Chapter 3

Impact of Cash Transfer on Poverty and Income Distribution

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CHAPTER 3

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Laos has inadequate social protection, especially for the poor and the Lao economy is vulnerable to external shock, particularly from events like the global financial crisis. It seems that the poor suffered significant effects from the shock. Therefore, it is important to consider creating cash transfer programs for the poor. The main objective of this study is to assess the impact of cash transfers on poverty and income distribution during a crisis. A Computable General Equilibrium (CGE) model- and Micro-simulation are employed for this study. This study focuses on cash transfers to poor households with children, living in rural and urban areas. The simulation result shows that cash transfer has a significant impact on poverty and income distribution. It is noteworthy that poverty reduced more in rural rather than in urban areas. It is therefore important for government to consider establishing social support programs for the poor, in order to reduce poverty and mitigate external shocks such as the recent crisis and rising food prices.

Keywords: Conditional Cash Transfer, Crisis, Poor, CGE model-micro-simulation, Laos

JEL Classification: I0; C68

1. Introduction

Laos is a small, open Least Developed Country (LDC) in Southeast Asia. Laos was ranked 122th out of 169 countries in 2010 (UNDP, 2010). 34 percent of the population lives below the poverty line. Despite high poverty, low school enrolment and poor nutrition, there is no social transfer program for the poor. In addition, Laos lacks a social assistance program or conditional cash transfer (CCT) program for direct support of the poor during external shocks, such as the recent global financial crisis, rising food and fuel prices, and natural disasters. It is therefore important that policy makers consider establishing CCT programs for the poor.

Conditional cash transfers (CCT) were implemented in Latin America in the 1990s, and interest in them is increasing among developing countries including Laos. A CCT program aims to reduce current poverty, improve human capital formation, and help prevent the intergenerational transmission of poverty. CCT seems to be "a magic bullet in development" (Adoto and Hoddinot, 2007). Even though CCT programs are quite successful in some countries in Latin America, in terms of poverty reduction, increasing consumption, school enrolment, accession to heath care and improved nutrition, their establishment is complex, costly and needs strong institutions to support them. Study is needed to fill the knowledge gaps before establishing CCT programs in Laos.

The main objective of this study is therefore to quantify the possible impacts of cash transfer on poverty, using a Global Trade Analysis Project (GTAP) and Micro-simulation. This study focuses on cash transfer to poor families with children in rural and urban areas. The study is important for policy makers in developing social protection packages to mitigate the negative impact of external shocks, and reduce poverty.

The rest of this paper is organized as follows. Section 2 provides information on the Lao economy and external shock such as the recent crisis. Section 3 reviews social protection and its issues. Section 4 reviews the trends of poverty, education and nutrition conditions of children. Section 5 presents an overview of the literature on social protection and cash transfer programs, in foreign countries and in Laos. Section 6 explains the methodology of the study and its data collection. Section 7 is the

simulation design and its results. The final section presents conclusions, and contains policy recommendations.

2. The Lao Economy and External Shocks

Except during the Asian financial crisis of the 1990s, Laos has been achieving high rates of economic growth with low inflation. The average rate of economic growth was about 6.5% between 2001 and 2006, an increase from about 6.2% during the period - 1996 to 2000.[1] The average inflation rate was maintained in single digits during 2001-2006, which was a significant decline from the average rate of 57% during 1996-2000, and the exchange rate was also stable over the same period (Table 2-1). Of the total GDP of US$ 4,053 million in 2007, the agricultural sector accounted for 40.3%, the industrial sector for 34.1% and the services sector for 25.6% (World Bank, 2009). However, since 2003, the industrial sector has grown more than 10%, which has reduced agriculture's share.

[1] The engine of growth during this period was capital inflows of Foreign Direct Investment (FDI) in the mining and hydropower sectors and mining production and exports. For a more detailed discussion of the impact of FDI in the mining and hydropower sectors on the Lao economy see Kyophilavong and Toyoda (2008).

Table 2-1. Key Macroeconomic Indicators

Macroeconomic Indicators	2001-2006	1996-2000	1990-1995
Population (million person) *	5.46	4.86	4.40
Population Growth (%)	2.12	2.06	2.52
GDP (current million US$) **	2,416	1,618	1,276
GDP Growth (%)	6.53	6.18	6.46
Growth per-capita (constant 2000 US$) **	379	307	248
GDP per-capita Growth (%)	4.04	3.68	3.80
Reserve Money (M2) (million US$) *	450,981	270,728	148,280
Money Supply (M2) (%) *	21.14	65.99	30.92
Inflation –CPI (%)	9.73	57.00	15.27
Trade Deficit (million US$) ***	-219.91	-263.21	-174.92
Trade Deficit/ GDP (%)	-9.24	-16.06	-13.14
Foreign Reserve (million US$) ***	220	127	48
External Debt (million US$) *	2,640	2,410	1,965
External Debt/ GDP (%)	115	152	161
Budget Deficit (including grants) (million US$)	-104	-58	-100
Budget Deficit/ GDP (%)	-4.42	-3.60	-7.61
Budget Deficit (exclude grants) (million US$)	-149	-121	-145
Budget Deficit/ GDP (%)	-6.29	-7.58	-11.21
Exchange Rate (Kip/ US$) Official Rate ***	10,163	4,094	727

Sources:

* Asian Development Bank (ADB), *Key Indicators for Asia and the Pacific 2008.* www.adb.org/statistics.

** World Bank, *World Development Indicators CD-ROM (2005)*, and

*** International Monetary Fund, *International Financial Statistics CD-ROM August 2008.*

Even though Laos has been maintaining high economic growth, with low inflation and a stable exchange rate, it still has serious macroeconomic issues to overcome. First, Laos is basically facing chronic twin deficits in both government spending and international trade. These deficits are mainly financed by Official Development Assistance (ODA), FDI, and remittances. The fiscal issue is particularly serious in Laos. Secondly, there is a huge gap between savings and investment. The savings rate is low because of low average incomes. Thirdly, Laos is also facing a high burden of external debt. The external debt accumulation was close to 60% of GDP in 2007. If Laos becomes heavily dependent upon foreign finance, especially to meet its debt obligations, this could cause a foreign debt crisis and might lead to macroeconomic instability.

The Lao economy is vulnerable to external shock, such as the Asian financial crisis in 1997 and the global financial crisis in 2008[2]. This kind of external shock has a

[2] The detail discussion on the impact of Global Financial Crisis on Lao economy, see Kyophilavong (2008; 2009).

negative impact on the Lao economy, especially on the poor[3]. A crisis can affect the Lao economy in a variety of ways. The main impact of the asian financial crisis on the Lao economy came through depreciation of the exchange rate and high inflation. In addition, a downturn in the global economy has led to declining demand for Lao exports, particularly exports of minerals, garments, and agricultural products.

In order to minimize the impact of the recent crisis, the Lao government has implemented a number of measures. However, these did not include social assistance or conditional cash transfer (CCT) programs. It is therefore important to consider a cash transfer program for the poor, in order to mitigate the negative impact of external shocks, and to reduce poverty.

3. Social Protection and Its Issues

There are four systems for social protection in Laos; the State Authority of Social Security (SSS); the Social Security Organization (SSO); Community Based Health Insurance (CBHI); Health Equity Funds (HEF) (Table 3-1). Social protection is still at an early stage and its coverage is very low. Expenditure on social protection is also very low compared with other countries[4] (Table 3-2 and 3-3).

Laos lacks a social assistance program for direct support of the poor during an external shock such as the global financial crisis, rising food and fuel prices, and natural disasters. Despite widespread poverty, low school enrolment and poor nutrition, there is no conditional cash transfer (CCT) to the poor. The establishment of a cash transfer program to support households is therefore one of the most important tasks in the reduction of poverty.

Social protection is necessary to mitigate poverty to achieve the Lao Millennium Development Goal. But there has been insufficient vision and capacity to focus

[3] The impact of Asian Financial Crisis on Lao economy in Keomixay *et al.* (1999) and the impact of Global Financial Crisis in Kyophilavong (2010).

[4] The Lao government has promoted and supported social programs by issuing various decrees and regulations found in GoL (1993a), GoL (1993b), GoL (1999a), and GoL (1999b). More details of social welfare establishment history were discussed in Voladet and Vilaylack (2006).

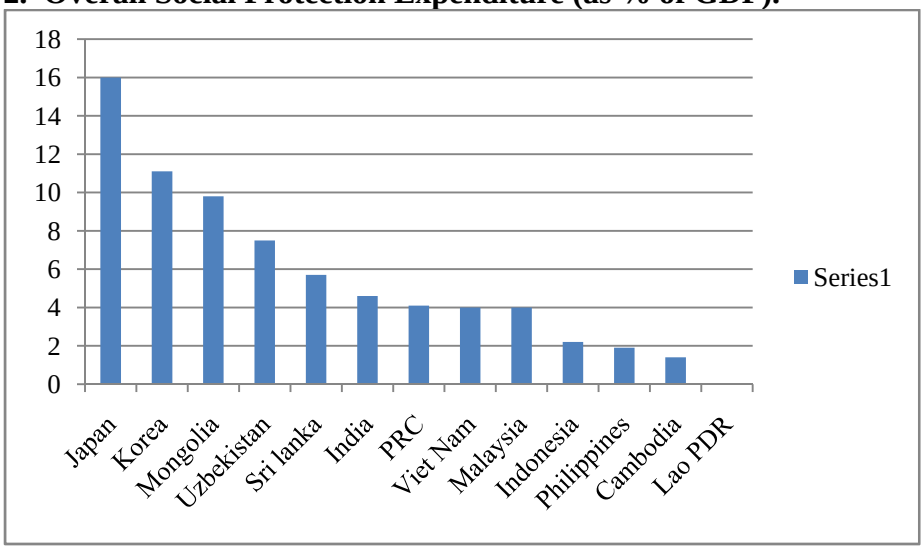
assistance on the area where they it was most needed (ADB, 2004). The Lao government has limited revenues, and there is a lack of capacity and management skill in government agencies (Leeber, 2010).

Table 3-1. System of Social Protection in Laos

	State Authority of Social Security **SASS**	Social Security Organization **SSO**	Community Based Health Insurance **CBHI**	Health Equity Funds **HEFs**
- Target Population	Civil Servants and their dependents	Private-sector salaried workers and their dependents	Self-employed and informal-economy population	Families identified as below the poverty line
- Number of Target Population	800,000	200,000	150,000	1,500,000
- Dependency Ratio	2.7	2.1	4.2	4.2
- Regulation - Implementation	- Decree 70 (2006) - 2006	- Decree 207 (2001) - 2002	- Regulations Decree pending - 2002	- MOH Regulations - 2004
- Authority - Scope of Operation	- MOLSW - All provinces	- MOLSW - VC and 3 provinces	- MOH - 18 cities in VC and 8 provinces	- MOH - Selected province
- Requirement of Contribution - Health Care Delivery	- 4% of Salary - Contact with Provider; Capitation and Reimbursement	- 2.2 % of Salary - Contact with Provider; Capitation with Adjustment	- Flat Amount - Contact with Providers; Capitation based on Contributions	- Flat Amount - Capitation through CBHI for some reimbursement by free of service for other
- Insured persons (August 2009) - Percent to Target	- 300,000 - 37.5	- 85,000 - 42.5	- 65,000 - 43.3	- 15,000 - 1.0

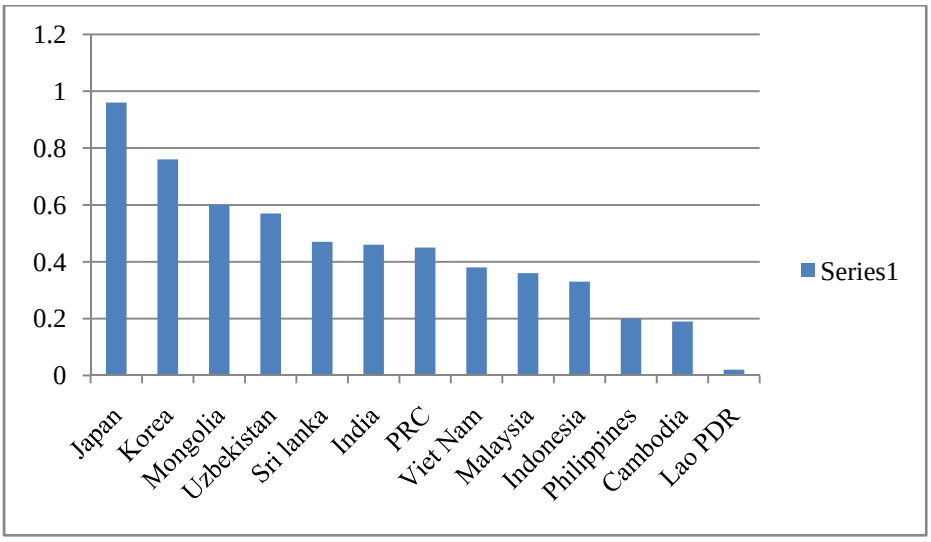
Source: Leebouapao (2010).

Table 3-2. Overall Social Protection Expenditure (as % of GDP).



Source: ADB (2011).

Table 3-3. Social Protection Index



Source: ADB (2011).

4. Trends in Poverty, Education and Nutrition of Children

In order to eradicate poverty by 2020, the Lao government has implemented the National Growth and Poverty Eradication Strategy (NGPES), an overall development and poverty alleviation framework (GoL, 2004).

Analysis of three Lao Expenditure and Consumption Surveys (LECS) from WB and DOS (2009) showed that the incidence of poverty has fallen since LECS 1, though it fell slowly during 1997/98. The incidence of poverty fell from 46% in LECS 1 to 39% in LECS 2, and to 33.5% in LECS 3 in 28% in LECS 4. Inequality has also changed since LECS; it increased between LECS 1 and LECS 2, but declined by LECS 3 (Table 4-1).

Table 4-1. Trend of Poverty

	LECS 1 1992/ 93	LECS 2 1997/ 98	LECS 3 2002/ 03	LECS 4 2007/ 08
Lao PDR	46	39.1	33.5	28
Urban	27	22	20	17
Rural with road	43	32	31	30
Rural without road	61	51	46	43
Lowland			28	20.5
Midland			36.5	29
Upland			34	33

Source: World Bank and DOS (2009).

Note: LECS (Lao Expenditure and Consumption Census) in 2007/08.

Table 4-2. Percentage of Household has Child

	Non-poor	Poor	Total
Urban			
No child	39.5	22.9	37.3
Have a child	60.5	77.1	62.8
Rural			
No child	27.2	6.3	21.8
Have a child	72.9	93.7	78.2

Source: Lao Expenditure and Consumption Survey (LECS) in 2007/08.

Table 4-3. Number of Household and Child

	Number of Household Members			Number of Children in Household		
	Non-poor	Poor	Total	Non-poor	Poor	Total
Urban						
No child	4.3	5.8	4.4	-	-	-
Have a child	5.7	7.1	5.9	1.7	2.3	1.8
Total	5.1	6.8	5.4	1.0	1.8	1.1
Rural						
No child	4.0	4.9	4.1	-	-	-
Have a child	5.9	7.3	6.3	2.0	2.9	2.3
Total	5.4	7.2	5.8	1.5	2.8	1.8

Source: Lao Expenditure and Consumption Survey (LECS) in 2007/08.

Despite increased consumption and reduced poverty, malnutrition remains a serious problem (Table 4-4). Underweight and stunting in children under the age of 5 was 37%

and 40% in 2006 (DOS *et al.,* 2008). Underweight and stunting declined by only 15 to 17% from 1993 to 2006. This shows that nutrition is one of the most serious problems in Laos. Supporting the poor in order to improve nutrition for children is therefore one of the most important tasks facing Laos.

Table 4-4. Poverty and Nutrition (in %)

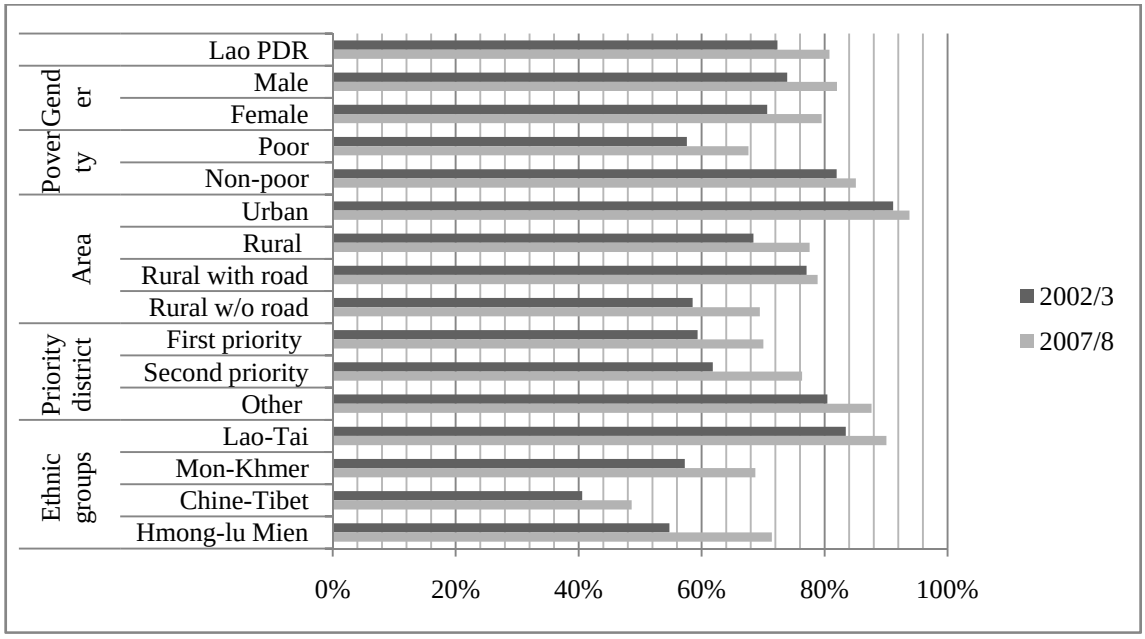
	Stunting	Underweight
Richest	17.5	19.3
Rich	32	33
Middle	38	41
Poor	38	43
Poorest	43	54

Source: World Bank and DOS (2009).

Note: Lao Expenditure and Consumption Census (LECS) in 2007/08.

Poverty and education for children are highly correlated. Children in rural areas must travel 8 km on average to the nearest secondary school while this journey in urban areas averages 3 km. 81% of 6-10 year olds were enrolled in school in 2007/08 compared with 72% in 2002/3 (Table 4-4). However, only 78% of rural children were enrolled, against 94% of urban children. Main reasons for low enrollment in rural areas were: school fees, other expenses, and the need for their labor in agriculture (WB and DoS, 2009).

Table 4-4. School Enrolment



Source: World Bank and DOS (2009).

5. Literature Reviews

Literature on CCT programs mainly relates to Latin America. There are some studies on CCT programs and school enrolment, dropout and child labor as follows: Gitter and Barham (2008) studied women's power, conditional cash transfers, and schooling in Nicaragua; Bourguignon *et al.,* (2003) studied conditional cash transfers, schooling, and child labor in Brazil's Bolsa Escola Program; Dearden *et al.,* (2008) studied conditional cash transfers and school dropout rates; Janvry *et al.,* (2006) studied conditional cash transfer programs serving as safety nets in keeping children at school, rather than working when exposed to shock.

In addition, there are some studies on the general achievements of CCT programs and their weaknesses as follows: Caldes and Maluccio (2005) studied the cost of conditional cash transfers; Janvry and Sadoulet (2006) studied conditional cash transfer programs designed for maximum effect of the conditionality; Soares *et al.,* (2009) studied conditional cash transfers in Brazil, Chile and Mexico and their impact upon

inequality. Barrientos (2004) studied the relationship between cash transfer for older people, reduced poverty and inequality.

There are quite a few studies of CCT program in Asia. ERIA research teams have reviewed current social protection and direction in some Asian countries (Asher *et al.*, 2010). And Edes (2009) also highlights social protection in the developing Asia Pacific region. In Laos, there are few studies on social protection: Leebouapao (2010) overviewed social protection in Laos; Thome and Pholsena (2009) reviewed health financing reform and challenges in expanding the current social protection schemes; ADB (2004) shows challenges and opportunities for social protection; Burns (2004) presents the issues and options of social protection; Voladet and Vilaylack (2006) and Leebouapao, L. (2010) describe the current situation of social protection mechanisms in Laos and identify constraints on social protection programs.

There are few studies using Computable General Equilibrium (CGE) models of cash transfers: Coady and Harris (2004) used the general equilibrium framework to evaluate transfer programs; Bassanini *et al.,* (1999) also used a CGE model to evaluate the economic effects of employment- conditional income support schemes for the low-paid in four OECD countries.

Related studies on cash transfers such as food aid and subsidies were found in Arndt and Tarp (2001), Gelan (2006), Gelan (2007), and Lofgen and El-said (2000). A study using micro-simulation for evaluation of cash transfer programs was found in Bourguignon and Spadaro (2006).

According to the literature survey, there are very few studies related to Laos using CGE model: Fukase and Martin (1999) built a simple CGE model to analyze the economic effect of joining the AFTA; Warr (2006) built a two sector, multi-household CGE model to analyze the impact of a hydropower dam (NT2); Warr and Menon (2006) built a CGE model to assess the impact of road improvement on poverty. Kyophilavong (2010) used a GTAP model to estimate the impact of the global financial crisis on the Lao economy. This shows that there are very few studies using a quantitative approach to analyze the impact of social programs in Laos.

6. Methodology and Data

In order to attempt to assess the impact of cash transfers on poverty and income distribution in the Lao context, the Global Trade Analysis Project (GTAP) model and Micro-simulation were employed. The GTAP model is a multi-region computable equilibrium (CGE) model (Hertel eds., 1997).

The GTAP model assumes perfectly competitive markets, where the zero profit condition holds, and that all the markets are cleared. The regional household allocates expenditures across three categories: private household, government, and savings. It derives income from the 'sale' of primary factors to the producers, which combine them with domestically produced and imported intermediate composites to produce final goods. These final goods are in turn sold both domestically to private households and the government, and exported to the rest of the world. Both government and private households also import final consumption goods from the rest of the world. A global bank intermediates between global savings and regional investments by assembling a portfolio of regional investment goods and selling shares in this portfolio to regional households in order to meet their savings demands. Finally, a global transport sector assembles regional exports of trade, transport and insurance services and produces a composite goods used to move merchandise trade among regions.

As in the various types of the integrated- microsimulation- CGE model approach, this study uses a top-down approach with micro accounting to estimate the impact of cash transfers on poverty and income distribution (Ravallion, 2008; Chen and Ravallion, 2004; Ravallion & Lokshin, 2008). There are three steps for estimating the effect of transfers on household welfare. First, we used existing references for the impact of transfers on prices. Secondly, the price changes from the GTAP model are used with the Lao household expenditure survey to estimate household welfare changes.

The household welfare change is calculated using the formula in Chen and Ravallion, 2004 and Ravallion & Lokshin, 2008. In this approach, household welfare changes resulting from transfers consist of four factors: a price effect, a production effect, labor income, and consumption. The changes in the price of particular food and non-food items alter household welfare based on the share of the revenue of these items.

Wage change influences household income according to its share of wage income. The price changes also affect the consumption of households, and the increase of prices decreases household welfare.

The welfare impact from cash transfer in change of utility for household i can be expressed as follows[5]:

$$g_i = \sum_{j=1}^{57} \left[p_{ij}^s q_{ij}^s \frac{dp_{ij}^s}{p_{ij}^s} - p_{ij}^d \left(q_{ij}^d + z_{ij} \right) \frac{dp_{ij}^d}{p_{ij}^d} \right] + \sum_{k=1}^{2} \left(w_k L_{ik}^s \frac{dw_k}{w_k} \right)$$

= (change in revenue) – (change in expenditure) – (change in input) + (change in wage)

gi	= The monetary value of the change in utility for household i
pijsqijs	= The revenue (selling value) from household production activities in sector j
pijs	= Supply price from household i in production activities in sector j
qijs	= Quantity supplied from household i in production activities in sector j
pijdqijs+zij	= The (negative) weight for demand price changes
pijd	= Demand price from household i in production activities in sector j
qijd	= Quality demanded from household i production activities in sector j
zij	= Commodities used as production inputs, of which zij is used for production good in sector j
wkLiks	= The weight for changes in the wage rate for activity k
wk	= Wage rate to activitiy k
Liks	= Household's "external" labor supply to activity k

The latest version of the GTAP database, version 7, was used for this study. This version has 113 countries and 57 sectors. To facilitate our analysis, we have aggregated the sectors into 10 groups and the countries into 10 regions. The third Lao Expenditure and Consumption Survey (LECS 3) in 2002/2003 were used for micro-simulation. There are 57 sectors of production and consumption in the GTAP data base. On the other hand, there are 356 categories for consumption and 117 categories of production in LECS 3. Therefore, in order to link results from the GTAP model to the micro-

[5] The measurement of welfare impact from trade liberalization has data constraints because initial data of price and wage levels are not included. However, this problems is overcome by calculating a first-order approximation to the welfare impact in a neighborhood of the household's optimum (Chen and Ravallion, 2004; Ravallion and Lokshin, 2008).

simulation model, it is important to reconcile the data. See discussion of data reconciliation in Kyophilavong *et al.*, (2010).

7. Simulation Design and Results

There are few social programs and little social assistance in Laos. In addition, the existing social protection program is small scale, and implemented only in some provinces and regions. We therefore assume that government implements a cash transfer program which focuses on poor families with children in urban and rural areas[6]. It is important to note that in this program, we assume that transfers are unconditional.

As previously mentioned, this simulation focuses on cash transfers to poor families with children in urban and rural areas. Three simulations were conducted[7]. In Simulation 1, 2 and 3, government transfers 5%, 10% and 15% of mean income per-capita per-month to poor households with children[8] (Table 7-1). It is important to note that mean incomes per month for poor families with children in rural and urban areas are different. The mean monthly incomes of poor families with children were about $30 in urban and $11 dollars in rural areas. The income poverty line was estimated based on the official consumption poverty line[9] (World Bank and DOS, 2009).

The Lao government faces large budget deficits and also high external debt. However, the production and exports of the natural resources sector (mining and electricity) have been increased since 2003, and government revenues are expected to increase (World Bank, 2010). We have therefore assumed that the Lao government will

[6] The issues of social cash transfer were discussed in Blackorby and Donaldson (1988) and Besley and Coate (1991). For more detailed discussion on targeting transfers in developing countries see Coady, Grosh and Hoddinott (2004); Kakwani, Soares and Son (2005).

[7] We assume that this cash transfer is a small program and that it does not impact significantly on prices and wages. However, it is important to consider the price effect when we formulate a large scale transfer program.

[8] In normal practice a program will transfer money to households; however, to simplify the simulation, we designed our program on an individual transfer basis.

[9] Since official income poverty lines are not established in Laos as far as we know. Since official per capita expenditure poverty lines in LECS 3 are established, the income poverty lines are obtained by taking the mean per capita expenditures for the poor households based on the expenditure poverty lines. The income poverty line is the same in rural and urban areas.

fund this cash transfer program from resource revenues[10]. The budget requirement for implementing a cash transfer program is shown in table 7-1. In simulation 1, the total budget requirement was $1.18 million dollars, simulation 2 was $2.36 million dollars and simulation 3 was $3.54 million dollars which account for about 1.92%, 3.84% and 5.76% of government current expenditure in 2010. It is important to note here that this budget does not include administrative costs and other costs for implementing and managing the program.

Table 7-1. Simulation Design (in US Dollar)

		Urban				Rural				Total Amount per-year (million)
		Poor		Non Poor		Poor		Non Poor		
		with children	without children	with children	without children	with children	without children	with children	without children	
Base	Number of Person in Lao (thousand)	362	81	610	215	1,184	36	2,635	397	N/A
	Income per-capita per-month	29.92	33.88	27.40	29.44	10.78	14.79	10.47	11.06	N/A
simulation 1	5% of mean income per-capita (per-month)	1.50				0.54				14.15
simulation 2	10% of mean income per-capita (per-month)	2.99				1.08				28.31
simulation 3	15% of mean income per-capita (per-month)	4.49				1.62				42.46

Source: Author's estimation from Lao Expenditure and Consumption Survey (LECS).
Note: Exchange Rate (Kip/ US$) is 8,000.

The impact of cash transfers on poverty and income distribution is shown in tables 7-2 and 7-3.

It is clear that cash transfers to poor families with children could reduce poverty and combat declining income distribution in both urban and rural areas. An increase of 5%

[10] In order to avoid 'Dutch Disease', where a rise in revenues from the exploitation of natural resources results in a decline in manufacturing, effective government expenditure is essential. For sustainable economic development, expenditure on human resource development is crucial (Larsen, 2006; Levy, 2007; Iimi, 2007).

of income for poor urban families with childen, reduces poverty by about 4%, and the income gap will reduce by 2%. If the income of these households increases by 15%, the poverty rate will reduce by 14% and the income gap will reduce by about 6%.

Poor rural households with children see a more positive impact in terms of poverty than do their urban equivalents from this cash transfer program. An increase of 5% of income for poor rural households with children will reduce poverty by about 12%, and the income gap will fall by 2%.

If the income of poor rural households with children increases by 15%, the poverty rate will fall by 35% and the income gap will reduce by about 6%. The main reason for this is that there are a large proportion of poor families in rural areas and their income is close to the poverty line. Therefore, by increasing their income by a small percentage, they can be lifted above the poverty line.

The impact of cash transfers on poor families with children in urban and rural areas seems to have a similar impact on income distribution. Because their increase of income is rather small, it does not have much impact on the Gini coefficient of urban and rural income distribution.

Table 7-2. Impact of Cash Transfer on Poverty and Income Distribution in Urban Areas

	Urban		Urban	
	Poverty Rate	**Gini Index**	**Poverty Rate Change (%)**	**Gini Index Change (%)**
Base Line	0.34951	0.42097		
Simulation 1	0.33476	0.41244	-4.2	-2.0
Simulation 2	0.31549	0.40424	-9.7	-4.0
Simulation 3	0.30002	0.39638	-14.2	-5.8

Source: Author's estimation from Lao Expenditure and Consumption Survey (LECS).

Table 7-3. Impact of Cash Transfer on Poverty and Income Distribution in Rural Areas

	Urban		Urban	
	Poverty Rate	**Gini Index**	**Poverty Rate Change (%)**	**Gini Index Change (%)**
Base Line	0.28699	0.42848		
Simulation 1	0.25092	0.41941	-12.6	-2.12
Simulation 2	0.21610	0.41063	-24.7	-4.16
Simulation 3	0.18613	0.40220	-35.1	-6.13

Source: Author's estimation from Lao Expenditure and Consumption Survey (LECS).

8. Conclusion and Policy Implication

As there is no national level social protection or social transfer program in Laos, this study assumes that the Lao government implements a cash transfer program to poor households with children in both urban and rural areas. In order to assess its impact on poverty a CGE model and micro-simulation were used. The primary conclusion of this study is as follows.

The Lao economy is vulnerable to external shocks, and poor households seem to most vulnerable. But there is no social protection to protect the poor from external shocks, especially during the recent global financial crisis. There is lack of capacity, management skills and revenues for implementing appropriate and effective social protection schemes.

Within an affordable government budget, it is clear that cash transfers to poor households with children could reduce poverty and improve income distribution in both urban and rural areas. Poor rural families with children rather than the urban poor, seem to benefit more in terms of poverty reduction, from this cash transfer program. Impacts on income distribution, however, seem to be similar.

There is still no existing comprehensive social assistance program or conditional or non-conditional cash transfer program in Laos. The empirical result shown in this paper demonstrates that cash transfer could reduce poverty and improve income distribution. It is therefore important for the Lao government to consider establishing a comprehensive social support program aimed at reducing poverty in Laos. However, in order to establish a social support program, the government needs to consider appropriate program design, including the target group, national revenues and the capacity of institutions.

This study has several weaknesses for future improvement. First, it does not consider conditions relating to cash transfer in the model, nor the cost effectiveness of such a program. Secondly, this study focuses only on poor households with children, and it needs to consider wider perspectives such as rural areas without roads or health or schools. Thirdly, it is necessary to consider the administrative cost and effect on prices of the program. Fourthly, the transfer model used in this paper does not distinguish the number of children in a household. We transfer the same amount to poor families with

children under 12 years old irrespective of the number of children in the household. In addition, we do not set conditions for cash transfer.

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