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Impact Assessment and Micro-Simulations of Different Policy Options for Child Benefit in Viet Nam

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Abstract

This study was aimed to estimate how cash transfer to children could help to reduce their poverty as well as to increase access to education, health and other material life conditions. We find that cash transfers would have a positive effect of income on school enrolment: a one percent increase in per capita income could lead to a 0.0394 percent increase in the probability of children's primary and secondary school enrolment. In addition, increased income resulted from cash transfers could significantly increase out-of-pocket (OOP) spending on education: a one percent increase in per capita income could help households increase OOP spending on education and OOP spending on education excluding tuition fee by 0.883 percent and 0.454 percent, respectively. Finally, the simulations show that generally the transfer amount of VND 70,000/month/child (which was merely 2.31% of GDP per capita in 2012) could increase the school enrolment rate of children by 0.125 percent. However, there were no significant effects of cash transfers on health care contacts (both impatience and outpatient) and out-of-pocket spending on health care.

Keywords: Cash transfers, children, health, education, Vietnam.

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I. INTRODUCTION

Viet Nam's economic and social transitions from a low to a middle income country, from an agricultural to an industrial economy, and from a young to an aging society are focusing the attention of policy makers towards systematically strengthening the formal social protection system. Formal social protection, including social assistance, has been increasingly replacing the traditional informal intra-family or community support mechanisms as the latter has been weakened due to migration and the transition from extended, multi-generational families to nuclear ones. While Viet Nam's traditional social assistance and formal poverty reduction policies emphasized in-kind and geographically-targeted programs addressing structural sources of poverty in remote regions, the use of household- and individual-based cash transfer programs has substantially expanded over the last few years. However, a close examination of Viet Nam's current formal social assistance and poverty reduction system reveals important policy and implementation gaps that risk hampering the long-term poverty and vulnerability reduction (see, for instance, Evans et al., 2012). Moreover, the delivery systems for social assistance programs are weak, resulting in ineffective service delivery (Giang et al., 2011; UNDP, 2014).

The major formation of the social assistance system, started in 1990s, has not really undergone major reform as of yet. Viet Nam's social protection system today suffers from fragmentation of multiple poverty reduction and social assistance programs with overlapping objectives but separate budgeting and delivery mechanisms. There are a number of cash transfer programs, both regular and one-off, to be implementing in Viet Nam. These include most prominently (i) monthly cash support to the disabled, orphans, single parents and lone older people without retirement and other social insurance benefits under Decree 136/2013/ND-CP (ii) a small monthly cash transfer to poor households to offset recent increases in energy prices under Decision 268/2011/QĐ-TTg (both delivered through local social officers), and (iii) a cash transfer to children from poor households in school for nine months per year delivered through the education system (school principals) under Decree 74/2013, and healthcare subsidies. In 2013, a new program was developed to give additional education support to high school students in remote and difficult areas (under Decree 12/2013/ND-CP). This fragmentation creates considerable inefficiency both from the perspectives of the implementers and the beneficiaries.

At the same time, the social protection system does not provide adequate protection. Benefit incidence analysis on the basis of the Viet Nam Household Living Standard Survey (VHLSS) 2010 shows that the main existing social assistance programs have limited coverage of the poor, considerable leakage to the non-poor and low benefit adequacy. For example, in 2010, only 24% of bottom quintile households were covered by education subsidies, while

43% and 54% of spending under these programs accrued to bottom quintile households, respectively. Education subsidies accounted for only 4% of consumption of the bottom quintile households.

Viet Nam has a well-established mechanism to identify the poor but with a considerable scope for strengthening. While targeting accuracy is reasonable at the national and regional levels, there is evidence of considerable exclusion errors in rural areas and for ethnic minorities. In 2010, for instance, 70% of households on the poverty list were poor, and 50% were extremely poor, but only 52% of the extreme poor were on the poverty list, and 36% of the total poor (World Bank, 2012). A recent study by Castel et al., (2015) confirmed such a situation again: in 2012, 7.9 million (or nearly 52%) among 15.3 million poor were excluded from the MOLISA' list of poor households. There are methodological and governance-related deficits. Commune authorities conduct a poverty census every five years until 2015, and is then updated annually. There is also no valid national/provincial household database to be used for all assistance programs which support the same population or heavily rely on classification of poor and near-poor status. This has resulted in duplication of efforts by various government agencies in developing separate beneficiary lists for each program, creating burden for administrative staff at the local level. Finally, there are weaknesses related to availability of information, the transparency of processes and oversight as well as complaints and grievance redress.

The benefit schemes for children are currently based on very narrow categorical targeting and are not efficiently addressing neither income nor non-income deprivations that children aged 0-15 are experiencing. Under the current regulations, children aged 0-3 are totally missing, except those who are eligible under Decree 136/2013.

Aligned with the Resolution 15-NQ/TW dated on 1 June 2012 in the Fifth Meeting of Central Party Committee XI on some issues in social policies in the 2012-2020 period, Ministry of Labour, War Invalids and Social Affairs (MOLISA) has been tasked by the Government with the development of the Government's Action Plan for Implementation of the Resolution 15 issued under Resolution No.70/NQ-CP dated on 1st November 2012 and development of a Master Plan for Social Assistance Reform (MPSAR), as identified in the Decision 1791/QĐ-LDTBXH dated 6th December 2012. Viet Nam is currently undertaking a dynamic social protection reform towards a rights-based, inclusive and transformative system to meet the standards and demands of a middle-income country where poverty reduction requires intensified and diversified approaches to remove multiple vulnerabilities and deprivations, rather than focusing on income alone. The reform promotes: (i) reviewing the refining the concept of social assistance (ii) rights-based and life-cycle approach; (iii) investment in social protection as an investment in human capital and human development; (iv) more coherent, inclusive, progressive and comprehensive that could effectively respond

to multiple forms of resilience (especially the vulnerable groups such as elderly, disabled, children and pregnant women, victims of natural disasters and others); and (v) review of the current governance structure and service delivery mechanisms / institutional arrangements and staff capacity, define bottlenecks and recommend actions for improvements. Various development partners (such as World Bank, UNICEF, ILO, UNDP, GIZ, UNFPA, and Irish Aid) are supporting MOLISA to embark on the discussion of social assistance reform through many initiatives, namely some as the study on social transfers (GIZ, 2011), review on social assistance policies (UNDP, 2013), social protection floor, aging issues and social insurance scheme (ILO & UNFPA, 2014), pilot the consolidation of three policies targeting the poor households with children going to school and pregnant women and implement cash transfer program - Opportunities (namely, WB/UNICEF Social Assistance System Strengthening Project (SASSP) Project), and a series of six studies on design, implementation and financial situation of the current social assistance programs (UNDP & ILSSA, 2015).

Viet Nam's social protection reform takes place at an opportune time as the global momentum crystalized into commitment around towards a specific goal of social protection in the Sustainable Development Goals (SDGs), calling for the implementation of nationally appropriate social protection systems and measure for all, including floors, and by 2030 achieve substantial coverage of the poor and vulnerable. The Third Financing for Development Conference to be held in Addis Ababa reinforces the commitment towards nationally appropriate social protection systems and measures for all, and exploring sustainable financing options vis-à-vis the evolving financing capacity. Riding on the momentum, the ILO-World Bank joint statement on universal social protection also called for a shared vision to promote social protection throughout the life-cycle as an investment for sustained social and economic development as well as social inclusion.

In 2011, MOLISA, with support of UNICEF, conducted a simulation of possible child benefit schemes, prior to the start of the SASSP Project and the MPSAR Project. Building on SASSP and policy discussions around consolidation already underway, UNICEF has identified an opportunity to update the analysis and review the proposed policy options to inform the reform processes.

The overall objective of this research is to provide a mapping exercise for child-support policies in Viet Nam over the past 10 years, and conduct micro-simulations to measure the impact of cash transfer to children at different age groups on their welfare (such as poverty reduction, and access to education and health).

The specific objectives of the research are to: (i) list various policies and programs for children in the past 10 years, (ii) quantify the impacts of child benefits on children's welfare (such as poverty reduction, and access to education and health), and (iii) provide different

options/scenarios with respective costs, from a universal coverage (i.e., for all children) to some targeted beneficiaries (such as those living in rural areas).

This research comprises of five parts, as follows. In Part II, we will provide a literature of the existing studies, which used ex-ante simulation techniques to calculate the impact of cash transfer programs for children or households with children in different countries on their poverty, education, and health-related aspects. In particular, we will discuss in details the data, research methods, and the key findings of these studies, which will be then used to compare and contrast with our findings for Viet Nam in the later parts of the research. Part III will analyze data used in this research. Specifically, we will summarize key characteristics of the Viet Nam Household Living Standard Survey (VHLSS) in 2010 and 2012. Then, we will provide a detailed description of methods to reach the aforementioned research purposes. In Part IV, we will present key findings with policy recommendations for further discussion. Specifically, we will provide detailed analysis on the impacts of cash transfer to children on their welfare. The last part will conclude the research.

II. A REVIEW OF EXISTING STUDIES

Since the 1990s, a number of poor and developing countries have conducted conditional and unconditional cash transfer programs (CCTs or UCTs, in short). Although different countries have different designs and implementation arrangements, they all focus on various groups of poor and vulnerable people with aims to reduce poverty and increase access to education and health care services for individual beneficiaries and their households. Some such well-known programs as Food for Education in Bangladesh, Bolsa Escola in Brazil, and Progresá in Mexico. With respect to children as the ultimate beneficiaries, there are various conditions for beneficiaries and their households to follow; for instance, to receive cash transfer, it is commonly required that children of school-age remain enrolled and actually school attended (such as Bolsa Escola in Brazil), while pre- and post-natal visits for pregnant women or lactating mothers are obligatory (such as Progresá in Mexico).

The implementation of these programs has generated considerable interests in both academic and policy-making perspectives, and as such a great deal of effort has been placed in evaluating the impact of these programs. In practice, there are two impact evaluation approaches, i.e., ex-post methods and ex-ante methods. The ex-post methods aim to compare the beneficiaries with non-beneficiaries after controlling for selection. They are meant to identify the actual effects of a program on various dimensions of household welfare using direct observation of people engaged in the program and comparing them with those – who are carefully selected as comparison group – in the same dimensions. The ex-ante methods aim to simulate the effects of the program using data from households, in which assumptions on coverage and benefit levels are applied to determine whether an individual or a household qualifies for the program, how their poverty will reduce, and how much it will cost for

providing such a program. Ex-ante and ex-post evaluation methods are complements, rather than substitutes (Bourguignon et al., 2002).

Since the past decade, there have been a number of ex-ante studies quantifying the impacts of cash transfer programs on children and their households. Various welfare aspects are explored, but most of them are about impacts on poverty, school attendance, and health care access.

First, studies about the impact of cash transfer programs on poverty status of children and their households. Bourguignon et al., (2002) used data from the 1999 PNAD (Pesquisa Nacional por Amostra de Domicilios) household survey combined with those from the Bolsa Escola in Brazil to evaluate whether it contributed to reducing poverty of children. They found that the impact on poverty and inequality was positive – indicated by lower poverty rate and Gini coefficient – but at low magnitude (reduced by only one percentage point and half a point, respectively). More importantly, the authors concluded that the program appeared to be well-targeted to the poor, and thus if it failed to lift the poor above the poverty line, this would be a consequence of the small size of the transfers rather than of the targeting method.

UNICEF (2009) conducted micro-simulations for the Western and Central African countries to see how different child benefit program would impact on child poverty. The findings showed that a universal program providing a benefit equal to 30% of the poverty line to every child aged 0-14 would have the greatest impact on child poverty. In particular, some countries would experience substantial poverty reduction for children, such as the program would reduce child poverty headcount ratio by 27.6% in Mali, 18.5% in Congo, and 16.9% in Senegal.

Amarante et al., (2009) used an ex-ante evaluation approach to estimate the effects of Asignaciones Familiares – an Uruguayan child allowances program – on teenager's poverty, inequality, and labor supply. They found that that the program could reduce extreme poverty significantly, and the transfer might strongly influence adult labor supply. Van den Berg and Nguyen (2011) found cash transfers help poverty reduction in Vietnam.

UNICEF Mongolia (2007) estimated how the CCT for families with children, namely Mongolia's Child Money Programme (CMP), could contribute to poverty reduction for children. The research compared the actual performance of the CMP during January 2005 to June 2006 with the simulated expected performance of the CMP in its more recent 'universal' phase with two different assumptions (i.e., the initial benefit level of \$31 per child per year and an increase to \$117 as approved in the 2007 budget). The estimates showed that the targeted program resulted in very high leakage to non-poor households and substantial exclusion of poor households due to flaws in the program's proxy means-test and implementation problems. The paper also advocated that retaining the new universal benefit

would further reduce child poverty headcount and was progressive along the entire household expenditure distribution due to the heavier concentration of children in the lower deciles.¹

Also applying ex-ante impact evaluation approach, Son and Florentino (2008) explored how the CCT in the Philippines could help reduce poverty of children and their household. Their estimates pointed out that the CCT would have medium impact on the headcount ratio but its impact increase rapidly when moving to the poverty gap ratio and poverty severity index. In specific, the transfer of PhP 300 targeted to the only poor children helped reduce 32.3% of headcount ratio, 53.6% of poverty gap, and 65.2% of poverty severity. One of the important message of this research was that the transferred level of PhP 300 per child per month was equivalent only to 1.5% of the Philippines' GDP per capita and merely 27% of the average official national poverty line, and thus it was not sizeable enough to have significant impact on poverty alleviation.

For the case of Sri Lanka, Kurama and Pfau (2010) showed that a cash transfer scheme providing a transfer equivalent to 50% of the poverty line to all school-age children would have been able to reduce child poverty rate by 59.57% (or to 6.96%) and for the whole population by 42.94% (or to 7.72%). They also argued that the marginal poverty reduction would decrease as the benefit level increased and even a small benefit could have a significant impact on poverty for all children as well as the total population. Besides, poverty reduction efficiency tended to decline when increasing the maximum eligible from 12 to 18 years.

Also evaluating the impact on poverty of the CCT programs in Cambodia, Meng and Pfau (2010) applied ex-ante micro-static simulation techniques with the data of the Cambodian Socio-Economic Survey (CSES) in 2004 to quantify the potential impact on poverty of cash transfer schemes provided to various groups of school-age children. They pointed out that a CCT program directly targeting the poor group could help to reduce the poverty rate significantly, even in case of budget limitation.

Popova (2014) analyzed programs of cash allowances for children and compared their effectiveness in combating child poverty in Russia and four EU countries (including Sweden, Germany, Belgium, and the United Kingdom). Using microsimulation models (respectively named RUSMOD and EUROMOD), the paper estimated how much the potential gains would have been if the Russian system was re-designed along the policy parameters of four EU countries, and vice versa. The results confirmed that the poverty impact of the program design was smaller than that of the level of spending. Other conditions being equal, the best outcomes for children were achieved by applying the mix of universal and means-tested child benefits as those in Belgium and the United Kingdom. Also, the Russian design of child

¹ From 2015, CMP now offers UCT to all children under 18 years

allowances did not appear to be less effective than those in other countries in terms of its impact on child poverty.

With Australian case, Hayes and Redmond (2014) explored impact of cash transfers for families on their children. Using a new Australian microsimulation model (namely, ATM) built on the EUROMOD platform, the authors examined the extent to which policies to support families with children through the tax and transfer system have been achieved at the expense of gender equity, and how the system could be better designed to achieve child poverty reduction with gender equity. The results suggested that a universal family payment that would both improve incentives and reduce child poverty was potentially affordable. The authors also noted that it would be politically difficult to have such a scheme since the main gainers would be families with children in the top half of the income distribution, while the main losers would be taxpayers who did not have dependent children.

Recently, UNICEF Pacific and Fiji Ministry of Women, Children and Poverty Alleviation (2015) conducted simulations for providing FJD 30 per month to all children (or a universal scheme), and the estimates showed that poverty rates of children aged 0-11 and 0-6 would be reduced by 9% and 5%, respectively.

Second, studies about the impact of cash transfer programs on children's early childhood development and school enrolments and/or attendance. Regarding early childhood development, a report by Ministerio de Educación (2007) [as quoted in Sanfilippo et al., 2012] showed that Chile Crece Contigo, which was operated as an early-childcare program to encourage pre-school participation if the parents could not take care of their children during the day, had positive impact on language and the cognitive development of children older than two years living in rural areas. Similarly, an analysis of Paes de Barros et al., (2009) indicated that this program could increase kindergarten and crèche participation among the 1-6-year age group from 42.7% to 75.7%. The first six years of life are the most important in a person's development process, so it was extremely appropriate for Chile Crece Contigo to provide children with universal access to basic services to ensure adequate development at the first stage of their life cycle, in which basic skills such as language, social ability, emotional control, and cognitive capabilities are acquired.

Armeccin et al., (2006) studied the five-year Early Childhood Development (ECD) project by government of the Philippines in 1999, whose overarching goal was to improve the survival and developmental potential of children, particularly those who are most vulnerable and disadvantaged. Using various targeted indicators of the project, the authors found that the ECD had positive contributions to participating children's cognitive, language and socio-emotional skills along with the other beneficiary impacts.

In regard to the impact of cash transfer programs on children's school enrolments and/or attendance, Smulders and van Ours (2010) updated the work of Bourguignon et al., (2002) with the combined data from the 2009 PNAD and those from the Bolsa Família, and they found similar results. In particular, the results indicated that the program had a significant positive effect the enrolment rates and a sensible reduction in child labor due to two distinctive effects, namely the enrolment effect (which incentivizes parents to enroll their children at younger ages than they would normally do in order to become eligible to the transfer and the latter the effect of delaying the exit of children from school to the labor market at older ages, which indicates that the latest age extensions of the program have been successful in increasing the number of years of schooling per child) and the holding effect (which goes in support of the recent addition of 16 and 17 year olds into the program). More importantly, the authors argued that although Bolsa Família indeed helped increase education for children among poor families, it should not be seen as the main policy to improve human capital in the long run.

A research by Meza-Cordero (2011) on the Avancemos – a Costa Rica's nationwide CCT program, which was introduced in 2006 aiming to give students' parents a monthly subsidy, conditional on mandatory school attendance for each child. The program was introduced prioritizing those children in greater danger of dropping out of school. The author used the Costa Rican Household Survey in 2007 and 2010 with the Propensity Score Matching (PSM) technique to generate a control group based on observable characteristics in order to compare with the treatment group (i.e., those individuals who reveal receiving the subsidy). The estimates indicated that the program could increase the beneficiaries' number of years of schooling by almost half a year, in which boys and urban children would benefit a little more than girls and rural children (0.685 and 0.707 year vs. 0.321 and 0.414 year, respectively).

Son and Frolorentino (2008) applied the Becker–Mincer human capital model with a multinomial logit model using the data from the Philippines' Annual Poverty Indicator Survey (APIS) in 2004. Their analysis was based on three different choices made for children including 'not attending school', 'attending school and also working outside the household' and 'attending school but not working outside the household'. They found that the transfer of PhP 300 per child per month could reduce the proportion of children not going to school in all households from 5.81% to 1.56%, while the impact on children studying and working was relative small and about 6.8% of these children could select to study only after abandoning their work in the labor market. They also suggested that the proportion of children not attending school in poor households was 9.37% instead of 5.81% in all households. More importantly, a 6.7-percent increase of school attendance among the poor showed that the CCT would be more effective in increasing school attendance for children in poor households than in all households.

Regarding the case of Sri Lanka, Kurama and Pfau (2010) showed positive and significant impact of per-capita expenditure (PCE) on school attendance at both primary and secondary levels. The authors indicated that cash transfer programs increasing households PCE was likely to increase the school participation at all levels.

Meng and Pfau (2010) explored the case of Cambodia by applying a probit model to study the determinants of school attendance for children aged between 6 and 17 years old. They found that even a small benefit could impact positively on school attendance. Nevertheless, the impact would vary with benefit level and age range: for instance, the poor children who were provided a transfer equivalent to 26 percent of the poverty line with an ending eligible age of 15 would have the highest poverty reduction, while provided a benefit equivalent to 22% of the poverty line with an ending eligible age of 17 would achieve the highest increase in school attendance.

Soares et al., (2008), with the data from Paraguay's Household Survey in 2007, found that the increase of school attendance rate in both primary and secondary levels was higher among boys (i.e., between 6% and 11%) and among older children (aged 11 to 15 years) (i.e., between 9% and 15%). The larger impact of two subjects showed that the program could have not only dispirited dropping out but also brought children, who had previously dropped out, back to school. Older students, mainly boys, tended to drop out in order to work. They also argued that it was very difficult to have a significant impact of the program on the group aged 6 to 9 years because of their already high attendance rate.

Focusing on the Asignaciones Familiares – an Uruguayan child allowances program – Amarante et al., (2009) used ex-ante approach to evaluate impact of the program on teenager's school attendance. They found that teenage attendance rates might be increased between 6 and 8 percentage points, and school attendance showed a progressive pattern. In particular, simulations with three cases combining work and school attendance (i.e., only study; study and work; and work only) showed that around 28.5 % of the children who were out of the educational system would return to study, in which the proportion was higher for girls (34.9%) than for boys (23.7%), and combination of work and study would maximize rate of movement from not attending to attending or attending and working.

For the case of Fiji, UNICEF Pacific and Fiji Ministry of Women, Children and Poverty Alleviation (2015) showed that cash transfers – though small – could keep children in schools since such transfers could keep up school expenses and helped buy school uniform and clothes.

Another important aspect of schooling is how cash transfer program could help children in transiting from lower to secondary schools. For Mexico, De Brauw and Hoddinott (2011) compared the impact of subsidy on school enrollment between households that received and

did not receive, and the results showed that the impact was higher among conditioned households, especially among children in the transition to lower secondary school. As cited in Ferrando (n.d.), evaluations for Ecuador by Schady and Araujo (2008) and for Cambodia by Fiszbein and Schady (2009) showed that the largest effect on school outcomes are among children making the transition from primary to secondary school. In his own research, Ferrando (n.d.) also found that the conditional cash transfer (CCT) in Uruguay, i.e., Plan de Atención Nacional a la Emergencia Social (PANES), also helped to promote transition from primary to secondary school, though it was previously acknowledged that the Uruguayan educational system faced difficulties to smooth children's transitions in the pre-program time.

Third, studies about the impact of cash transfer programs on health care access and health outcomes of children. Exploring Colombia's Familias en Acción,² Attanasio et al., (2005) found that among children 24-60 months, consumption of both animal source foods and vegetables increased considerably, with vegetable consumption up 0.91 to 1.23 days per week and chicken consumption up by 0.25 to 0.38 days per week. Also, participation in Familias en Acción could increase health care service utilization among beneficiaries: for example, attendance at growth and development check-ups by children below 24 months among children benefiting the CCT increased by 23-30 percentage points (from 40 percent), and for children 24-48 months of age, attendance increased by an estimated 33-50 percentage points (from 67 percent).

In Nicaragua, the Red de Protección Social (RPS) provided support to education of children in rural households, as well as health and nutrition transfers directly to mothers' of beneficiary households conditional on (i) bringing her children to scheduled preventive health checks, (ii) attending bimonthly health education workshops, and (iii) adequate weight gain for children. Conducting a randomized pilot evaluation of RPS with a sample consisting of 576 households with children aged 0-3 who were eligible for the food security, health and nutrition component of the program, Thomas (2010) provided an ex-ante estimation of the program impact on accessing preventive care for children (i.e., taking children below 3 years to health checks and full coverage of vaccinations for children between 12-23 months). Comparing ex-ante estimates with those from census survey, the paper found that the outcome of health checks in the last six months for children below 3 years with one year of cash transfers resulting in a 0.22 increase as compared to a 0.24 increase in the experimental evaluation. In addition, the one year impact of on-time full coverage of vaccinations (FCV) for children between 12 and 23 months of age also showed a statistically significant 0.2 increase in FCV, which perfectly predicted the results from the experimental evaluation. Interestingly, the paper found that the immunization outcome which in the RPS design was

² It was introduced in 2001 to assist poor families with children in both rural and urban areas. The program provides a nutritional subsidy of approximately \$15 per month to beneficiary families with children under the age of six. The conditionalities attached to this transfer include participation in growth and development check-ups by children under five and the maintenance of up-to-date vaccinations (Bassett, 2008).

not a pre-requisite for receiving the cash transfer. Thus, the author demonstrated that it might be possible to improve utilization of preventive services in low income households without implementing conditionalities on their usage.

Using data from the district-level household survey in 2007–2008, Carvalho et al., (2014) evaluated the impact of India’s CCT, namely Janani Suraksha Yojana (JSY), on childhood immunizations, postpartum care, breastfeeding practices, and care-seeking behaviors. They applied a propensity score matching analysis with logistic regression to pursue the evaluation. Their findings showed that receipt of financial assistance from JSY led to an increase in immunization rates ranging from 3.1 percentage points for one dose of polio vaccine to 9.1 percentage points in the proportion of fully vaccinated children. In addition, the estimates indicated that JSY led to increased post-partum check-up rates and healthy early breastfeeding practices around the time of childbirth. No effect of JSY was found on exclusive breastfeeding practices and care-seeking behaviors.

For Viet Nam, there have been a number of studies discussing about child poverty and its determinants, including the role of poverty reduction program participation. However, there are few studies to provide ex-ante simulation to measure impacts of cash transfer program on children’s poverty, education and health. For instance, UNICEF and EPRI (2011) discussed about poverty situation of children in Viet Nam using multi-indicator child poverty rates measured by data from MICS 2006 and VHLSS 2008, and then provided various choices for a cash transfer program to children, including options for beneficiaries, transfer level, targeting mechanism and conditionality.

At the best of our knowledge, there have been no ex-ante simulation studies on the impact of cash transfer program on education and health in Viet Nam. Therefore, this paper will provide various estimates using the data of the Viet Nam Household Living Standard Survey (VHLSS) in 2010 and 2012 in order to see how a cash transfer program could influence on children’s poverty, school attendance, and health care access. It will also provide estimates of the future costs under different scenarios of the number of future beneficiaries (which are estimated from the population projections by GSO (2011) along with varied benefit levels.

III. DATA AND METHODOLOGY

1. Data

To pursue the research objectives, we will use the Viet Nam Household Living Standard Surveys (VHLSS) in 2010 and 2012. They were two out of the seven household surveys in Viet Nam conducted by the General Statistics Office (GSO) since 1992.

The surveys were conducted at household level, but included a number of individual characteristics such as age, gender, relationship to the household head, marital status, work status, and highest educational attainment. Such data let us identify a child (aged 0-15) and a household with at least a child. These surveys were representative at national and regional level, as well as for urban and rural areas.

At the household level, the surveys provided information on the sources of income, household expenditure, ownership of consumer durables, business and agricultural activities, poverty incidence, participation in poverty alleviation programs, social insurance, wealth, and housing conditions. In particular, school fee exemption and scholarship are known at individual level, so that we can identify to whom (child) in a household these benefits were provided. In regard to health care, VHLSS provides information about participation in health insurance scheme, type of health insurance, number of inpatient and outpatient treatments along with respective costs, and out-of-pocket payments for health care services.

Nevertheless, the data had some critical limitations, especially in terms of poverty estimation. Most of the income sources were only identified at the household level, so it is not clear which member was the main source of household income. Similarly, expenditure was identified at household level and there were no equivalence scales for different household members, so we do not know who was spending, and can only identify expenditure per capita within the household. Wealth data were also available only at the household level, so it is difficult to analyze intra-household transfers.

Table 1 provides information of sample size for children in VHLSS 2010 and 2012.

Table 1. Number of sampled children in VHLSS 2010 & 2012, by age group

Age group	VHLSS 2010	VHLSS 2012
0-5 (persons)	3,594	3,384
6-10 (persons)	3,014	2,954
11-15 (persons)	3,265	3,074
Total child observations (unweighted)	9,873	9,412
VHLSS total observations (unweighted)	37,012	36,655
Children as % of total observations (%)	26.68	25.68

Source: Own calculations, using VHLSS 2010 & 2012

2. Methodology

2.1. Simulating impact of cash transfers on an outcome of children

To do this, we first estimate the impact of household income on the outcome or welfare of children (such as child poverty rate, child school attendance, and health care utilization rate). For simplicity, we assume that household income is increased by the amount of transfers provided for households (which is equal to the number of child beneficiaries times

the benefit level per child beneficiary). Then, we predict the increase in the outcome of children due to an increase in household incomes caused by the transfers. More specifically, we will estimate the outcome equation of children as follows:

$$Y_{i,j,t} = \alpha + \text{Ln}(\text{Income}_{j,t})\beta + X_{i,j,t}\theta + T_t\gamma + u_{i,j} + v_{i,j,t}, \quad (1)$$

Where:

- $Y_{i,j,t}$ is a welfare indicator (such as school enrolment or out-of-pocket spending on education) of child i in household j in the year t ;
- $\text{Ln}(\text{Income})_{j,t}$ is log of per capita income of household j ;
- T_t is a dummy variable for year t ; and
- $X_{i,t}$ is the vector of explanatory variables (such as household size or share of children in household).
- Unobserved variables are decomposed into time-invariant component, $u_{i,j}$, and time-variant component, $v_{i,j,t}$.

We will estimate model (1) using child fixed-effects regression and panel data from VHLSSs 2010 and 2012. The panel data is constructed for the households which did not receive any cash transfers for children in both 2010 and 2012. The fixed-effects regression can estimate the children's fixed-effects, $u_{i,j}$. As a result, it can mitigate the endogeneity bias caused by the time-invariant unobserved variables.

For estimating (1), we assume that the studied households received cash transfers for their children in 2012 (though, as mentioned, they in fact did not receive any cash transfers in both 2010 and 2012). Suppose the transfer amount provided to each child i in household j in 2012 is $\delta_{i,j}$. If the number of children is n_c and the total number of household members is n_h , the per capita income of household is increased by $(n_c/n_h)\delta_{i,j}$. If all the transfers are used as household's disposable income, the new per capita income of household is $[\text{Income}_{j,t} + (n_c/n_h)\delta_{i,j}]$.

After the model (1) is estimated, we can predict the effect of transfers on the children's outcome using the estimated parameter in model (1). More specifically, the effect of the transfers on the outcome of children i in year t is estimated as follows:

$$\hat{\Delta}Y_{i,j,t} = \{ \text{Ln}[\text{Income}_{j,t} + (n_c/n_h)\delta_{i,j}] - \text{Ln}(\text{Income}_{j,t}) \} \hat{\beta} = \hat{\beta} \text{Ln} \left[\frac{\text{Income}_{j,t} + (n_c/n_h)\delta_{i,j}}{\text{Income}_{j,t}} \right], \quad (2)$$

For interpretation, we will compute the percentage change in the outcome of child i due to the transfer amount $\delta_{i,j}$ as:

$$\% \hat{\Delta} Y_{i,j,t} = 100 \hat{\Delta} Y_{i,j,t} / \hat{\Delta} Y_{i,j,t} = 100 \hat{\Delta} Y_{i,j,t} / \hat{\beta} \text{Ln} \left[\frac{\text{Income}_{j,t} + (n_c/n_h) \delta_{i,j}}{\text{Income}_{j,t}} \right], \quad (3)$$

The effect of the cash transfer on a group of children is equal to the average of (3) across the number of children in this group.

2.2. *Simulating fiscal costs of a universal cash transfer program for the children*

To estimate fiscal costs of a universal cash transfer program for the Vietnamese children, we will use age as a key variable, meaning that we will set different minimum eligible ages for the cash transfer program regardless of the specific characteristics of the recipients. Total cost includes only costs for paying benefits, and excludes administrative costs. In detail, suppose that the number of eligible children accounts for e percent of the total population, and the benefit provided to each person is equal to b percent of GDP per capita. The total fiscal costs excluding administrative costs - as a percent of GDP - will be:

$$t = e * b \quad (4)$$

This calculation implies that the benefit is not linked to the official poverty line, which grows with inflation rather than GDP. Also, an increased number of eligible child recipients or higher benefit levels means higher fiscal costs.

For the eligible children, we will use the population projections by GSO (2011) for the estimated child population in the period 2014-2025. With these projections, child population can be disaggregated into different age groups and areas of living (i.e., urban vs. rural). Thus, we will be able to simulate the costs for cash transfers to children living in urban and rural areas along with 5 groups by age, including 0-3; 4-5; 6-10; 11-15 (as defined now) and 16-18 (as proposed in the amendment of the Law on Child Care and Protection).

2.3. *Main assumptions for all calculations*

As we will use the VHLSSs 2010 and 2012 data to simulate a counterfactual situation in which the current cash transfer program for the children in Viet Nam would be expanded to various child groups as indicated above. There are three main assumptions for such simulation exercises.

First, benefit levels are assumed at VND 70,000 per child per month (or VND 840,000 per child per year or equivalent to 2.31% of GDP per capita in 2012) as in the baseline scenario,³ while at VND 140,000 per child per month (or VND 1,680,000 per child per year or equivalent to 4.62% of GDP per capita in 2012) as in the simulation scenario.

³ As in the Joint Circular MOLISA-MOF-MOET 26/2014/TTLT-BLDTBXH-BTC-BGDDT, dated 22 September 2014, children aged 0-3 living in poor households will be supported at this level for 9 out of 12

Second, we assume that only benefit levels and age thresholds would be changed to match given fiscal costs, while other factors will remain the same. For instance, provided with benefits, the child and their family members will not change behavior such as the supply of labor and consumption styles.

Third, there will be no macroeconomic feedback due to the expansion of the cash transfer program, because the government needs to increase social expenditure for the program.

2.4. Limitations of the study and further research directions

There are some limitations of this research, which need to be improved whenever data and methods allow.

First, many missing information about educational status (such as dropping out) or health status (for instance, nutrition and Body Mass Index - BMI) prevent us from calculating the real impact of cash transfer on education and health. Combination of household surveys with other nationally representative surveys (such as Population and Housing Census-PHC; Multiple Indicator Cluster Survey-MICS; and Demographic and Health Survey-DHS), or additional surveys for household surveys may be needed to mitigate these limitations.

Second, behavioral changes could not take into account in this study, so that we could not identify the real magnitude of impacts. Also, we could not provide a feedback model to see how tax-base spending for the program would impact on tax revenue, which in turn provide sources for government to spend.

Thirdly, although explained above, the study was not able to formulate scenarios per ethnic group or geographic location due to the limitation on the part of population projections that is not disaggregated by such parameters. As such, age is the main parameter applied in cost simulations.

Last but not least, various factors related to parents' background, living conditions, and impacts from other policies could not observed and integrated in the estimation models, so that the expected results will be static rather than dynamic. As said, additional surveys are needed to provide complementary information for the analysis in this research.

months in a year. However, for simplicity, in our calculations, we will assume that eligible beneficiaries will be supported for the full year

IV. RESULTS AND ANALYSIS

1. An Overview of Children’s Welfare via Data from VHLSS 2010 and 2012

Up to date, there have been a number of policies and programs to provide cash to support children, especially those who are poor, disable, and vulnerable. **Table A.1** in the Appendix provides a detailed matrix describing some key cash transfer policies and programs for Vietnamese children. In this part, we will provide the current welfare status for children by their individual and household characteristics, using data from VHLSSs 2010 and 2012. Welfare includes access to education, utilization of health care, having clean water, having cultural materials, and poverty status.

Table 2 presents the percentage of children attending schools by age and various individual and household characteristics. Overtime, attendance rates of all groups of children increased, particularly it was almost universal for those aged 6-10. There were not much differences between groups by characteristics, but children who are boys, Kinh/Hoa, living in urban areas, and living in non-poor households had higher attendance rates than their counterparts.

Table 2. Percentage of children attending schools, by age group and other characteristics

Characteristics	VHLSS 2010				VHLSS 2012			
	3-5	6-10	11-15	Total	3-5	6-10	11-15	Total
Sex								
– Boys	62.0	97.8	85.3	83.9	67.7	97.9	87.0	86.3
– Girls	61.4	97.6	90.4	86.1	68.8	97.3	90.0	87.5
Ethnicity								
– Kinh/Hoa	63.6	98.3	90.1	86.6	68.8	98.0	90.7	88.0
– Ethnic minorities	53.0	95.0	77.4	78.0	65.5	96.1	79.0	82.1
Area								
– Urban	69.6	98.5	94.5	89.2	76.2	97.6	90.9	89.5
– Rural	58.5	97.4	85.6	83.5	64.8	97.6	87.7	85.9
Poverty status								
– Non-Poor	67.5	98.7	91.3	88.2	70.9	98.5	91.8	89.2
– Poor	47.6	95.3	78.6	77.1	60.0	94.8	77.5	79.4
Total	61.7	97.7	87.7	85.0	68.2	97.6	88.5	86.9

Source: Own estimates, using VHLSS 2010 & 2012

Table 3 shows percentage of children having tuition fee exemption by age group and various individual and household characteristics. Across age groups and characteristics, percentage of children receiving tuition fee exemption also increased. It is clear that more vulnerable groups of children (i.e., ethnic minorities, living in rural areas, and poor) had significantly higher proportions to receive exemption than did their counterparts.

Table 3. Percentage of children having tuition fee exemption, by age group and other characteristics

Characteristics	VHLSS 2010				VHLSS 2012			
	3-5	6-10	11-15	Total	3-5	6-10	11-15	Total
Sex								
– Boys	27.2	93.2	28.2	54.0	38.6	97.0	37.0	61.9
– Girls	20.2	92.1	29.6	53.6	38.4	97.9	34.7	59.8
Ethnicity								
– Kinh/Hoa	15.0	91.4	19.9	47.5	28.7	97.0	26.8	54.8
– Ethnic minorities	71.9	98.4	73.0	83.8	88.3	99.4	80.7	89.8
Area								
– Urban	11.3	86.8	15.7	42.5	24.0	95.0	17.8	49.3
– Rural	30.0	94.7	33.4	58.0	45.9	98.4	42.4	65.4
Poverty status								
– Non-Poor	14.8	91.2	18.6	46.3	28.8	96.8	26.0	54.1
– Poor	54.9	96.1	58.9	74.8	74.7	99.5	74.7	85.3
Total	23.9	92.6	28.9	53.8	38.5	97.4	35.8	60.8

Source: Own estimates, using VHLSS 2010 & 2012

Table 4. Household spending per child on education

Unit: VND 1,000/year in Jan 2012 price

Characteristics	VHLSS 2010				VHLSS 2012			
	3-5	6-10	11-15	Total	3-5	6-10	11-15	Total
Sex								
– Boys	1495.9	1306.0	1988.4	1628.2	1687.2	1338.5	2314.5	1797.0
– Girls	1726.3	1404.8	1851.5	1647.0	1774.0	1346.7	2067.2	1734.3
Ethnicity								
– Kinh/Hoa	1848.7	1572.0	2178.7	1878.2	2011.7	1543.7	2475.7	2020.9
– Ethnic minorities	294.6	396.4	651.8	485.2	296.6	434.3	770.7	545.3
Area								
– Urban	2794.7	2713.2	3439.6	3021.6	2892.3	2228.8	3890.3	3021.3
– Rural	1028.8	876.3	1395.3	1123.6	1144.4	998.0	1568.6	1265.9
Poverty status								
– Non-Poor	1926.9	1697.1	2306.5	1999.2	2060.3	1594.8	2548.3	2084.8
– Poor	502.9	510.9	791.9	624.1	504.6	502.1	762.0	603.2
Total	1605.1	1355.0	1921.7	1637.4	1729.7	1342.4	2189.4	1766.2

Source: Own estimates, using VHLSS 2010 & 2012

Total spending on education (estimated using prices in January 2012) increased between 2010 and 2012 (**Table 4**). There were not significant difference between boys and girls in this aspect, but 2-4 times higher spending on education between children who are Kinh/Hoa, living in urban and living in non-poor households and their counterparts.⁴

⁴ It should be noted that poor children are provided school fee exemption, so that their households' total spending might be less than those without any exemption.

Out of pocket payments⁵ for the former groups of children (i.e., those who are Kinh/Hoa, living in urban, and living in non-poor households) could be a reason for such differences presented in **Table 5**. This can be clearly illustrated in Table 5: there were no differences between boys and girls, while children who are Kinh/Hoa, living in urban areas, and living in non-poor households had about 2-4 times higher OOP spending on education than their counterparts.

Table 5. Household OOP spending per child on education

Unit: VND 1,000/year in Jan 2012 price

Characteristics	VHLSS 2010				VHLSS 2012			
	3-5	6-10	11-15	Total	3-5	6-10	11-15	Total
Sex								
– Boys	641.0	1018.2	1458.5	1136.8	818.5	1130.4	1614.6	1266.6
– Girls	660.4	1082.2	1505.0	1189.1	776.4	1103.7	1606.6	1257.2
Ethnicity								
– Kinh/Hoa	738.8	1211.4	1670.8	1322.5	916.7	1284.0	1812.3	1434.6
– Ethnic minorities	173.4	336.8	544.3	396.2	193.8	367.5	611.0	434.6
Area								
– Urban	941.2	1889.8	2509.4	1939.7	1194.7	1772.8	2637.5	1981.6
– Rural	509.2	753.9	1124.6	873.8	598.1	863.2	1235.7	975.2
Poverty status								
– Non-Poor	765.6	1296.6	1768.2	1401.0	929.5	1320.7	1863.6	1476.1
– Poor	255.0	441.3	638.5	493.8	310.3	441.7	604.3	480.3
Total	650.2	1049.9	1481.2	1162.3	797.9	1117.7	1610.6	1262.0

Note: OOP spending on education is calculated as total spending on education excludes tuition fees and school contribution.

Source: Own estimates, using VHLSS 2010 & 2012

In terms of health care, **Table 6** presents the percentage of children having health insurance by age and other characteristics. It indicates that more children were covered by health insurance and about 90 percent of Vietnamese children had health insurance in 2012. There were no significant differences between more vulnerable groups (i.e., those who are ethnic minorities, living in rural areas, and living in poor households) and their counterparts in terms of health insurance coverage.

⁵ OPP payments include such categories as contributions to school, parents' fund, uniforms, and extra classes.

Table 6. Percentage of children having health insurance, by age group and other characteristics

Characteristics	VHLSS 2010				VHLSS 2012			
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total
Sex								
– Boys	89.5	83.8	78.5	84.3	93.1	90.6	84.6	89.7
– Girls	91.6	84.7	82.8	86.8	92.4	90.4	86.6	90.0
Ethnicity								
– Kinh/Hoa	90.0	82.4	78.9	84.3	92.8	89.8	84.5	89.3
– Ethnic minorities	92.9	92.1	87.5	90.8	92.9	93.7	90.4	92.3
Area								
– Urban	89.4	88.7	88.1	88.8	90.7	93.4	88.3	90.8
– Rural	91.0	82.7	78.2	84.3	93.6	89.4	84.6	89.5
Poverty status								
– Non-Poor	90.1	83.0	80.3	84.9	93.1	90.9	85.3	89.9
– Poor	91.7	87.3	81.2	87.1	91.9	89.2	86.4	89.4
Total	90.5	84.3	80.5	85.5	92.8	90.5	85.6	89.8

Source: Own estimates, using VHLSS 2010 & 2012

Tables 7 and 8 present access of children at different ages and with various characteristics, who had at least an illness in the year, to inpatient and outpatient healthcare services, respectively.

Table 7. Number of inpatient healthcare contacts per child in a year

Characteristics	VHLSS 2010				VHLSS 2012			
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total
Sex								
– Boys	0.12	0.08	0.06	0.09	0.13	0.05	0.04	0.08
– Girls	0.12	0.06	0.04	0.08	0.09	0.04	0.03	0.06
Ethnicity								
– Kinh/Hoa	0.12	0.07	0.05	0.08	0.1	0.04	0.04	0.06
– Ethnic minorities	0.13	0.07	0.05	0.09	0.15	0.08	0.04	0.09
Area								
– Urban	0.10	0.05	0.05	0.07	0.09	0.03	0.04	0.06
– Rural	0.13	0.08	0.05	0.09	0.12	0.05	0.04	0.07
Poverty status								
– Non-Poor	0.14	0.07	0.06	0.09	0.11	0.05	0.04	0.07
– Poor	0.08	0.06	0.04	0.06	0.11	0.05	0.02	0.07
Total	0.12	0.07	0.05	0.08	0.11	0.05	0.04	0.07

Source: Own estimates, using VHLSS 2010 & 2012

Table 8. Number of outpatient healthcare contacts per child in year

Characteristics	VHLSS 2010				VHLSS 2012			
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total
Sex								
– Boys	2.32	1.06	0.6	1.41	1.83	0.92	0.61	1.18
– Girls	1.83	1.06	0.6	1.21	1.65	0.88	0.56	1.08
Ethnicity								
– Kinh/Hoa	2.30	1.15	0.64	1.44	1.9	0.98	0.65	1.24
– Ethnic minorities	1.08	0.67	0.42	0.74	1.06	0.52	0.31	0.66
Area								
– Urban	2.58	1.32	0.61	1.66	2.24	1	0.65	1.4
– Rural	1.88	0.97	0.6	1.19	1.55	0.86	0.56	1.03
Poverty status								
– Non-Poor	2.4	1.21	0.69	1.5	1.93	0.98	0.65	1.24
– Poor	1.32	0.71	0.38	0.85	1.17	0.64	0.39	0.77
Total	2.09	1.06	0.6	1.31	1.75	0.9	0.59	1.13

Source: Own estimates, using VHLSS 2010 & 2012

In terms of inpatient healthcare services, **Table 7** shows that there were no differences between groups of children across the ages and characteristics. In contrast, **Table 8** show that children who were Kinh/Hoa, living in urban areas, and living in non-poor households had significantly higher rates of access to outpatient healthcare services than did their counterparts. Among various explanations for such differences, farther distance to the nearest healthcare centers and heavier burden of out-of-pocket payments for healthcare services were the most important (Nguyen et al., 2015; Giang & Bui, 2013).

In regard to safe drinking water,⁶ **Table 9** presents the percentage of children – at different age groups and with different characteristics – living in households with these sources. The results show that higher percentage of children had safe drinking water sources overtime. There was no difference between boys and girls in this regard. However, children who were Kinh/Hoa, living in urban areas, and living in non-poor households had about 10-30 percentage point higher than did their counterparts in having safe drinking water. Difference in infrastructure development between the former and the latter could be a cause of this.

⁶ Clean water includes the piped water, bottled water, deep well, protected well, rain water, and other water with purification

Table 9. Percentage of children living in households having safe drinking water

Characteristics	VHLSS 2010				VHLSS 2012			
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total
Sex								
– Boys	87.4	88.4	87.2	87.6	88.7	89.2	89.3	89.1
– Girls	89.3	87.6	88.4	88.5	89.1	91.2	89.7	89.9
Ethnicity								
– Kinh/Hoa	93.1	92.6	92.0	92.6	94.0	94.6	93.4	94.0
– Ethnic minorities	66.1	68.3	69.8	68.0	65.7	70.5	73.0	69.5
Area								
– Urban	97.4	96.4	97.7	97.2	96.8	97.5	97.7	97.3
– Rural	84.5	85.0	84.7	84.7	85.8	87.3	86.6	86.5
Poverty status								
– Non-Poor	93.6	93.2	91.9	92.9	94.6	95.5	94.4	94.8
– Poor	75.3	75.5	77.4	76.0	70.9	73.2	73.3	72.3
Total	88.3	88.0	87.8	88.1	88.9	90.2	89.5	89.5

Source: Own estimates, using VHLSS 2010 & 2012

Similar findings could be observed in **Table 10**, which presents the percentage of children living in households with hygienic latrine.⁷ Again, there was no difference between boys and girls at all ages. Conversely, more vulnerable groups of children (i.e., those who were ethnic minorities, living in rural areas, and living in poor households) had significantly lower rates of having hygienic latrine than did their counterparts who were Kinh/Hoa, living in urban areas, and living in non-poor households. Such huge differences might indicate that more vulnerable children were more vulnerable to health issues resulted from lack of hygienic latrine.

Table 10. Percentage of children living in households with hygienic latrine

Characteristics	VHLSS 2010				VHLSS 2012			
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total
Sex								
– Boys	64.3	61.5	65.2	63.8	69.3	67.5	67.7	68.3
– Girls	65.0	63.3	62.9	63.8	66.3	67.5	65.4	66.4
Ethnicity								
– Kinh/Hoa	75.3	72.9	74.8	74.5	79.2	78.5	76.6	78.1
– Ethnic minorities	14.9	17.4	19.1	17.0	16.1	19.1	23.5	19.4
Area								
– Urban	90.9	88.8	89.1	89.8	91.3	89.7	91.3	90.8
– Rural	53.7	53.2	56.3	54.4	58.4	58.9	57.9	58.4
Poverty status								
– Non-Poor	78.8	76.2	77.0	77.5	82.2	79.9	77.7	80.1
– Poor	29.9	29.4	31.6	30.3	22.7	27.7	29.4	26.3
Total	64.6	62.4	64.1	63.8	67.8	67.5	66.6	67.3

Source: Own estimates, using VHLSS 2010 & 2012

⁷ Hygienic latrine includes septic/semi-septic tank; suilabh; double septic tank.

In terms of reading materials – measured by the number of comic books per child – **Table 11** also indicates that more vulnerable groups of children had significantly lower number of comic per child than did their less vulnerable counterparts.

Table 11. Number of comic books per child

Characteristics	VHLSS 2010				VHLSS 2012			
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total
Sex								
– Boys	2.75	3.66	3.31	3.19	2.89	3.86	3.48	3.36
– Girls	2.51	3.84	3.32	3.16	3.01	4.13	3.86	3.60
Ethnicity								
– Kinh/Hoa	3.03	4.33	3.83	3.65	3.42	4.64	4.17	4.01
– Ethnic minorities	0.83	1.26	1.12	1.05	0.81	1.11	1.53	1.13
Area								
– Urban	4.21	6.17	5.55	5.14	4.65	6.19	5.33	5.30
– Rural	1.99	2.90	2.62	2.46	2.27	3.14	3.09	2.78
Poverty status								
– Non-Poor	3.30	4.69	4.11	3.95	3.56	4.83	4.32	4.17
– Poor	1.02	1.49	1.31	1.25	1.03	1.30	1.50	1.25
Total	2.64	3.75	3.32	3.17	2.95	3.99	3.67	3.48

Source: Own estimates, using VHLSS 2010 & 2012

Table 12 presents poverty rates of children at different age groups with different characteristics. In this table, poverty rates are calculated using real per capita expenditure (using the price of January in each survey year).

Table 12. Child poverty rate (%)

Characteristics	VHLSS 2010				VHLSS 2012			
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total
Sex								
– Boys	28.6	29.5	26.6	28.2	23.8	23.2	22.6	23.2
– Girls	29.4	29.6	30.3	29.8	24.4	24.5	23.4	24.1
Ethnicity								
– Kinh/Hoa	18.4	18.5	18.0	18.3	13.5	13.0	13.2	13.2
– Ethnic minorities	77.9	76.8	72.5	75.8	72.6	71.6	65.1	69.8
Area								
– Urban	9.0	7.8	9.4	8.8	7.3	9.5	9.1	8.4
– Rural	37.3	37.2	34.3	36.2	30.9	29.3	27.8	29.4
Total	29.0	29.6	28.4	29.0	24.1	23.8	23.0	23.6

Source: Own estimates, using VHLSS 2010 & 2012

The overall poverty rate of all children reduced from 29% in 2010 to 23.6% in 2012, and poverty reductions occurred at all ages overtime. In terms of sex, there were no significant differences in poverty rates between boys and girls across overtime, though girls always had slightly higher rates of poverty than did boys across all age groups.

At all age groups, there were substantial differences in poverty rates between Kinh/Hoa and urban children and their counterparts, in which the former's poverty rates were about one-fifth to one-fourth of the latter's. More importantly, the rates of reduction for the former groups were faster than those of the latter groups, meaning that there were widening gaps in poverty rates between these groups of children.

2. Simulating the Impacts of Cash Transfers on Children's Welfare

As discussed in the methodology, the first step in simulating the impacts of cash transfers on children's welfare is to run a regression of children's outcomes using household's per capita income in 2012. In the regression, we will use a small set of control variables which are more exogenous and not affected by the income variable (see, for instance, Heckman et al., 1999). Time-invariant variables, such as gender of children and parental characteristics, are controlled by fixed-effects regressions. Using the estimates of coefficients of logarithm of income per capita and formulas (2) and (3), we could predict the effect of cash transfers on the outcomes of children. We will predict the effect of income on only outcome variables that are significantly affected by income.

In the next step, we will present the prediction of the two levels of cash transfers on each outcome of children for different groups of children. The cash transfer levels are VND 70,000/child/month and VND 140,000/child/month. It should be noted that, in all regressions, we deflate the income variable and other monetary variables to the January 2012 price.

2.1. Impact on children's education

Table 13 presents the regression of education outcomes of children on logarithm of per capita income. There was a positive effect of income on school enrolment in both primary and secondary levels (i.e., for those aged 6-10 and 11-15). Since the income variable is measure in log, the estimate '0.0394' means that a one percent increase in per capita income could lead to a 0.0394 percent increase in the probability of children's school enrolment.

There were no significant effects of income on the probability of receiving tuition exemption or reduction. The sign of income variable is even negative. It is expected, since tuition exemption and reduction was applied only for primary students, and mainly for poor and ethnic minority students.

Income could significantly increase out-of-pocket spending on education. More specially, a one percent increase in per capita income could help households increase 'out-of-pocket spending on education' and 'out-of-pocket spending on education excluding tuition fee' by 0.883 percent and 0.454 percent, respectively.

Table 13. Child fixed-effects regressions of education outcomes

Explanatory variables	School enrolment (yes=1, no=0)	Receiving tuition exemption or reduction (yes=1, no=0)	Out-of-pocket spending on education (million VND/student/year)	Out-of-pocket spending on education excluding tuition fee (million VND/student)
Log of per capita income	0.0394*** (0.013)	-0.0292 (0.024)	0.8827*** (0.278)	0.4538*** (0.149)
Household size	0.0150* (0.008)	0.0273** (0.013)	0.0695 (0.083)	0.0400 (0.041)
Proportion of children in household	0.5060*** (0.057)	0.1784* (0.093)	-1.7755*** (0.659)	-0.2116 (0.416)
Proportion of elderly in household	-0.0886 (0.113)	0.0022 (0.234)	-0.1520 (0.585)	-0.1084 (0.476)
Year 2012 dummy	0.0492*** (0.007)	0.0427*** (0.014)	0.2209** (0.103)	0.2929*** (0.064)
Constant	0.1929 (0.139)	0.6388** (0.250)	-6.4995** (2.741)	-3.4243** (1.453)
Observations	6,507	5,592	5,592	5,592
R-squared	0.037	0.007	0.0414	0.042
Number of children	3,463	3,138	3,138	3,138

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Source: Own estimates, using VHLSS 2012

Table 14 provides the predicted (simulated) impact of cash transfers on school enrolment of children at different ages.

Table 14. Simulated impact of transfer on school enrolment (in percent)

Group	Scenario 1: Transfer amount of VND 70,000/month/child				Scenario 2: Transfer amount of VND 140,000/month/child			
	3-5	6-10	11-15	Total	3-5	6-10	11-15	Total
<i>Gender</i>								
– Boys	0.155	0.118	0.121	0.126	0.294	0.223	0.232	0.239
– Girls	0.152	0.111	0.125	0.125	0.290	0.210	0.240	0.237
<i>Ethnicity</i>								
– Kinh/Hoa	0.061	0.041	0.049	0.048	0.117	0.077	0.093	0.091
– Ethnic minorities	0.583	0.388	0.435	0.439	1.108	0.736	0.826	0.836
<i>Rural/urban</i>								
– Urban	0.017	0.030	0.030	0.025	0.032	0.057	0.058	0.048
– Rural	0.214	0.139	0.150	0.158	0.408	0.264	0.285	0.299
<i>Poverty</i>								
– Non-Poor	0.023	0.023	0.026	0.023	0.045	0.046	0.050	0.046
– Poor	0.611	0.413	0.475	0.473	1.162	0.783	0.901	0.897
Total	0.154	0.114	0.124	0.125	0.293	0.217	0.236	0.238

Source: Own estimates, using VHLSS 2012

Table 14 shows that the transfer amount of VND 70,000/month/child could increase the school enrolment rate of children by 0.125 percent. Since the regression model is linear, the effect of transfer benefit at VND 140,000/month/child could be around twice the effect of VND 70,000/month/child. The effect could be small as the assumed transfer amount is small.

In addition, income is just one factor determining the school enrolment. Money is fungible, and households could use the received cash for not only children but also for spending on common household consumption.

The effect could be higher for ethnic minorities and poor students, since these students are the main recipients of cash transfers. The effect on the kindergarten and lower-secondary school enrolment could be higher than the effect on the primary school enrolment, since the rate of primary school enrolment was much higher than rate of schooling for kindergarten and lower-secondary school.

Table 15 and **Table 16** show how cash transfers could increase out-of-pocket spending on education. In total, the transfer amount of VND 70,000/month/child could increase out-of-pocket spending on education per student by 1.4 percent. Such an effect on poor and ethnic minority students was around 15 percent.

Table 15. Predicted impact of transfer on households' out-of-pocket spending per student on education (in percent)

Group	Scenario 1: Transfer amount of VND 70,000/month/child				Scenario 2: Transfer amount of VND 140,000/month/child			
	3-5	6-10	11-15	Total	3-5	6-10	11-15	Total
<i>Gender</i>								
– Boys	1.307	2.133	0.963	1.319	2.490	4.053	1.835	2.511
– Girls	1.334	1.754	1.351	1.475	2.537	3.328	2.570	2.804
<i>Ethnicity</i>								
– Kinh/Hoa	0.457	0.584	0.392	0.462	0.872	1.110	0.748	0.881
– Ethnic minorities	27.57	18.36	10.85	15.09	52.40	34.84	20.62	28.66
<i>Rural/urban</i>								
– Urban	0.091	0.278	0.152	0.159	0.174	0.532	0.293	0.305
– Rural	2.593	3.101	1.781	2.328	4.934	5.887	3.388	4.424
<i>Poverty</i>								
– Non-Poor	0.174	0.334	0.202	0.227	0.336	0.645	0.391	0.438
– Poor	15.61	18.76	11.69	14.55	29.66	35.51	22.19	27.59
Total	1.320	1.933	1.128	1.393	2.513	3.671	2.147	2.649

Note: OOP spending on education is calculated as total spending on education excludes tuition fees and school contribution.

Source: Own estimates, using VHLSS 2012

Table 16. Predicted impact of transfer on households' out-of-pocket spending per student on education (in percent)

Group	Scenario 1: Transfer amount of VND 70,000/month/child				Scenario 2: Transfer amount of VND 140,000/month/child			
	3-5	6-10	11-15	Total	3-5	6-10	11-15	Total
<i>Gender</i>								
– Boys	1.370	1.257	0.785	1.013	2.608	2.390	1.496	1.927
– Girls	1.643	1.086	0.859	1.035	3.124	2.062	1.634	1.967
<i>Ethnicity</i>								
– Kinh/Hoa	0.527	0.353	0.288	0.343	1.006	0.672	0.549	0.654
– Ethnic minorities	20.99	11.07	6.99	9.63	39.89	21.02	13.30	18.29
<i>Rural/urban</i>								
– Urban	0.108	0.169	0.129	0.129	0.207	0.325	0.249	0.248
– Rural	2.806	1.864	1.180	1.593	5.339	3.538	2.244	3.027
<i>Poverty</i>								
– Non-Poor	0.203	0.203	0.149	0.169	0.392	0.391	0.287	0.326
– Poor	12.71	10.96	7.56	9.39	24.16	20.75	14.34	17.82
<i>Total</i>	<i>1.501</i>	<i>1.169</i>	<i>0.821</i>	<i>1.023</i>	<i>2.856</i>	<i>2.220</i>	<i>1.562</i>	<i>1.947</i>

Note: OOP spending on education is calculated as total spending on education excludes tuition fees and school contribution.

Source: Own estimates, using VHLSS 2012

2.2. Impact on children's health utilization and spending

Table 17 presents the child-effects regressions of health outcomes on income and household-level variables. As can be seen, there were no significant effects of cash transfer on healthcare contacts (both inpatient and outpatient) and out-of-pocket spending on healthcare. We tried other specifications of health care models (such as log of out-of-pocket spending or total out-of-pocket spending rather than out-of-pocket spending per healthcare contact) but we could not find any significant effect of log of per capita income in these specifications. There was a significant effect of income on the probability of having health insurance: a one percent increase in per capita income leads to a 0.033 percent increase in the probability of having health insurance.

Table 17. Child fixed-effects regressions of health outcomes

Explanatory variables	Having health insurance (yes=1; no=0)	Number of annual outpatient healthcare contact	Out-of-pocket spending per outpatient healthcare contact (million VND)	Number of annual inpatient healthcare contact	Out-of-pocket spending per inpatient healthcare contact (million VND)
Log of per capita income	0.0333** (0.014)	-0.0091 (0.113)	0.0210 (0.030)	0.0241 (0.016)	0.2742 (1.197)
Having health insurance (yes=1; no=0)		0.3208** (0.156)	0.0145 (0.025)	0.0090 (0.019)	0.3380 (2.198)
Household size	0.0111 (0.008)	-0.0547 (0.048)	-0.0308 (0.025)	0.0039 (0.008)	0.1187 (0.447)
Proportion of children in household	0.0800 (0.063)	-0.7462* (0.381)	-0.0697 (0.207)	-0.1197** (0.056)	-0.7598 (7.431)
Proportion of elderly in household	0.0331 (0.125)	-1.0149 (0.865)	-0.2224 (0.383)	0.0125 (0.111)	-3.6386 (5.756)
Year 2012 dummy	0.0290*** (0.007)	- (0.060)	0.0315 (0.029)	- (0.010)	0.4295 (1.069)
Constant	0.4545*** (0.148)	0.3366*** (1.196)	0.1030 (0.222)	0.0301*** (0.170)	-1.7866 (6.515)
Observations	7,624	7,624	2,829	7,624	406
R-squared	0.008	0.0127	0.007	0.003	0.033
Number of children	3,812	3,812	2,054	3,812	378

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Source: Own estimates, using VHLSS 2012

More money could improve the rate of having health insurance (**Table 18**). The transfer amount of VND 70,000/month/child could increase the proportion of having health insurance among children aged 6-10 and 11-15 by 0.105 percent and 0.109 percent, respectively. For the transfer amount of VND 140,000/month/child, the estimated results are 0.199 percent and 0.207 percent, respectively. This small effect is expected, since cash transfers could be used mainly in spending on education and common consumption of households. As a result, a small proportion of cash transfers could be used to purchase health insurance.

Table 18. Simulated impact of cash transfer on having health insurance (in percent)

Group	Scenario 1: Transfer amount of VND 70,000/month/child		Scenario 2: Transfer amount of VND 140,000/month/child	
	6-10	11-15	6-10	11-15
<i>Gender</i>				
– Boys	0.109	0.107	0.207	0.203
– Girls	0.100	0.112	0.190	0.212
<i>Ethnicity</i>				
– Kinh/Hoa	0.038	0.045	0.071	0.085
– Ethnic minorities	0.341	0.332	0.646	0.632
<i>Rural/urban</i>				
– Urban	0.026	0.026	0.050	0.050
– Rural	0.129	0.132	0.245	0.252
<i>Poverty</i>				
– Non-Poor	0.021	0.024	0.042	0.045
– Poor	0.377	0.367	0.714	0.696
Total	0.105	0.109	0.199	0.207

Source: Own estimates, using VHLSS 2010 & 2012

3.3. Impact on children's poverty rate

Similar to the regressions for education and health, we regressed the expenditure-based poverty rate on income and other control variables, and the results show that increasing income by one percent would reduce the probability of being poor by 0.1419 percent.

Table 19 presents the simulated impact of cash transfer on the probability of being poor for children. The results show that the transfers of VND 70,000 /month/child could reduce the expenditure-based poverty rate of children by 1.624 percent, while it could reduce 3 percent with the transfers of VND 140,000/month/child.

Table 19. Simulated impact of transfer on the probability of being poor

Group	Scenario 1: Transfer amount of VND 70,000/month/child				Scenario 2: Transfer amount of VND 140,000/month/child			
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total
<i>Gender</i>								
– Boys	-1.530	-1.708	-1.621	-1.621	-2.914	-3.242	-3.091	-3.085
– Girls	-1.489	-1.705	-1.689	-1.626	-2.831	-3.237	-3.214	-3.090
<i>Ethnicity</i>								
– Kinh	-1.113	-1.190	-1.201	-1.170	-2.133	-2.263	-2.289	-2.227
– Ethnic minorities	-1.820	-2.048	-2.013	-1.964	-3.460	-3.888	-3.825	-3.730
<i>Rural/urban</i>								
– Urban	-1.169	-1.457	-1.394	-1.373	-2.262	-2.788	-2.692	-2.631
– Rural	-1.522	-1.724	-1.671	-1.640	-2.897	-3.272	-3.179	-3.117
<i>Poverty</i>								
– Non-Poor	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
– Poor	-1.330	-1.437	-1.388	-1.385	-2.527	-2.721	-2.634	-2.627
Total	-1.508	-1.706	-1.656	-1.624	-2.871	-3.238	-3.150	-3.088

Source: Own estimates, using VHLSS 2012

2.3. Impact on other welfare of children

In **Table 20**, we examine the effect of income on several welfare outcomes, including having at least a comic book, the number of comic books, living in house with clean drinking water, living in house with hygienic latrine, and expenditure-based poverty status.

Table 20. Child fixed-effects regressions of welfare outcomes

Explanatory variables	Having a comic book (yes=1, no=0)	Number of comic books	Living in house with clean drinking water (yes=1, no=0)	Living in house with hygienic latrine (yes=1, no=0)	Expenditure poor (poor=1, non-poor=0)
Log of per capita income	0.0917*** (0.021)	0.9048*** (0.169)	0.0099 (0.011)	0.0439*** (0.013)	-0.1419*** (0.017)
Household size	0.0077 (0.013)	0.0649 (0.111)	-0.0087 (0.006)	-0.0106* (0.006)	0.0327*** (0.010)
Proportion of children in household	0.4594*** (0.089)	4.0451*** (0.731)	0.0254 (0.045)	-0.0404 (0.052)	-0.0016 (0.062)
Proportion of elderly in household	-0.0621 (0.189)	0.0988 (1.525)	-0.2453** (0.108)	-0.1625* (0.089)	0.1907 (0.145)
Year 2012 dummy	0.0617*** (0.011)	0.5033*** (0.087)	0.0201*** (0.006)	0.0354*** (0.006)	-0.0568*** (0.007)
Constant	-0.6674*** (0.221)	-7.5091*** (1.812)	0.8274*** (0.115)	0.2701** (0.133)	1.4975*** (0.177)
Observations	7,624	7,624	7,624	7,624	7,624
R-squared	0.023	0.029	0.006	0.0181	0.070
Number of children	3,812	3,812	3,812	3,812	3,812

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Source: Own estimates, using VHLSS 2012

It is indicated that children living in households with higher income were more likely to have comic books. More specifically, a one percent increase in per capita income could raise the probability of having comic book by 0.0917 percent, and the number of comic books by 0.9048 percent.

The effect of income on the clean drinking water is small and not significant. A reason might be that low income households can still have access to clean drinking water sources such as rain water or protected well. However, increased income helps better access to hygienic latrines. A one percent increase in per capita income leads to a 0.0439 percent increase in the probability of having hygienic latrine.

Table 21 and **Table 22** present the impact of transfers on the probability of having comic book and the number of comic books. The transfers of VND 70,000/month/child could increase the proportion of having comic book among children by 0.516 percent, and the number of comic books by 0.7 percent. The figures for the transfers of VND

140,000/month/child could be 0.981 percent and 1.332 percent, respectively. In both scenarios, the effect could be much larger for poor children as well as ethnic minority children than other groups of children based on the estimated coefficients – which is a good sign for promoting cash transfer program for these groups of children.

Table 21. Simulated impact of transfer on the probability of having comic book (in percent)

Group	Scenario 1: Transfer amount of VND 70,000/month/child				Scenario 2: Transfer amount of VND 140,000/month/child				
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total	
<i>Gender</i>									
– Boys	0.534	0.515	0.528	0.524	1.016	0.979	1.006	0.998	
– Girls	0.531	0.469	0.521	0.508	1.010	0.891	0.993	0.963	
<i>Ethnicity</i>									
– Kinh/Hoa	0.187	0.152	0.190	0.175	0.357	0.290	0.361	0.337	
– Ethnic minorities	5.426	3.482	2.977	3.636	10.303	6.610	5.657	6.906	
<i>Rural/urban</i>									
– Urban	0.045	0.089	0.097	0.076	0.088	0.170	0.187	0.147	
– Rural	0.847	0.689	0.694	0.733	1.613	1.310	1.318	1.392	
<i>Poverty</i>									
– Non-Poor	0.069	0.088	0.098	0.086	0.135	0.169	0.190	0.166	
– Poor	4.521	3.644	3.220	3.690	8.590	6.899	6.113	7.000	
Total	0.532	0.493	0.525	0.516	1.014	0.935	0.999	0.981	

Source: Own estimates, using VHLSS 2012

Table 22. Simulated impact of transfer on the number of comic books (in percent)

Group	Scenario 1: Transfer amount of VND 70,000/month/child				Scenario 2: Transfer amount of VND 140,000/month/child				
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total	
<i>Gender</i>									
– Boys	0.746	0.708	0.708	0.719	1.420	1.346	1.349	1.368	
– Girls	0.713	0.640	0.697	0.682	1.355	1.215	1.325	1.297	
<i>Ethnicity</i>									
– Kinh	0.251	0.202	0.248	0.233	0.480	0.384	0.472	0.444	
– Ethnic minorities	10.11	6.87	4.89	6.51	19.21	13.03	9.29	12.38	
<i>Rural/urban</i>									
– Urban	0.056	0.110	0.112	0.092	0.107	0.212	0.216	0.178	
– Rural	1.249	0.993	0.989	1.058	2.376	1.886	1.880	2.010	
<i>Poverty</i>									
– Non-Poor	0.092	0.114	0.127	0.112	0.178	0.221	0.245	0.217	
– Poor	9.21	7.49	5.63	7.05	17.50	14.18	10.68	13.37	
Total	0.728	0.674	0.703	0.700	1.386	1.280	1.337	1.332	

Source: Own estimates, using VHLSS 2010 & 2012

In **Table 23**, we simulate the effect of cash transfers on the probability of having hygienic latrine. The transfers of VND 70,000/month/child could also increase the proportion of having hygienic latrine by 0.19 percent. For the transfers of VND 140,000/month/child, the proportion of children’s households having hygienic latrine could be increased by 0.36 percent.

Table 23. Simulated impact of transfer on the probability of having hygienic latrine (in percent)

Group	Scenario 1: Transfer amount of VND 70,000/month/child				Scenario 2: Transfer amount of VND 140,000/month/child			
	0-5	6-10	11-15	Total	0-5	6-10	11-15	Total
<i>Gender</i>								
– Boys	0.173	0.202	0.185	0.185	0.329	0.383	0.351	0.354
– Girls	0.187	0.187	0.204	0.193	0.354	0.355	0.387	0.366
<i>Ethnicity</i>								
– Kinh	0.061	0.058	0.066	0.062	0.118	0.110	0.125	0.118
– Ethnic minorities	2.763	2.128	2.133	2.286	5.255	4.042	4.053	4.338
<i>Rural/urban</i>								
– Urban	0.015	0.037	0.035	0.028	0.030	0.069	0.066	0.053
– Rural	0.287	0.268	0.259	0.269	0.546	0.510	0.493	0.514
<i>Poverty</i>								
– Non-Poor	0.024	0.034	0.034	0.031	0.045	0.065	0.067	0.059
– Poor	1.683	1.981	1.620	1.744	3.198	3.752	3.073	3.308
<i>Total</i>	<i>0.179</i>	<i>0.195</i>	<i>0.194</i>	<i>0.190</i>	<i>0.342</i>	<i>0.369</i>	<i>0.368</i>	<i>0.360</i>

Source: Own estimates, using VHLSS 2012

3. Reaching Age-based Universal Scheme - Cost Simulations

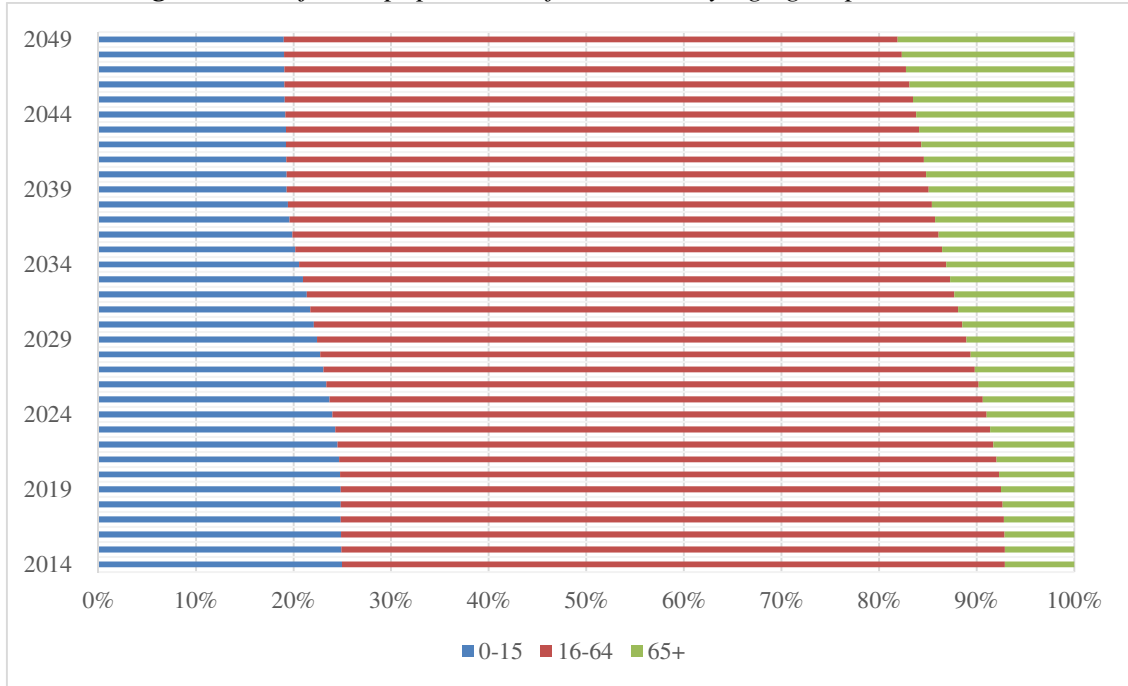
In this section, we will estimate the costs for having universal schemes for children at different age groups and areas of living in the period 2014-2025, using the the population projections in the period 2009-2049 by GSO (2011). To estimate respective costs, we will use formula (4). Using VND 70,000/month/child transferred to children in 2012 as benchmark for benefit level, we will be able to calculate costs for each group and all child population in 2015-2025 period. Although benefit is fixed at 2.31% of GDP per capita, benefit level in the future will also increase as long as GDP per capita is improved.⁸

Figure 1 presents the projected populations by age group in the period 2009-2025 for the whole Vietnam. As a percent of the total population, child population (0-15) will decrease overtime, working-age population (16-64) will increase slightly and then decrease, while old-age population (65 and over) will significantly increase. Such demographic trends show that the number of potential child beneficiaries for the cash transfer program will decrease overtime, even for the universal scheme to cover all children.

In specific, **Figure 2** shows the projected child populations by age group and areas of living in absolute number (upper panel) and relative number (lower panel).

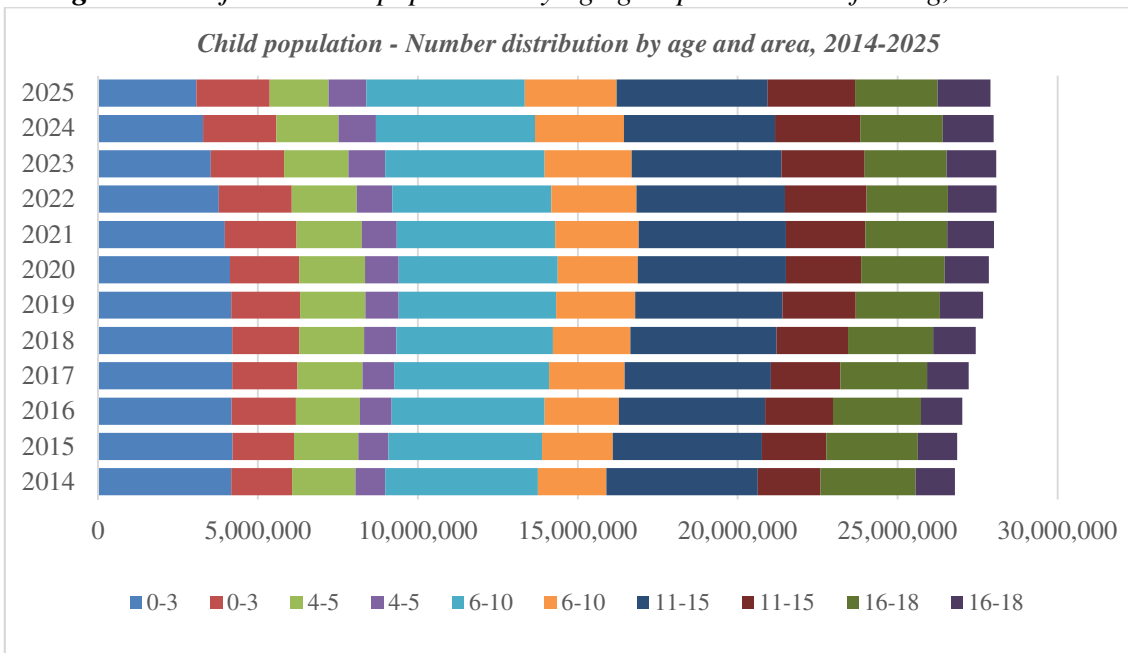
⁸ In 2012, GDP per capita was about VND 36,355,915/person. As such, VND 70,000/month (or VND 840,000/year) is equal to 0.0023% of GDP per capita.

Figure 1. Projected population of Viet Nam by age group, 2009-2049



Source: Own compilation, using GSO (2011)

Figure 2. Projected child population by age group and areas of living, 2014-2025



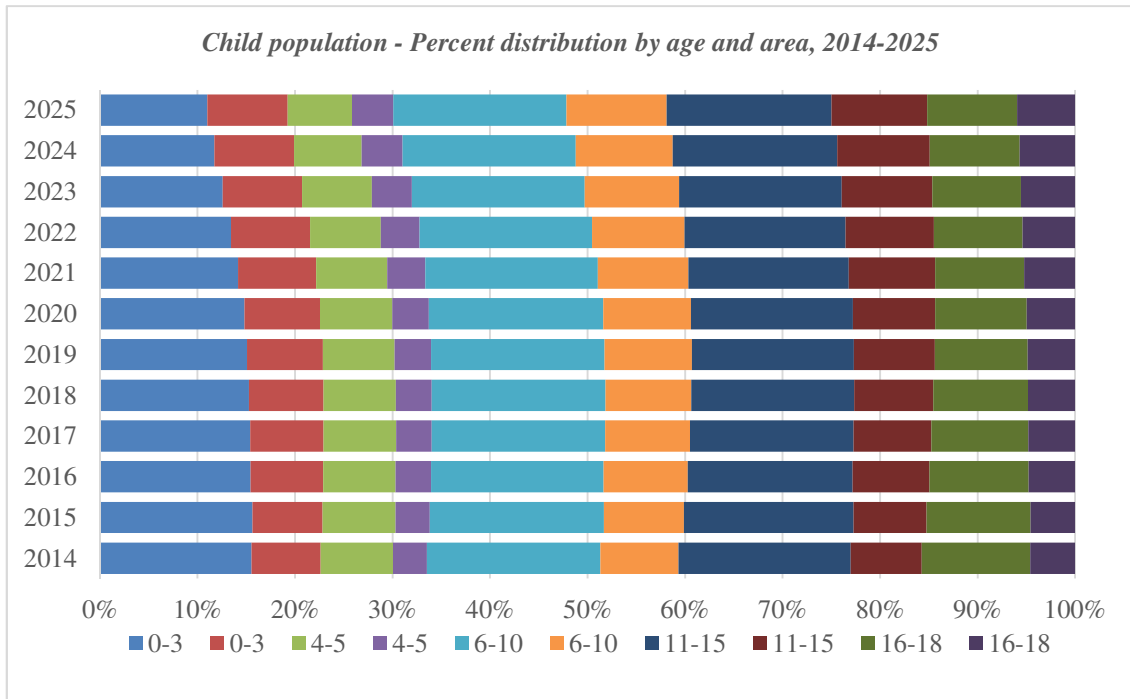


Table 24 shows the cost estimates for each group of children and for all children along with their areas of living in the 2014-2025 period. The detailed estimates are presented in **Table A.2** in the Appendix.

As shown, the total cost for covering all children (aged 0-15) with the same benefit at 2.31% GDP per capital will slightly decrease from 0.577% of GDP in 2014 to 0.547% of GDP in 2025. In particular, cost for covering all children aged 0-3 will decrease from 0.155% GDP to 0.124% GDP due to decrease in their number over the projection period. Similarly, the total cost for covering all children (aged 0-18, as proposed in the amendment of the Law on Child Care and Protection) with the same benefit at 2.31% GDP per capital will slightly decrease from 0.684% of GDP in 2014 to 0.645% of GDP in 2025, in which the costs covering children aged 16-18 will also decrease from 0.107% GDP in 2014 to 0.098% GDP in 2025.

If the program will cover only children (aged 0-15) living in rural areas, the total cost will reduce from 0.399% GDP in 2014 to 0.337% GDP in 2025, which is mostly due to reduction in the cost for 0-3 group. Similar results can be observed for children, who are defined as those aged 0-18. Two contributing factors for such results include lower fertility rates and higher urbanization rate in Vietnam in the coming years.

In contrast, if the program will cover only children living in urban areas, the total cost will slightly increase, from 0.177% GDP in 2014 to 0.21% GDP in 2025 (for children aged 0-15) or from 0.209% GDP in 2014 to 0.248% GDP in 2015 (for children aged 0-18). The most important factor contributing to these increases is urbanization, which results in more children living in urban areas.

Compared to other estimates for Vietnam (such as UN and MOLISA, 2011) and other countries (such as those for Cambodia, Sri Lanka, and the Philippines), it is indicated that the total costs are similar. The most important policy questions include (i) how such costs will be translated into improving welfare for targeted children and (ii) how much fiscal space will the government of Vietnam have in the coming years.

Table 24. Cost estimates for age-based universal cash transfer scheme, 2015-2025

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
ALL CHILDREN												
0-3	0.155	0.155	0.155	0.154	0.154	0.153	0.151	0.148	0.143	0.136	0.130	0.124
4-5	0.074	0.075	0.075	0.075	0.074	0.074	0.075	0.074	0.074	0.074	0.072	0.070
6-10	0.176	0.177	0.178	0.178	0.179	0.179	0.179	0.180	0.180	0.180	0.181	0.181
11-15	0.171	0.169	0.167	0.167	0.167	0.167	0.168	0.168	0.169	0.171	0.172	0.172
16-18	0.107	0.103	0.101	0.099	0.098	0.096	0.096	0.096	0.096	0.096	0.097	0.098
<i>Total 0-15</i>	<i>0.577</i>	<i>0.575</i>	<i>0.574</i>	<i>0.574</i>	<i>0.574</i>	<i>0.574</i>	<i>0.572</i>	<i>0.570</i>	<i>0.566</i>	<i>0.561</i>	<i>0.554</i>	<i>0.547</i>
<i>Total 0-18</i>	<i>0.684</i>	<i>0.678</i>	<i>0.675</i>	<i>0.673</i>	<i>0.671</i>	<i>0.670</i>	<i>0.668</i>	<i>0.666</i>	<i>0.662</i>	<i>0.657</i>	<i>0.651</i>	<i>0.645</i>
CHILDREN LIVING IN RURAL AREAS												
0-3	0.106	0.106	0.104	0.104	0.103	0.101	0.099	0.094	0.089	0.083	0.076	0.071
4-5	0.051	0.051	0.050	0.050	0.050	0.049	0.049	0.049	0.048	0.047	0.045	0.043
6-10	0.122	0.121	0.119	0.120	0.120	0.119	0.119	0.118	0.117	0.117	0.116	0.115
11-15	0.121	0.118	0.114	0.113	0.112	0.111	0.111	0.109	0.109	0.110	0.110	0.109
16-18	0.076	0.072	0.069	0.067	0.065	0.064	0.063	0.061	0.060	0.060	0.060	0.060
<i>Total 0-15</i>	<i>0.399</i>	<i>0.396</i>	<i>0.388</i>	<i>0.387</i>	<i>0.384</i>	<i>0.381</i>	<i>0.379</i>	<i>0.370</i>	<i>0.363</i>	<i>0.356</i>	<i>0.347</i>	<i>0.337</i>
<i>Total 0-18</i>	<i>0.475</i>	<i>0.468</i>	<i>0.457</i>	<i>0.454</i>	<i>0.449</i>	<i>0.444</i>	<i>0.442</i>	<i>0.431</i>	<i>0.424</i>	<i>0.416</i>	<i>0.407</i>	<i>0.397</i>
CHILDREN LIVING IN URBAN AREAS												
0-3	0.049	0.049	0.050	0.051	0.051	0.052	0.052	0.053	0.054	0.054	0.053	0.053
4-5	0.024	0.024	0.025	0.025	0.025	0.025	0.025	0.026	0.026	0.027	0.027	0.027
6-10	0.055	0.056	0.058	0.059	0.059	0.060	0.060	0.062	0.063	0.064	0.065	0.066
11-15	0.050	0.051	0.053	0.054	0.055	0.056	0.056	0.059	0.060	0.061	0.062	0.063
16-18	0.031	0.031	0.032	0.032	0.032	0.033	0.033	0.035	0.036	0.036	0.037	0.038
<i>Total 0-15</i>	<i>0.177</i>	<i>0.179</i>	<i>0.186</i>	<i>0.187</i>	<i>0.190</i>	<i>0.193</i>	<i>0.193</i>	<i>0.200</i>	<i>0.203</i>	<i>0.205</i>	<i>0.207</i>	<i>0.210</i>
<i>Total 0-18</i>	<i>0.209</i>	<i>0.210</i>	<i>0.218</i>	<i>0.220</i>	<i>0.222</i>	<i>0.226</i>	<i>0.227</i>	<i>0.235</i>	<i>0.239</i>	<i>0.242</i>	<i>0.244</i>	<i>0.248</i>

Source: Own calculations, using GSO (2011)

V. CONCLUDING REMARKS AND POLICY RECOMMENDATIONS

1. Concluding remarks

Viet Nam is at an important juncture where social protection system requires a major transformation to address the complex challenges and emerging risks that intensely affect children and families in the middle-income country context. While maintaining a high rate of growth making the most of the investment, demographic bonus and integration into the global and regional economy, the recent slower pace of development requires Viet Nam to adjust its strategies to reprioritize and maximize the available fiscal space for social protection in an efficient and effective way to address the multi-faceted challenges. Investment in social protection is thus an investment in sustaining the socio-economic development in an inclusive

manner. In particular, reducing poverty and increasing access to education, health and other material life conditions in the early years via a widely-covered social security system should be an imperative for major priority development pathways of Viet Nam given the major benefits with respect to mitigating widening gaps in achievement between advantaged and disadvantaged children, improving health outcomes, boosting earnings, and increasing the future return. The SDGs and Addis Ababa Action Plan on financing for development with focus on nationally-owned and sustainable social protection system serve as a key driver for accelerating the reform agenda in Viet Nam.

Under the expected demographic changes and potential economic shocks, it is required that Viet Nam provide a comprehensive social protection to its citizens, including children. This study was aimed to estimate how cash transfer to children could help to reduce their poverty as well as to increase access to education, health and other material life conditions. Our findings could be summarized as follows: (i) cash transfers would have a positive effect of income on school enrolment, and increased income resulted from cash transfers could significantly increase out-of-pocket (OOP) spending on education. More importantly, the effect could be higher for ethnic minorities and poor students; (ii) There were no significant effects of cash transfers on health care contacts (both inpatient and outpatient) and out-of-pocket spending on health care, but there was a significant effect of income on the probability of having health insurance; (iii) cash transfers would have a positive effect on poverty reduction for children; and (iv) cash transfers would be able to improve other welfare indicators for children, especially poor and ethnic minority children. In terms of cost, we found that the current proposed transfer level (i.e., VND 70,000/month/child, or equivalent to 2.31% of GDP per capita in 2012) would cost 0.577% of GDP in 2014 and 0.547% of GDP in 2025 if the program is universal for children aged 0-15, in which cost for covering all children aged 0-3 will decrease most due to decrease in their number over the projection period.

2. Policy recommendations

Based on our findings and international experiences, we would like to propose the following policy recommendations.

First, as a part of household income, cash transfers would have positive impacts on various children's welfare, such as reducing poverty, increasing school attendance, increasing probability to have health insurance. A such, cash transfers should be considered as an important tool to provide protection to children for their early childhood development. Though, please also note that cash transfers are not panacea for dealing all socio-economic and health issues of children; rather, a long-term vision and development of social policies for education and health for an aging population like Vietnam is really a prerequisite.

Second, among children, the poor and ethnic minority children are more vulnerable, and cash transfers always had large impacts on their education and health. Thus, promoting cash transfer program for these child groups would provide opportunities for them to be as the other groups. In particular, for the areas and provinces where a majority of poor and ethnic minority children are living, such a policy direction is extremely important, so as to build better human resources and thus promote economic growth and development in these locations.

Third, as total fertility rate is decreasing, it is expected that the number of potential beneficiaries – i.e., children – will be smaller in the coming decades. Thus, government will be able to increase benefit level and coverage feasible fiscal space. Though money can be used for different purposes but what is important to be recognized is that many poor and disadvantaged children would have chances to access to and benefit from education and health care services. Also, higher government tax-based spending for cash transfers would require higher taxes, which in turn may change behaviors (both working and consumption) of tax payers.

Last, but not least, quality of services to be provided along with cash transfer should also be emphasized, so as to make sure that the current benefits will be fully translated into socio-economic development of Vietnam. For instance, international experiences showed a critical lesson that increase in the use of education services via cash transfers did not result in significant learning improvements: the programs did not have a significant effect on achievement test scores in Mexico (Behrman et al., 2000) and Ecuador (Ponce and Bedi, 2010) as well as in Cambodia's CESSP (Cambodia Education Sector Support Project) (Filmer and Schady, 2009); for the Familias en Acción in Colombia, Baez and Camacho (2011) found that beneficiary students were more likely to complete high school than non-beneficiaries, but they did not perform better on (in-classroom) achievement tests.

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APPENDIX

Table A.1. Summary of key cash transfer policies and programs for Vietnamese children

No.	Policy/Program	Main contents	Beneficiaries	Benefit level
1	<ul style="list-style-type: none"> – Decree 49/2010/ND-CP, dated 14 May 2010 – Decree 74/2013/ND-CP dated 15 July 2013 (amended Decree 49) 	Regulations on exemption, deduction of tuition fee and support for study costs	<p>Children learning in kindergartens, orphaned pupils and students who are without support, or disabled with economic difficulties</p> <p>Children in public kindergartens and pupils whose parents are categorized as poor people.</p> <p>Children studying in schools for ethnic minorities</p> <p>Ethnic minority pupils living in areas with difficult socio-economic conditions</p> <p>Pupils studying in some special professional or hazardous work</p> <p>Children in public kindergartens or pupils who are children of public servants who had occupational accidents/diseases and receiving regular social assistance</p> <p>Children in public kindergartens or pupils whose parents are poor people</p> <p>Children in public kindergartens; orphaned pupils and students who are without support, or disabled with economic difficulties</p>	<p>Exemption of tuition fee</p> <hr/> <p>Deduction of tuition fee at 70%</p> <hr/> <p>Deduction of tuition fee at 50%</p> <hr/> <p>Support for study costs</p>

No.	Policy/Program	Main contents	Beneficiaries	Benefit level
2	Decision 85/2010/QD-TTg dated 21 December 2010	Policies to support pupils in public day-boarding schools and ethnic minority pupils in boarding schools in economically difficult areas	Children in public kindergartens or pupils whose parents are poor people (but these children are not those mentioned above) Pupils in public day-boarding schools	<ul style="list-style-type: none"> – Meals per pupil: 40% of general minimum wage and not more than 9 months per years – Housing cost: for those who have to rent a house, 10% of general minimum wage and not more than 9 months per years
			Ethnic minority pupils in boarding schools in economically difficult areas	<ul style="list-style-type: none"> – Support for study equipment per year: VND 100,000 per pupil – Medical support per year: VND 50,000 per pupil
3	Decision 12/2013/QD-TTg dated 24 January 2013	Support to secondary pupils in economically difficult areas	Ethnic minority pupils who (a) are studying in public secondary schools; (b) themselves, parents or their supervisors have permanent household registration in economically difficult areas; and (c) staying in boarding schools due to difficult transportation and location. Kinh pupils living in economically difficulties communes/wards, and belonging poor households	<ul style="list-style-type: none"> – Meals per pupil: 40% of general minimum wage and not more than 9 months per years – Housing cost: for those who have to rent a house, 10% of general minimum wage and not more than 9 months per years

No.	Policy/Program	Main contents	Beneficiaries	Benefit level
4	<ul style="list-style-type: none"> – Decree 67/2007 dated 13 April 2007; – Decree 13/2010 dated 27 February 2010; – Decree 136/2013 dated 21 October 2013 	Regular (monthly) social assistance	Orphaned for both parents; deserted but not yet adopted; orphaned for both parents and remaining persons are missing; etc. (Chapter 2, Article 5, Clause 1)	<ul style="list-style-type: none"> – Age 0-4: VND 675,000 per month – Aged 4-16: VND 405,000 per month
		Foster care centers	HIV-affected children living in poor households.	<ul style="list-style-type: none"> – Age 0-4: VND 675,000 per month – Aged 4-16: VND 540,000 per month
			Children with disabilities who are cared in public centers	<ul style="list-style-type: none"> – Age 0-4: VND 1,350,000 per month – Aged 4-16: VND 1,080,000 per month
5	<ul style="list-style-type: none"> – Decision 157/2007/QĐ-TTg dated 27 September 2007 – Decision 1344/QĐ-TTg dated 26 Aug 2009; – Decision 1196/QĐ-TTg dated 19 July 2013 	Credit for students and pupils to support study costs, including tuition fee, money for textbook and tools, meal and housing costs, and transportation costs	<p>Pupils who (i) are orphaned of both parents; or (ii) orphaned of father or mother, while the other is not able to work.</p> <p>Pupils who are: - living in poor households; or . living in near-poor households</p> <p>Pupils whose households are facing financial difficulties due to accidents, natural disasters, fire, epidemics in the time they are studying and these are proved by People’s Committee where pupils are living</p>	Per student per month: VND 800,000 (Decision 157); VND 850,000 (Decision 1344); VND 1,100,000 (Decision 1196)
6	Joint Circular MoLISA-MoF-	Guiding financial management and	(Cash transfer pilots in Ha Giang,	Children aged 0-3 living in poor

No.	Policy/Program	Main contents	Beneficiaries	Benefit level
	MoET 26/2014/TTLT-BLDTBXH-BTC-BGDDT, dated 22 September 2014	implementation of the 'Strengthening Social Assistance System in Viet Nam' funded by the World Bank.	Quang Nam, Lam Dong, and Tra Vinh)	households: VND 70,000 per month (for 12 months per year)
				Children aged 3-15 living in poor households who are currently not attending schools: VND 70,000 per month (for 9 months per year)

Source: Own compilation, using various legal documents

Table A.2. Detailed cost projections for child cash transfers by age group and areas of living, 2014-2025

ALL	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Population by age group												
0-3	6,065,277	6,126,986	6,183,967	6,235,421	6,288,053	6,321,528	6,284,644	6,210,853	6,054,670	5,819,344	5,574,018	5,366,175
4-5	2,915,314	2,955,927	2,992,448	3,022,746	3,041,694	3,073,814	3,112,469	3,132,381	3,146,919	3,161,029	3,110,186	3,022,878
6-10	6,913,805	7,007,371	7,107,934	7,210,868	7,311,219	7,403,916	7,480,751	7,563,079	7,638,023	7,703,821	7,763,093	7,824,023
11-15	6,689,872	6,681,816	6,698,772	6,742,607	6,808,282	6,890,416	6,983,963	7,084,587	7,187,676	7,288,240	7,381,193	7,458,381
16-18	4,210,822	4,092,238	4,039,336	4,011,851	3,988,962	3,981,568	3,993,982	4,022,704	4,064,046	4,114,828	4,172,657	4,234,954
Total	26,795,09	26,864,33	27,022,45	27,223,49	27,438,21	27,671,24	27,855,81	28,013,60	28,091,33	28,087,26	28,001,14	27,906,41
	0	8	7	3	0	2	0	4	4	1	6	1
Population as % of total population												
0-3	6.70	6.70	6.69	6.67	6.66	6.63	6.53	6.39	6.18	5.90	5.61	5.37
4-5	3.22	3.23	3.24	3.24	3.22	3.22	3.23	3.22	3.21	3.20	3.13	3.03
6-10	7.64	7.66	7.69	7.72	7.74	7.76	7.77	7.78	7.80	7.81	7.82	7.83
11-15	7.39	7.31	7.25	7.22	7.21	7.22	7.25	7.29	7.34	7.39	7.43	7.46
16-18	4.65	4.47	4.37	4.29	4.23	4.17	4.15	4.14	4.15	4.17	4.20	4.24
Total	29.61	29.37	29.23	29.14	29.06	29.01	28.93	28.82	28.67	28.46	28.20	27.93
Cost of age-based universal coverage (% GDP)												
0-3	0.155	0.155	0.155	0.154	0.154	0.153	0.151	0.148	0.143	0.136	0.130	0.124
4-5	0.074	0.075	0.075	0.075	0.074	0.074	0.075	0.074	0.074	0.074	0.072	0.070
6-10	0.176	0.177	0.178	0.178	0.179	0.179	0.179	0.180	0.180	0.180	0.181	0.181
11-15	0.171	0.169	0.167	0.167	0.167	0.167	0.168	0.168	0.169	0.171	0.172	0.172
16-18	0.107	0.103	0.101	0.099	0.098	0.096	0.096	0.096	0.096	0.096	0.097	0.098
Total 0-15	0.577	0.575	0.574	0.574	0.574	0.574	0.572	0.570	0.566	0.561	0.554	0.547
Total 0-18	0.684	0.678	0.675	0.673	0.671	0.670	0.668	0.666	0.662	0.657	0.651	0.645
RURAL												
Population by age group												
0-3	4,160,760	4,203,248	4,172,464	4,193,025	4,194,742	4,169,299	4,127,580	3,966,175	3,775,609	3,530,085	3,285,783	3,071,801
4-5	1,985,760	2,011,287	2,006,587	2,028,833	2,033,520	2,033,299	2,062,648	2,041,365	2,030,599	2,012,127	1,941,827	1,845,804
6-10	4,771,477	4,802,930	4,781,572	4,844,581	4,894,774	4,922,667	4,976,677	4,954,271	4,972,600	4,980,998	4,975,316	4,955,619

ALL	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
11-15	4,731,270	4,668,273	4,570,867	4,569,851	4,579,167	4,594,616	4,630,943	4,605,666	4,637,239	4,678,832	4,724,142	4,721,574
16-18	2,977,061	2,862,181	2,750,482	2,705,048	2,664,948	2,634,401	2,613,793	2,559,048	2,548,293	2,556,720	2,580,635	2,578,620
Total	18,626,328	18,547,920	18,281,972	18,341,337	18,367,151	18,354,281	18,411,642	18,126,523	17,964,341	17,758,762	17,507,703	17,173,418
Population as % of total population												
0-3	4.60	4.60	4.51	4.49	4.44	4.37	4.29	4.08	3.85	3.58	3.31	3.07
4-5	2.19	2.20	2.17	2.17	2.15	2.13	2.14	2.10	2.07	2.04	1.96	1.85
6-10	5.27	5.25	5.17	5.19	5.18	5.16	5.17	5.10	5.08	5.05	5.01	4.96
11-15	5.23	5.10	4.94	4.89	4.85	4.82	4.81	4.74	4.73	4.74	4.76	4.72
16-18	3.29	3.13	2.98	2.90	2.82	2.76	2.71	2.63	2.60	2.59	2.60	2.58
Total	20.58	20.28	19.78	19.63	19.46	19.24	19.12	18.65	18.33	18.00	17.63	17.19
Cost of age-based universal coverage (% GDP)												
0-3	0.106	0.106	0.104	0.104	0.103	0.101	0.099	0.094	0.089	0.083	0.076	0.071
4-5	0.051	0.051	0.050	0.050	0.050	0.049	0.049	0.049	0.048	0.047	0.045	0.043
6-10	0.122	0.121	0.119	0.120	0.120	0.119	0.119	0.118	0.117	0.117	0.116	0.115
11-15	0.121	0.118	0.114	0.113	0.112	0.111	0.111	0.109	0.109	0.110	0.110	0.109
16-18	0.076	0.072	0.069	0.067	0.065	0.064	0.063	0.061	0.060	0.060	0.060	0.060
Total 0-15	0.399	0.396	0.388	0.387	0.384	0.381	0.379	0.370	0.363	0.356	0.347	0.337
Total 0-18	0.475	0.468	0.457	0.454	0.449	0.444	0.442	0.431	0.424	0.416	0.407	0.397
URBAN												
Population by age group												
0-3	1,904,517	1,923,737	2,011,503	2,042,395	2,093,311	2,152,229	2,157,064	2,244,678	2,279,062	2,289,258	2,288,235	2,294,374
4-5	929,554	944,640	985,860	993,914	1,008,174	1,040,516	1,049,821	1,091,017	1,116,320	1,148,902	1,168,359	1,177,074
6-10	2,142,328	2,204,441	2,326,362	2,366,287	2,416,445	2,481,249	2,504,074	2,608,809	2,665,423	2,722,823	2,787,777	2,868,404
11-15	1,958,602	2,013,543	2,127,905	2,172,756	2,229,115	2,295,800	2,353,021	2,478,921	2,550,436	2,609,408	2,657,051	2,736,807
16-18	1,233,761	1,230,057	1,288,854	1,306,803	1,324,013	1,347,167	1,380,188	1,463,656	1,515,753	1,558,108	1,592,022	1,656,335
Total	8,168,762	8,316,418	8,740,485	8,882,155	9,071,058	9,316,961	9,444,168	9,887,081	3	9	3	3
Population as % of total population												
0-3	2.10	2.10	2.18	2.19	2.22	2.26	2.24	2.31	2.33	2.32	2.30	2.30

ALL	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
4-5	1.03	1.03	1.07	1.06	1.07	1.09	1.09	1.12	1.14	1.16	1.18	1.18
6-10	2.37	2.41	2.52	2.53	2.56	2.60	2.60	2.68	2.72	2.76	2.81	2.87
11-15	2.16	2.20	2.30	2.33	2.36	2.41	2.44	2.55	2.60	2.64	2.68	2.74
16-18	1.36	1.34	1.39	1.40	1.40	1.41	1.43	1.51	1.55	1.58	1.60	1.66
Total	9.03	9.09	9.46	9.51	9.61	9.77	9.81	10.17	10.34	10.47	10.57	10.74
Cost of age-based universal coverage (% GDP)												
0-3	0.049	0.049	0.050	0.051	0.051	0.052	0.052	0.053	0.054	0.054	0.053	0.053
4-5	0.024	0.024	0.025	0.025	0.025	0.025	0.025	0.026	0.026	0.027	0.027	0.027
6-10	0.055	0.056	0.058	0.059	0.059	0.060	0.060	0.062	0.063	0.064	0.065	0.066
11-15	0.050	0.051	0.053	0.054	0.055	0.056	0.056	0.059	0.060	0.061	0.062	0.063
16-18	0.031	0.031	0.032	0.032	0.032	0.033	0.033	0.035	0.036	0.036	0.037	0.038
<i>Total 0-15</i>	<i>0.177</i>	<i>0.179</i>	<i>0.186</i>	<i>0.187</i>	<i>0.190</i>	<i>0.193</i>	<i>0.193</i>	<i>0.200</i>	<i>0.203</i>	<i>0.205</i>	<i>0.207</i>	<i>0.210</i>
<i>Total 0-18</i>	<i>0.209</i>	<i>0.210</i>	<i>0.218</i>	<i>0.220</i>	<i>0.222</i>	<i>0.226</i>	<i>0.227</i>	<i>0.235</i>	<i>0.239</i>	<i>0.242</i>	<i>0.244</i>	<i>0.248</i>