges of benefits. Superficial personal relationships may be observed.

3. The direction of flows

The social network relationships of these labour brokers were found to be bidirectional (that is, cooperative and competitive). These two directions can be equal or unequal (that is, balanced or negative reciprocities), depending on each member's satisfaction or reason, while the relationships among network members must be maintained.

4. The frequency and duration of relationships

The duration of relationships depends on the levels of personal connection. The frequency of interconnections does not affect the relationship levels. In general, brokers who previously worked together in a foreign country are closer to one another than to other members.

Social network members maintained their relationships by means of communication. Most members relied on telephone communication. They usually exchanged personal questions before sharing business and resources related to helping labourers migrate. In some cases, the members communicated only when there were personal matters, such as situations in which an individual heard that a member's relative was ill.

When a labour broker was travelling to the area of a labour broker whom he knew, he made an appointment to dine with the host broker before requesting assistance, such as assistance in facilitating their duties. Negotiation was sometimes necessary to determine the "quota" of labourers. With respect to competition between the agencies, each of their counterparts was affiliated to prevent the possibility of another party taking a prospective customer. However, negotiation often ended appropriately with equitable transactions, and no problems usually remained between the members. Chart, a labour broker in Udon Thani who had many contacts, made the following remarks:

"The agency sets the number. It is normal for agencies to compete in business. But we are friends, so we will share. Sometimes I share my per-head com [commission]. For those who know each other very well, we will just give a treat. There are also some selfish people. I will just pay. It is okay. He has to find labourers for his agency as well. More than that, we have to rely on each other for a long time. But I would say that

not everyone is like that. And I have never seen any dispute over taking labourers. Nothing that serious."

There were various patterns of interconnections between labour brokers in the networks, including relatives, neighbours, friends abroad, friends in the same agency, a labour broker who gave assistance before going to work abroad, a former customer, friends who became acquainted through introductions, and friends arising from other connections. These findings are somewhat similar to those of Shah and Menon (1999), who found that the networks of South Asian migrant labourers in Kuwait were based on kin and communal relations. Thongyou and Ayuwat (2005) showed that kinship had a major influence on the networks of Lao migrant workers in Thailand. Raghuram, Henry and Bornat (2010) found that social networks among non-migrants and migrants in the United Kingdom of Great Britain and Northern Ireland were formed through relationships between community members in their countries of origin.

Hence, the relationships within the social networks of Isan labour brokers are numerous, although they share a common aim. These social networks are primarily based on transactional and benefit exchanges. Those relationships can be either cooperative or competitive, and the duration of the relationships depends on the strength of the personal relationships within the networks. Communication, primarily by means of telephone, is the main method by which members maintain social network relationships.

Setting the cost of working abroad: government regulations and methods applied by labour brokers

Since the construction of the social networks of the brokers and sub-brokers was mainly based on their personal relationships, interactions among the members of the networks were usually cooperative rather than competitive. In order words, the brokers had practically created an oligopolistic structure where they could fix or monopolize the prices being charged to migrant workers; these fixed prices were found to be much higher than the official limit set by law.

In Thailand, the rights and duties pertaining to employers and employees are generally governed by a series of laws and regulations. The Ministry of Labour is charged with implementing labour laws and carrying out inspections throughout the country to provide a reasonable work environment and protect workers against labour exploitation and preserve their rights. Among the different acts that govern labour issues in Thailand, there are two extremely important acts: the Labour Protection Act B.E. 2541 (1998) and the Employment and Jobseeker Protection Act B.E. 2528 (1985).

The Labour Protection Act B.E. 2541 (1998)

This act is the most important act in Thai labour law, bringing practices more into line with International Labour Organization standards. It came into effect on 19 August 1998. The act mainly addresses the rights and duties of employers and employees. It primarily establishes minimum standard practices as regards the general labour force, women and children, remuneration, severance and employee welfare funds. It also prescribes the interventions by government officials in providing protection to employees so as to ensure fairness and sound occupational health for the maximum benefit of both them and their respective employers, which will ultimately be beneficial for national development.

Employment and Jobseeker Protection Act B.E. 2528 (1985)

This act was originally the Employment Act B.E. 2511 (1968); it was used for enforcement until there were increasing numbers of overseas employment service businesses and frequent incidents of defraud, and as a result the act was amended to become the Employment and Jobseeker Protection Act B.E. 2528 (1985), which was subsequently amended in 1994 and 1995. The objectives of the act are as follows:

(a) To set up the Government's employment office to provide employment services to the labour force at no cost;

(b) To expand jobseeker protection policies and activities so as to ensure fairness and appropriate assistance when jobseekers are in trouble;

(c) To actively control and oversee private employment service businesses to ensure compliance with the following regulations:

  (i) The local employment service provider must be a Thai national, and must deposit 100,000 baht as a financial guarantee with the Registrar Officer. In the event that the employment service provider is a juristic person, such a juristic person must be a Thai national, and its manager must be qualified and should not possess certain prohibited characteristics;

  (ii) An overseas employment service provider must be a limited company or a public company having fully paid registered capital of not less than 1 million baht and a financial guarantee of 5 million baht deposited with the Central Employment Registrar Officer, and its manager must be qualified;

(d) To establish requirements for overseas employment service providers to arrange for skills testing for jobseekers;

(e) To establish, under the mandate of the Department of Skill Development, skill testing control measures and mechanisms for skill standard testing activities that may be implemented by government agency or private entities.

That was as laid down by the rules. However, in practice, as revealed by the in-depth interviews with the labour brokers, labour broker networks contribute significantly to the costs for Thai migrants who want to work aboard. These costs are integrated into the pricing policy of the labour agency and additional costs are imposed by labour brokers in the local area.

The aforementioned acts stipulate that the overseas employment service provider or labour agency must not charge those seeking to work abroad more than the equivalent of the first month's salary for short-term contracts (less than one year) or three times that amount for long-term contracts (over one year). However, in the case of Israel or the Republic of Korea, those having secured long-term contracts must pay no more than the equivalent of four times their first month's salary. Normally, the first month's salary for a Thai worker is between 20,000 and 40,000 baht (between US$ 666 and US$ 1,333), depending on destination country. That means the cost for Thai migrants to work aboard should, in general, be no more than 40,000 baht (US$ 1,333) in the case of short-term contracts, no more than 120,000 baht (US$ 4,000) in the case of long-term contracts, and no more than 160,000 baht (US$ 5,333) in the case of long-term contracts in Israel or the Republic of Korea. But, in our research, we found that the cost for Thai labourers to work aboard (see table 2) was much higher than the legal rate mentioned above.

Table 2. Service costs charged by labour agencies

Contract	Legal rate (US$)	Actual rate (US$)
Less than a year	< 1,333	
More than a year (Taiwan)	< 4,000	4,000-6,000
More than a year (Singapore)	< 4,000	2,000-4,000
More than a year (Israel)	< 5,333	8,000-10,000
More than a year (Republic of Korea)	< 5,333	6,000-8,000

The additional costs imposed by labour brokers included passport, health checks, skills testing, and language and cultural training. These were the reasons provided by the brokers in response to the question as to why the labourers have to pay more than the prescribed rate. Most of the jobseekers accepted these costs. This extra cost can be split into two parts; 30-40 per cent for the overseas employment service provider and 60-70 per cent for the labour brokers and their networks in the local area. It was also found that other costs incurred during the process of migration, including the cost of travel, food and drink, and coping charges contributed to further increasing the cost to Thai labourers. These were also collected by the labour brokers from jobseekers.

This phenomena is similar to the situation found in other countries and destinations, such as urban areas of China, industrial areas of Thailand, and Western Europe (Gross and Lindquist, 1995; Sakaew and Tangprapakoon, 2009; Labour Rights Promotion Network, 2007; Tamas and Joakim, 2006). It supports the discourse "need more, pay more" and the labourers generally accepted all the terms of the brokers and their network.

Moreover, in some cases it was found that some of labour brokers and labour sub-brokers had provided loans to Thai labourers to cover the costs of travelling abroad. This practice is very popular in the north-east and the northern part of Thailand. The money lenders provide loans to jobseekers at extremely high interest rates of about 16-20 per cent per month. The labourers accepted the conditions imposed by the brokers and their networks, since they wanted to work in their dream destinations overseas.

Conclusions and recommendations

For labour brokers, social network formation begins with personal relationships. Clusters of members can be formed from mutually beneficial exchanges. Additionally, an important characteristic of the social networks of Isan labour brokers is shared experiences. In the social networks, the relationships of Isan labour brokers are multiplex, but their goals are similar. These social networks are constructed on the basis of benefit exchanges and consist of both cooperative and competitive relationships. The duration of these network relationships depends on the strength of the personal relationships among the members, and these relationships are maintained through communication, primarily by means of telephone conversations. The activities of labour broker networks contributes significantly to facilitating the migration of Thai labour, while adding to the costs for Thai migrants to work aboard. Moreover, it was found that the labour sub-brokers had provided loans at exorbitant rates to fund the travel of Thai labourers to work abroad.

These results increase our understanding of labour brokers who are involved in helping Thai labourers in their search for work abroad. Specifically, the results reveal important information regarding social networking among these brokers. The social networks of Isan labour brokers are loosely formed, and this formation may pose difficulties with respect to regulation and control. Social network relationships are cooperative and competitive. This characteristic of these relationships could affect labourers or jobseekers; some brokers may join together to deceive and take advantage of labourers. When competition occurs, it can be severe and thus can cause confrontation and threaten labourers. All of these instances are disadvantageous to labourers. In addition, the horizontal and vertical extensions of the social networks of brokers lead to network expansion, which the members may be unable to control. Some newly emerging lines and new brokers who are integrated into a network as it expands may lack adequate and appropriate knowledge and skills; such a situation would negatively affect labourers who rely on labour brokers for service. Therefore, new brokers should be provided with proper training.

Based on our findings, we propose the following recommendations to the Ministry of Labour:

(a) The duties and operations of labour brokers should be monitored and regulated to ensure conformity with law;

(b) Local social networks should be promoted to ensure that local members can serve as representatives of their localities. Additionally, certain measures should be established to better integrate new labour brokers, who enter the network as it expands, to ensure that they accurately understand their roles. Such measures will ensure that overseas labourers are appropriately assisted;

(c) The Government may consider viable financial support schemes, including through cheap loans to reduce costs for Thai migrant workers who wish to travel abroad.

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Access of Older Persons to Health Insurance and Health-care Services in Viet Nam: Current State and Policy Options

In this paper, we show that health insurance and health-care services have been expanded in Viet Nam over the past decade and had the potential to reach various groups of older persons (defined as those aged 60 or more). Yet, a number of challenges still remain that greatly influence the current health-care system as regards affordability and adequate service provision. The most critical of these issues is that the most vulnerable groups among older persons have lower access rates and a greater financial burden (that is, out-of-pocket expenses). To deal with those issues, we suggest certain policy directions, including developing communal health systems and guaranteeing the financial sustainability of the health insurance fund by monitoring both service providers and users.

By Giang Thanh Long and Bui Dai Thu*

Keywords: ageing, health insurance, health-care services, Viet Nam

1. Introduction

During twenty years of implementing *Doi Moi* (renovation) between 1991 and 2010, the gross domestic product (GDP) of Viet Nam increased at an average rate of about 7.1 per cent, which helped to increase GDP per capita more than 10 fold, and turned the country from a poor to a "low to middle income country" from 2008 onwards. Such remarkable economic growth has significantly helped to reduce the national poverty rate from 58.1 per cent in 1993 to 14.2 per cent in 2010 (Viet Nam, various years). At the same time, socioeconomic achievements are also borne out by substantially improved health-care indicators, such as those for life expectancy, and child and maternal mortality rates. Recent studies show that the country has reached most of the Millennium Development Goals ahead of schedule (Adam, 2005; Viet Nam, 2010).

* Giang Thanh Long is Associate Professor and Vice-Director, Institute of Public Policy and Management, National Economics University, Hanoi; e-mail: giang.long@ippm.edu.vn. Bui Dai Thu is Vice-Director and Senior Researcher, Institute of Social and Medical Studies, Hanoi; e-mail: bdthu@isms.org.vn.

Along with such progress, Viet Nam has also experienced dramatic demographic changes as regards its ageing population. Viet Nam (2011) shows that the number of old-age persons will increase rapidly in the coming decades, and Viet Nam's population will turn from "ageing" to "aged" in only 20 years, in comparison with 26 years for Japan and 22 years for Thailand – two countries that are considered the most ageing nations in the Asia-Pacific region (UNFPA Viet Nam, 2011).[1] Viet Nam may become old before it becomes rich, which presents various challenges for protecting older people, including the critical provision of insurance-based health-care services.[2]

Given the aforementioned socioeconomic successes, however, many older persons are still living in poor and vulnerable conditions. The majority of older persons are still living in rural and disadvantaged areas, where health-care services are being squeezed financially and are of low quality (Nguyen, 2010). Older people are faced with a number of health risks and a new trend of illness and morbidity (Pham and Do, 2009), and as such adequate health-care services are in great demand to deal with these issues. Within such a context, we aim in this paper to describe the current situation of insurance-based health-care services for older persons in Viet Nam, analyse various policy challenges, and provide suggestions to transform the delivery of insurance-based health-care services to adapt to a rapidly ageing population.

The paper is organized as follows. In the following section, we will provide an overview of population ageing, the health of the elderly, and the general health-care system in Viet Nam. In the third section, we will provide information on data and research methodology. Then, in the fourth section, we will describe the delivery patterns of insurance-based health-care services to older persons and the inherent challenges they present. The fifth section will provide research results on older person's access to health insurance and insurance-based health-care services, based on data from 2004 and 2008. Some policy directions will be discussed in the sixth section and the final section will provide some remarks by way of conclusion.

[1] This is the time needed to increased population aged 65 and over as a percent of the total population from 7 percent to 14 percent.

[2] This means that the paper will focus only on the health care services using health insurance for older people.

2. Ageing population and the health status of older persons

Emerging characteristics of population ageing

Over the past three decades, the population of Viet Nam has substantially changed in terms of age structure. The total fertility rate (TFR) decreased from 5.25 in 1975 to 2.01 in 2010. Population growth decreased from an average of 2.4 per cent per year during the period 1975-1989 to 1.4 per cent per year during 1990-2010. As a result, the age structure of the Vietnamese population has significantly changed in both absolute and relative numbers: the number of children (aged 0-14) has decreased; the working-age population (aged 15-59) has increased; and the number of elderly (aged 60 or more) has also increased (table 1). Recent research by Nguyen and Ha (2010) shows that, during 1979-2009, the child population decreased by half; the working-age population increased by 1.2 times, particularly the 30-49 age group; while the elderly population increased 2.1 times, especially the oldest (80 or more) groups.

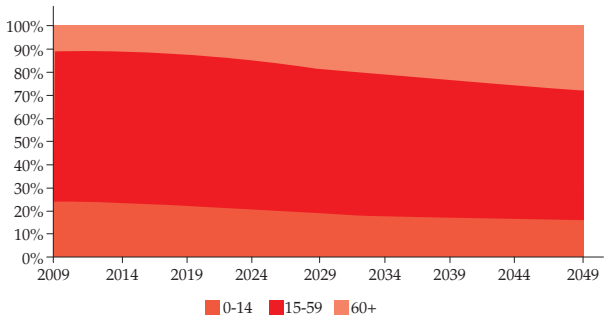
Table 1. Age structure of the population in Viet Nam, 1979-2009

Year	Number of persons (millions)				As a percentage of total population		
	Total	0-14	15-59	60+	0-14	15-59	60+
1979	53.7	23.4	26.6	3.7	41.8	51.3	6.9
1989	64.4	25.0	34.8	4.6	39.2	53.6	7.2
1999	76.3	25.6	44.6	6.2	33.0	58.9	8.1
2009	85.8	21.5	56.6	7.7	25.0	66.0	9.0

Source: Population censuses 1979, 1989, 1999 and 2009.

The population projections by Viet Nam (2011) show that the above demographic trends will remain in the coming decades, which will in turn produce an ageing population with a high rate of growth in the older population (figure 1). As shown, older persons, as a percentage of the total population, will increase from 9 per cent in 2009 to about 26 per cent in 2049.

Figure 1. Age structure of the Vietnamese population, 2009-2049



Source: Authors' calculations from Viet Nam (2011)

There are key demographic characteristics of the old-age population in Viet Nam, which provide meaningful signals for the social protection system in general and health-care services in particular.

First, the elderly population, in both relative and absolute numbers, will vastly outnumber the number of children. The ageing index — measured by the number of elderly to 100 children — increased from 16 in 1979 to 36 in 2009, and is estimated to surpass 100 from 2033 onwards.

Second, ageing is characterized by "ageing of the oldest old" and "feminization of ageing". UNFPA Viet Nam (2011) shows that the percentage of persons aged 80 or more has increased faster than other younger groups, and the sex ratio of elderly females to elderly males increases significantly with age.

Third, regarding elderly care, changes in living arrangements from multi-generational to nuclear families present challenges. Rural-urban migration is considered as an important factor, because it results in "skip-generation" families where only grandparents are living with grandchildren.

Health status of older persons in Viet Nam

According to recent surveys on health care (see, for instance, Dam and others, 2010), the health status of older persons in Viet Nam has improved due to improved living standards and a better health-care system. Thus, the percentage of older persons with fair/good health has increased, while the percentage of those suffering from ill health has subsequently diminished. Life expectancies at age 60 for Vietnamese males and females are 18 and 21, respectively (Park, 2011). Yet, there continues to be a number of serious health challenges for older persons in Viet Nam; they can be summarized as follows.

First, advancing age brings greater health risks. Studies by VNCA (2007) (table 2) and Evans and others (2007) indicate that the health status of older persons depends, to a large extent, on their advancing age: that is, as they age, the number of diseases increases and their health status tends to decrease.

Table 2. Health status of older persons in Viet Nam by age, 2007

(Percentages)

Age group	*60-69*	*70-79*	*80+*	*All*
Health status				
Good	8.37	3.34	2.23	5.32
Normal	64.82	52.86	29.46	52.71
Weak	26.82	43.80	68.30	41.97
Illness status				
No disease	12.43	8.85	3.42	9.17
Having one disease	72.32	75.08	82.44	75.57
Having two diseases	14.15	15.10	12.80	14.14
Having three diseases	1.02	0.97	1.34	1.08
Having more than four diseases	0.08	0.00	0.00	0.03

Source: VNCA (2007).

Second, the most urgent challenge as regards health care for older persons is to deal with the various types and causes of diseases, which is commonly referred to as the "double health burden". On the one hand, older persons have to live with the burden of disease due to the natural occurrence of such at an advanced age; on the other hand, they also are exposed to new diseases resulting from socioeconomic changes due to the overall economic transformation and growth of their country. A study by Dam and others (2010), for instance, reveals that 95 percent of older persons have at least one disease, and most of them have to cope with non-contagious and chronic diseases such as joint degradation (40.6 percent); cardiac problems and blood pressure (45.6 percent); prostate problems (63.8 percent); and urination disorders (35.7 percent). At the same time, diseases resulting from lifestyle changes have become more common, for example stress and depression. Pham and Do (2009) also point out that non-contagious diseases have become the primary causes of illness for elderly Vietnamese people, and this trend will continue in the coming decades.

Third, risks of becoming disabled are also high for elderly Vietnamese people. Data from the Population and Housing Census 2009 (Viet Nam, 2010b) indicate that the percentage of older persons suffering from disabilities increases with age (table 3).

Table 3. Incidence of disability among the elderly in Viet Nam, 2009

(Percentages)

Type of disability	*Not difficult*	*Difficult*	*Very difficult*	*Impossible*
Vision				
60-69	80.5	17.9	1.3	0.3
70-79	65.2	30.5	3.7	0.7
80+	45.3	41.6	10.9	2.3
Hearing				
60-69	89.6	9.1	1.1	0.2
70-79	74.4	21.8	3.4	0.5
80+	49.6	37.1	11.5	1.8
Walking				
60-69	87.3	10.5	1.7	0.5
70-79	71.0	23.4	4.4	1.3
80+	45.5	37.7	12.4	4.3
Memory				
60-69	89.0	9.7	1.1	0.3
70-79	74.7	21.5	3.1	0.7
80+	51.2	35.4	10.8	2.5

Source: Viet Nam (2010b).

Fourth, health care for older persons is getting more costly. Pham and Do (2009) estimate that the average cost for an older person is about seven or eight times that for a child. It thus becomes apparent that if the diseases and disabilities of older people are not addressed and mitigated, the cost of their health care will become both burdensome and unavoidable.

3. Data and methodology

Data

This paper uses data from the two Viet Nam Household Living Standard Surveys (VHLSS) carried out in 2004 and 2008.[3] These surveys were conducted by the General Statistics Office of Viet Nam. The samples are representative for rural and urban national and regional levels.

The surveys collected information through household and community-level questionnaires, and they also included some individual characteristics, such as age, gender, relationship to the household head, marital status, working status, wages, health status and educational attainment. This structure lets us identify older persons (those aged 60 or more), as well as the elderly households (those that include at least one older person). Both surveys covered 9,189 households, while VHLSS

[3] There were also VHLSSs in 2002 and 2006. However, the 2002 VHLSS provides less information on heath insurance than VHLSSs in 2004, 2006, and 2008. In this paper, we have chosen VHLSSs 2004 and 2008 as the interval of four years can provide sufficient data to describe the patterns of insurance-based health-care services.

2004 included 39,696 persons and VHLSS 2008 included 38,523 persons. The number of older persons was 3,806 in 2004 and 3,972 in 2008.

At the household level, these surveys provide information on sources of income, household expenditure, consumption of durables, business and agricultural activities, wealth and housing conditions, poverty incidence and participation in poverty alleviation programmes. In particular, data also provide information on participation in health insurance schemes and recall to health-care services during the 12 months leading up to the interview.

Information on commune characteristics was collected from rural communes. This data can be linked with household data. Commune data include demography, general economic conditions and aid programmes, non-farm employment, agricultural production, local infrastructure and transportation, education and health facilities.

Methodology

This paper will tabulate data from the aforementioned surveys in order to show how different groups of elderly Vietnamese had health insurance cards, as well as inpatient and outpatient treatments using health insurance. We use household size as weight to make results representative for the entire elderly population in urban and rural areas, as well as regions in Viet Nam. As such, the results are comparable within and between groups.

As stated below when analysing the results, vulnerable groups include those of more advanced years, females, and those living in rural areas or belonging to ethnic minorities.

4. An overview of health insurance schemes and provision of health-care services

Development of the health insurance scheme in Viet Nam

The initial stages of the health insurance scheme in Viet Nam involved a series of experimental local schemes in selected provinces in the late 1980s. In 1992, Viet Nam introduced a mandatory scheme at the national level as a means to raise funds for health care and to provide a mechanism against financial risks related to health. There are two sub-schemes in the social health insurance system of Viet Nam: the mandatory scheme and the voluntary scheme. Health insurance regulations, issued on 15 August 1992, provide mandatory health insurance for employees in enterprises, socioeconomic organizations, civil servants, pensioners, early retirees who can no longer be employed, and deserving people.

The Government of Viet Nam continuously included the specific target groups in response to their needs. In 2005, for example, all children under 6 became eligible for free health care in public health facilities (Giang, 2007). As such, the mandatory health insurance scheme in Viet Nam currently includes three different programmes: (a) employment-based programme; (b) health-care funds for the poor; and (c) free health insurance programme for those under 6. By 2010, about 58 per cent of the population had been covered by the health insurance scheme. The Government of Viet Nam has a plan to expand the coverage up to 100 per cent by 2015, meaning that the voluntary health insurance scheme will be phased out and eventually obsolete by the end of 2014.

In terms of financing, the mandatory health insurance scheme is financed by contributions of 2 per cent from employers' payrolls and 1 per cent of employees' wages. In addition, people who receive pensions or social allowances from the government must contribute 3 per cent of the payment to the scheme. The programme for the poor is financed by central government funds. The funds are allocated to the provinces, which are obligated to fund the balance by using their own resources. The programme for those under 6 is also financed by central government funds mobilized from general revenues. Health insurance, however, still accounts for a small percentage of the total health expenditure of a Vietnamese household, at merely 13 per cent in 2008 (Viet Nam, 2007).

Provision of health-care services in Viet Nam

Health-care services in Viet Nam are provided by both public and private providers, in which the former has played an important role in policy, prevention, research, and training (Viet Nam, 2007). Along with the substantial growth of the private sector over the past two decades, private health-care providers have also grown, but they still provide mostly outpatient services and are much smaller compared to public providers. For instance, private hospitals accounted for only 7 and 4 per cent of the country's hospitals and beds, respectively, in 2007.

The health-care network in Viet Nam has been developed at grass-roots level, with more than 10,000 commune/ward health centres. In 2007, among communes, about 65 per cent had doctors; 93 per cent had midwife or obstetric/paediatric doctors' assistants, and 87 per cent had health workers. In particular, during the period 2000-2008, the number of doctors and nurses grew by 46 and 41 per cent, respectively, which was much higher than the growth in population, and thus the growth rates of the number of doctors and nurses per 100,000 people were high during this period (Nguyen, 2010).

Health centres have been available in most communes nationwide, but the quality of services is a concern to local people (Fritzen, 2007). Although commune health centres are primary health-care places for those who have health insurance cards, many cardholders still go for treatments to facilities at district, provincial or national level, and therefore it makes these places overcrowded (Viet Nam, 2007). However, access to these other facilities is not easy for people living in poor and difficult to reach areas where no commune health centres exist, because they have to travel a long distance to reach the nearest hospital. For instance, people living in rural areas of north-eastern, north-western and central highland regions had to travel an average distance of 13.3 kilometres, 22.5 kilometres, and 15.6 kilometres, respectively, from commune centres to the closest district hospitals (Nguyen, 2010). Such disadvantages have resulted in great burdens, namely out-of-pocket payments, for these people to reach health-care providers.

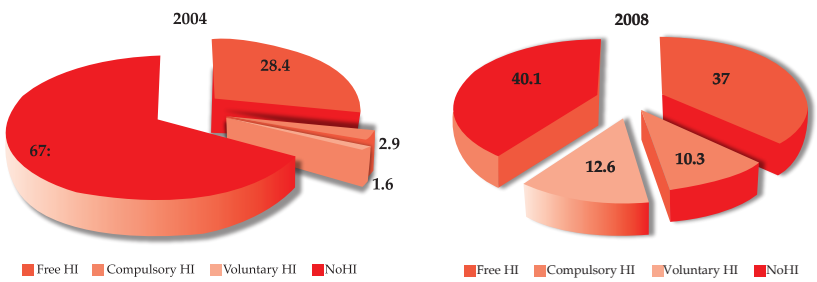
5. Older persons' access to health insurance and insurance-based health-care services

Older persons' access to health insurance

Figure 2 presents the percentage of the older population that have health insurance in 2004 and 2008, disaggregated by types of health insurance.

Figure 2. Types of health insurance (HI) for the older population in Viet Nam, 2004 and 2008

(percentages)



Source: Authors' calculations from VHLSSs 2004 and 2008.

It is shown that the health insurance coverage for older persons has increased overtime, especially the free health insurance. The percentage of older persons without health insurance decreased substantially from 67.1 per cent in 2004 to 40.1 per cent in 2008. One of the main causes for such an improvement is that the Government of Viet Nam increased State budget spending on health care for prioritized people, including deserving people, the poor, ethnic minorities and people living in disadvantaged regions.

Table 4 provides further statistics on health insurance coverage for the elderly in 2004 and 2008.

Table 4. Health insurance coverage for the elderly in Viet Nam, 2004 and 2008

(Percentages)

	2004				*2008*			
	Free health insurance	*Compulsory health insurance*	*Voluntary health insurance*	*No health insurance*	*Free health insurance*	*Compulsory health insurance*	*Voluntary health insurance*	*No health insurance*
Age group								
60-69	27.6	4.0	1.9	66.6	33.0	13.6	12.0	41.4
70-79	28.5	2.5	1.0	68.0	33.7	9.3	16.0	41.0
80+	30.9	0.6	2.1	66.5	43.5	6.5	11.4	38.6
Gender								
Male	31.1	5.0	2.2	61.7	36.0	17.3	12.3	34.4
Female	26.5	1.4	1.2	70.9	34.5	6.3	14.0	45.3
Ethnicity								
Kinh	26.1	3.0	1.6	69.2	31.8	11.5	14.3	42.0
Other ethnicities	50.8	1.9	1.4	45.9	68.0	4.0	3.2	24.8
Poverty								
Non-poor	25.1	3.4	1.8	69.7	31.1	12.0	14.6	42.3
Poor	43.3	0.7	0.7	55.3	61.0	3.0	4.7	31.3
Area								
Rural	28.6	2.0	1.5	68.0	23.3	20.6	17.5	38.6
Urban	27.8	5.6	2.0	64.6	39.6	7.1	11.7	41.6
Total	28.4	2.9	1.6	67.1	37.0	10.3	12.6	40.1

Source: Authors' calculations from VHLSS 2004 and 2008.

Table 4 shows an encouraging result, which is that the oldest group increased their rate of coverage between the two reference years: for example, for those aged 80 or more, it increased from 33.5 per cent in 2004 to 61.4 per cent in 2008.

The percentage of older men without health insurance decreased swiftly from 67.1 to 34.3 per cent and the percentage of older women without health insurance decreased from 70.9 to 45.3 per cent.

Health insurance coverage in 2008 was much higher for other ethnic minorities than Kinh (respectively, 75.2 per cent and 58 per cent). Also, the elderly poor had higher rates of coverage than did the non-poor: in 2008, 68.7 per cent for the former compared to 57.7 per cent for the latter. As for the population at large, the main type of health insurance that the poor and older persons from ethnic minorities have access to is free health insurance. Similarly, free health insurance was the most widespread form among rural older persons who had health insurance.

Access to insurance-based health-care services

Health-care services in Viet Nam are provided by both public and private health-care providers. The public sector plays a dominant role in policy development, disease prevention and research and training. The private sector has grown steadily over the past 10 years, but it mainly provides outpatient health services and is still much smaller in comparison with the public sector (Nguyen, 2010).

The health network at grass-roots level is decentralized at three levels: the hamlets/villages level, the commune/ward/town level, and the district level. As of 2008, health staff were available in all communes and wards, including doctors in 65 per cent of communes, a midwife or obstetric/paediatric doctors' assistants in 93 per cent of communes, and health workers in 87 per cent of villages (Viet Nam, 2007).

To evaluate the access of older persons to insurance-based health-care services, we use information on outpatient and inpatient treatments for older people who had health insurance. Table 5 presents the percentages of older people using outpatient services in different types of health centres, while table 6 presents the average outpatient visits in a year.

Table 5. Percentage of older persons using outpatient services in Viet Nam, by type of health providers

	2004				2008			
	All health centres	*Commune centres*	*Hospitals*	*Private*	*All health centres*	*Commune centres*	*Hospitals*	*Private*
Age group								
60-69	52.9	16.4	19.4	23.8	51.6	15.1	25.0	20.8
70-79	53.5	17.5	18.1	24.6	56.4	18.6	27.6	22.7
80+	55.3	20.7	13.3	27.5	56.4	20.4	22.4	24.6
Gender								
Male	48.1	14.9	18.0	48.1	52.0	16.4	25.9	18.6
Female	57.3	19.2	18.0	57.3	55.6	17.9	25.1	24.6
Ethnicity								
Kinh	54.6	16.5	18.7	26.4	55.0	16.3	26.8	23.2
Other ethnicities	42.5	26.8	11.4	7.7	45.2	27.0	12.0	11.7
Poverty								
Non-poor	54.3	15.6	19.8	25.9	55.1	16.0	27.1	23.5
Poor	49.6	25.4	10.1	18.8	48.0	25.6	14.4	12.9
Area								
Rural	52.3	21.3	15.7	22.5	54.5	7.5	34.0	22.4
Urban	56.5	6.6	24.5	30.6	54.0	21.0	22.2	22.0
Total	53.5	17.4	18.0	24.7	54.1	17.3	25.4	22.1

Source: Authors' calculations from VHLSSs 2004 and 2008.

Table 5 shows that the pattern of using outpatient health-care services was relatively stable throughout different older population groups. In particular, the percentage of older persons using hospitals and private health services, which usually provide better services than other types, increased overtime. Persons of more advanced years were more likely to use insurance-based health-care services than their younger counterparts. The gap between the use of health centres by males and females reduced over time. Older persons from disadvantaged groups (those who were poor, living in rural areas or ethnic minorities) continued to demonstrate lower rates of utilization than the other groups, particularly in hospitals and private health services.

Table 6. Average number of outpatient visits in Viet Nam, 2004 and 2008

	2004				2008			
	All health centres	*Commune centres*	*Hospitals*	*Private*	*All health centres*	*Commune centres*	*Hospitals*	*Private*
Age group								
60-69	2.35	0.52	0.59	1.23	2.45	0.60	0.85	1.00
70-79	2.72	0.60	0.61	1.51	3.18	0.76	1.01	1.41
80+	2.87	0.59	0.42	1.86	3.27	0.96	0.77	1.53
Gender								
Male	2.13	0.45	0.53	1.15	2.41	0.67	0.91	0.83
Female	2.86	0.64	0.61	1.62	3.16	0.76	0.88	1.52
Ethnicity								
Kinh	2.70	0.57	0.59	1.54	2.99	0.71	0.96	1.32
Other ethnicities	1.17	0.49	0.41	0.27	1.52	0.80	0.26	0.45
Poverty								
Non-poor	2.78	0.56	0.66	1.57	3.06	0.71	0.98	1.37
Poor	1.55	0.57	0.20	0.78	1.50	0.78	0.33	0.40
Area								
Rural	2.32	0.67	0.46	1.19	3.53	0.42	1.64	1.47
Urban	3.23	0.26	0.88	2.08	2.59	0.83	0.61	1.15
Total	2.56	0.56	0.57	1.42	2.85	0.72	0.89	1.24

Source: Authors' calculations from VHLSSs 2004 and 2008.

The average number of outpatient visits per year for older people increased over time, from 2.56 to 2.85 (table 6). The average number of outpatient visits in commune health centres and hospitals showed increasing trends, while that for private health centres decreased. Female older persons made a significantly higher number of outpatient visits than their male counterparts. Similarly, Kinh, non-poor and urban older persons made more outpatient visits than their ethnic minority, poor and rural counterparts.

As out-of-pocket spending on health-care services has been very significant in Viet Nam (Viet Nam 2007), we examine the average spending per outpatient visit among older population groups over time, and present the results in table 7.

Table 7. Average out-of-pocket spending per outpatient visit in Viet Nam, 2004 and 2008

(VND 1,000)

	2004				2008			
	All health centres	*Commune centres*	*Hospitals*	*Private*	*All health centres*	*Commune centres*	*Hospitals*	*Private*
Age group								
60-69	153.9	70.0	262.9	137.2	360.4	217.0	780.2	194.8
70-79	145.4	76.0	237.1	145.0	215.3	68.2	321.4	208.0
80+	163.4	120.7	244.7	136.6	192.3	73.2	254.8	224.4
Gender								
Male	153.9	88.1	214.0	165.0	213.3	67.4	324.4	195.4
Female	151.5	77.4	278.6	126.1	317.9	171.8	668.3	210.6
Ethnicity								
Kinh	159.2	85.8	261.1	141.6	290.1	143.3	537.9	207.4
Other ethnicities	65.6	53.6	101.1	79.6	113.8	57.3	221.6	166.5
Poverty								
Non-poor	169.1	94.3	266.7	148.6	299.7	149.3	554.2	212.5
Poor	69.1	44.5	118.0	84.9	102.6	55.9	153.4	120.6
Area								
Rural	115.4	60.6	215.3	111.2	297.9	88.1	373.0	182.2
Urban	246.5	264.8	316.0	197.6	268.3	136.7	611.9	265.3
Total	152.4	81.2	251.7	139.8	276.5	130.9	524.1	205.4

Source: Authors' calculations from Viet Nam (various years).

In general, it shows that out-of-pocket spending per outpatient visit in hospitals and private health centres in both 2004 and 2008 were significantly higher than that for commune health centres. As such, out-of-pocket spending could partly explain why using commune health centres was more popular among older persons who are female, poor, from an ethnic minority, or living in a poorer region than other groups.

Similar trends can also be observed with inpatient treatments for older persons in both 2004 and 2008. Table 8 shows the percentage of older persons who had inpatient treatments.

Table 8. Percentage of older persons using inpatient services in Viet Nam, by type of health provider in 2004 and 2008

	2004				*2008*			
	All health centres	*Commune centres*	*Hospitals*	*Private*	*All health centres*	*Commune centres*	*Hospitals*	*Private*
Age group								
60-69	14.6	2.3	12.0	14.6	12.8	1.1	11.7	0.4
7079	17.6	1.8	15.2	17.6	16.8	1.3	15.5	0.3
80+	16.0	1.7	14.0	16.0	14.2	1.8	12.3	0.4
Gender								
Male	17.7	2.2	14.7	17.7	17.1	1.8	15.5	0.5
Female	14.6	1.9	12.5	14.6	12.6	1.0	11.5	0.2
Ethnicity								
Kinh	16.5	2.0	14.1	0.8	14.5	1.0	13.4	0.4
Other ethnicities	9.9	2.5	7.3	0.6	13.9	4.1	10.8	0.0
Poverty								
Non-poor	17.1	1.8	14.8	0.7	14.8	1.1	13.7	0.4
Poor	10.4	2.9	7.1	0.8	12.1	2.7	9.6	0.0
Area								
Rural	15.4	2.3	12.9	0.5	13.1	1.7	12.8	0.6
Urban	17.3	1.2	14.8	1.4	14.9	0.1	13.3	0.3
Total	15.9	2.0	13.4	15.9	14.4	1.3	13.1	0.4

Source: Authors' calculations from VHLSSs 2004 and 2008.

Table 8 clearly indicates that inpatient treatments for older people were much less frequent than outpatient treatments. Unlike those seeking outpatient treatments, however, the majority of older people having inpatient treatments used hospitals and private health centres rather than commune health centres. This trend was observed across older population groups in both 2004 and 2008. It also reflects a fact that hospitals and private health centres are usually more capable than commune health centres of providing inpatient treatments (Nguyen, 2010).

Table 9 presents the average number of inpatient stays per year for older persons in 2004 and 2008. In general, more disadvantaged groups of older persons (namely, those who were poor, living in rural areas or from ethnic minorities) usually had lower utilization rates of insurance-based health-care services than did other groups.

Table 9. Average number of inpatient stays in Viet Nam, 2004 and 2008

	2004				2008			
	All health centres	*Commune centres*	*Hospitals*	*Private*	*All health centres*	*Commune centres*	*Hospitals*	*Private*
Age group								
60-69	0.20	0.03	0.16	0.01	0.18	0.02	0.15	0.01
70-79	0.29	0.03	0.25	0.01	0.26	0.02	0.24	0.00
80+	0.31	0.02	0.25	0.03	0.22	0.03	0.18	0.00
Gender								
Male	0.26	0.03	0.22	0.01	0.26	0.03	0.22	0.01
Female	0.24	0.03	0.20	0.02	0.18	0.01	0.16	0.00
Ethnicity								
Kinh	0.26	0.03	0.22	0.01	0.21	0.02	0.19	0.01
Other ethnicities	0.15	0.03	0.10	0.02	0.20	0.06	0.14	0.00
Poverty								
Non-poor	0.27	0.03	0.23	0.01	0.22	0.02	0.19	0.01
Poor	0.14	0.03	0.10	0.01	0.18	0.03	0.15	0.00
Area								
Rural	0.25	0.03	0.21	0.01	0.19	0.00	0.18	0.01
Urban	0.23	0.01	0.20	0.02	0.22	0.03	0.19	0.00
Total	0.25	0.03	0.21	0.01	0.21	0.02	0.19	0.01

Source: Authors' calculations from VHLSSs 2004 and 2008.

Table 10 shows that out-of-pocket spending per inpatient stay in both 2004 and 2008.

Table 10. Average out-of-pocket spending per inpatient stay in Viet Nam, 2004 and 2008

(VND 1,000)

	2004				2008			
	All health centres	*Commune centres*	*Hospitals*	*Private*	*All health centres*	*Commune centres*	*Hospitals*	*Private*
Age group								
60-69	1 299.6	232.1	1 483.4	1 032.8	2 769.0	255.0	2 975.4	2 225.6
70-79	1 597.6	270.3	1 748.0	1 771.6	2 236.8	389.8	2 321.0	8 614.5
80+	1 412.1	217.2	1 574.9	490.7	2 413.6	378.1	2 574.4	5 248.5
Gender								
Male	1 478.4	170.9	1 688.3	1 070.1	2 720.5	365.7	2 911.1	5 343.6
Female	1 394.6	302.2	1 532.4	1 315.6	2 271.2	291.3	2 382.1	3 893.5
Ethnicity								
Kinh	1 490.6	253.4	1 655.6	1 279.1	2 628.8	398.5	2 745.3	4 753.8
Other ethnicities	488.3	154.6	605.1	180.7	1069.3	173.7	1340.0	2 857.0
Poverty								
Non-Poor	1 586.4	280.2	1 732.7	1 437.1	2 738.1	395.2	2 857.4	4 773.8
Poor	294.5	132.3	376.6	138.4	525.8	174.0	619.5	1 573.8
Area								
Urban	1 183.0	244.4	1 346.9	809.1	3 369.7	196.0	2 375.1	3 833.1
Rural	2043.5	230.8	2 218.4	1 569.5	2 198.3	337.6	3 358.7	5 949.0
Total	1 433.3	242.3	1 603.5	1 199.6	2 490.5	333.3	2 638.8	4 753.8

Source: Authors' calculations from VHLSSs 2004 and 2008.

In general, at all health-care providers, older persons' out-of-pocket spending increased between 2004 and 2008. Also, out-of-pocket spending on inpatient treatments was about 10 times that for outpatient treatments. It should be noted that average out-of-pocket spending in both hospitals and private health centres was about 8 to 10 times that in commune health centres. Due to large gaps in infrastructure and human resources between, on the one hand, hospitals and private health centres and, on the other hand, commune health centres, the former usually have better conditions and thus better quality of care than the latter. As shown, however, out-of-pocket spending on health-care services at hospitals and private health centres was substantially higher in comparison with that at commune health centre, and thus choosing commune health centres for treatments was popular among the elderly. This finding is in line with those indicated in VNCA (2007) where lack of affordability due to heavy out-of-pocket spending was the main reason why older persons had limited access to health-care services even though they had health insurance cards.

To see how much an elderly household spent on health-care services in 2004 and 2008, table 11 shows the per capita expenditure on health care in absolute values (VND 1,000) and relative values (as a percentage of per capita household expenditure).

Table 11. Older people's per capita expenditure on health care in Viet Nam, 2004 and 2008

	2004		*2008*	
	Expenditure on health (VND 1,000)	*Share of health expenditure in living expenditure (%)*	*Expenditure on health (VND 1,000)*	*Share of health expenditure in living expenditure (%)*
All	*511.2*	*9.0*	*846.0*	*9.4*
Ethnicity				
Kinh	548.8	9.4	906.4	9.8
Other ethnicities	139.0	5.0	250.6	5.4
Poverty				
Non-poor	599.2	9.6	946.6	9.7
Poor	111.5	6.7	189.6	7.1
Area				
Rural	414.1	8.5	685.1	9.3
Urban	778.3	9.2	1 269.9	9.5

Source: Authors' calculations from VHLSSs 2004 and 2008.

Table 11 indicates that per capita expenditure on health care in elderly households increased over the period in question in both absolute and relative terms. A clear difference was observed when comparing older persons in urban and rural areas, but it seemed that financial burden was being shouldered more by the latter. This calls for more attention from

the Government of Viet Nam in providing financial support to the older people, who are more vulnerable to poverty but face greater financial burden when they want to access health-care services (such as those living in rural areas).

6. Policy discussion

The above estimates have shown that older persons generally had better access to the health insurance scheme and better utilization of insurance-based health-care services, partly due to expansion of policy coverage. Two issues, however, remain: namely unequal access to health-care services among different groups of older people; and the high cost of health care for more vulnerable groups. To promote older people's access to health-care services via health insurance, Viet Nam might consider adopting the following policies.

First, improve the delivery of services, especially for older people living in rural and mountainous areas. To enhance their access to adequate health care, Viet Nam needs to ensure the availability of health-care services by: (a) increasing the number of physicians, nurses and hospitals across all regions/provinces in relation to local demand for health care; (b) requiring all private health-care providers to join the health insurance system; and, more importantly, (c) developing the commune health-care system.

The third policy direction is particularly important for rural and mountainous areas since adequate health-care services at local level will provide immediate treatment for persons in need, as well as save a lot of money for them (Cha, 2009). Investments in grass-roots communal health centres will be pro-poor because the poor use communal health centres and district hospital services more often than their share in the population would suggest. This is, in the main, due to the fact that those who are better-off typically gravitate towards higher quality providers in district, provincial and central hospitals. The poor, who stand to gain most from reductions in mortality rates from preventable causes, also benefit disproportionately from the improved operation of commune health centres as the primary bases from which preventive health services are delivered (Giang, 2011).

There is also an urgent need to monitor quality of care via such measures as appropriate prescription guidelines, treatment completion rates, readmission rates, the rate of avoidable hospitalizations, and the rate of follow-up visits.

Second, equity should be promoted via improving resource mobilization and allocation so that it favours poor and vulnerable older people. To reach equity, private health insurance — where profit-making is the central objective — should not be widely encouraged; rather, it can be supplementary to the mandatory health insurance scheme in order

to reach the entire older population. Along with this direction, policy makers should also pay attention to minimizing adverse selection and encouraging broader risk-taking via mandating insurance to all older people, as well as ensuring that insurance packages provide adequate financial protection by defining a universal package for all older people along with packages meeting their specific needs.

Third, and in connection with the second policy direction, is to guarantee financial sustainability for the health insurance fund. Policy makers should reduce supplier-imposed costs by encouraging service providers to accept a payment mechanism that can share risks and rewards, as well as a monitoring mechanism to control underutilization of services. Equally important, policy makers also need to reduce consumer-induced costs by allowing consumer cost-sharing through deductibles and co-payments, while maintaining unlimited access to services with adequate financial protection. Sepehri (2010) and Nguyen (2010) find that access to insurance benefits has been constrained by recent health-care reform initiatives, allowing public hospitals to establish wards for private fee-paying patients and provide them with better quality care, including on-demand services such as choice of doctor, choice of room, and choice of scanning technology, than is normally available in regular hospital areas. Financial sustainability, in other words, should be emphasized from both the supply and demand sides.

Lastly, policy makers should urgently consider further developing adequate preventive services for older people. These services will help to prevent chronic and non-communicable diseases among older people, which in turn will help to substantially reduce health-care costs for older persons, in particular, together with the population at large.

7. Concluding remarks

In this paper we have argued that the Vietnamese population has been ageing faster than expected, and as such policies targeting an ageing population, particularly health insurance and delivery of insurance-based health-care services, should be carefully developed from now on in order to have an older and healthier population in the coming decades. We have showed that the health insurance scheme and insurance-based health-care services have expanded and reached various groups of older people in over the past decade. We also indicated, however, that there remained a number of policy challenges to improve access to health insurance and adequate insurance-based health-care services for older people, in which low access rates and high financial burdens for poorer and more vulnerable groups were still critical. Improving delivery of services at commune level and guaranteeing financial sustainability via adequately controlling both service providers and users are two important policy directions.

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