CDRI - Cambodia's leading independent development policy research institute

Links between Employment and Poverty in Cambodia

Phann Dalis

Working Paper Series No. 92

June 2014

A CDRI Publication

Links between Employment and Poverty in Cambodia

CDRI Working Paper Series No. 92

Phann Dalis

CDRI
Cambodia's leading independent development policy research institute

Phnom Penh, June 2014

ISBN-10: 99950–52–52-2

Links between Employment and Poverty in Cambodia

Suggested full citation:

Phann Dalis (June 2014), *Links between Employment and Poverty in Cambodia,* CDRI Working Paper Series No. 92 (Phnom Penh: CDRI)

The responsibility for opinions expressed in articles, studies and other contributions in this publication rests solely with the author, and publication does not necessarily constitute CDRI policy.

CDRI
☞ 56, Street 315, Tuol Kork, Phnom Penh, Cambodia
✉ PO Box 622, Phnom Penh, Cambodia
☎ (855-23) 881384/881701/881916/883603
🖷 (855-23) 880734
E-mail: cdri@cdri.org.kh
Website: www.cdri.org.kh

Layout and Cover Design: Oum Chantha
Printed and Bound in Cambodia by T & S Printing, Phnom Penh

CONTENTS

List of Figures and Tables

Acronyms

CDRI	Cambodia Development Resource Institute
CSES	Cambodia Socio-Economic Survey
GDP	Gross Domestic Products

Khmer Word

prakas (ប្រកាស)	Ministerial or inter-ministerial regulations that are used to implement any specific provisions within higher-level legislative documents. They are often used to issue guidelines that are necessary for the implementation of a law or sub-decree.

Acknowledgements

The author would like to extend sincere thanks to Sida for its financial support of this study, and to senior researchers at CDRI, especially Dr Tong Kimsun, for their supervision and technical support in completing this paper. Gratitude is also due to Mr Larry Strange, executive director, Dr Srinivasa Madhur, director of research, and Mr Ung Sirn Lee, director of operations, for their support and encouragement. Appreciation also goes to Dr Jan Taylor, research consultant, Ms Susan E. Watkins and Mr Allen Myers, editors, for reviewing and editing the paper.

Phnom Penh
June 2014

Abstract

This paper explores labour market structure and employment links to poverty in Cambodia. Employment elasticity of growth, labour productivity and real wage growth are the main indicators of the labour market situation, while probit models estimate the connection between household employment and poverty likelihood. The paper combines macro and micro data to perform a descriptive analysis. For probit estimation, it uses the Cambodia Socio-Economic Survey (CSES) 2007-11. The results show that agriculture, albeit with a slow growth rate, absorbed a big part of the labour force, while the sector's growth was driven mainly by productivity increases, as was that of services. Industry grew rapidly, but its capacity to employ labour was relatively small. The growth rate of industry depended on employment levels within the sector rather than on increases in productivity. Note that female workers had less chance of being employed than male workers: a 1 percent rise in GDP would increase the demand for female labour by 0.65 percent and the demand for male labour by 0.71 percent. The labour markets in industry and services were very competitive: growth in real wages rose along with increases in labour productivity, implying that expected real wages would increase with higher labour productivity and vice versa. In this case, firms seem to have benefited from hiring more labour to expand their outputs as long as wages remained manageable. This was not the case for agriculture, where changes in real wages and productivity reflect the possibility of labour being discarded. Employment creation in services is found to help the poor to have a better chance of overcoming poverty, but this is not the case in agriculture and industry. From the empirical results, households employed in agriculture have a higher chance of being poor than those employed in industry. Factors that help workers to avoid poverty are land and education. The study suggests that macro policy should seek to make farmland more accessible to farmers, and that investment in education should be increased so that every citizen at least finishes primary and lower secondary education, to increase workers' capabilities and productivity.

1
Introduction

Coordination of the pace and patterns of growth plays a role in spreading the fruits of growth through employment generation and income redistribution. A wide disparity can be observed in the links between poverty and growth. As a result of the employment structure, the poor, who mostly depend on semi-skilled or unskilled work, are particularly vulnerable. They have gained only a small fraction of the total benefits that could be expected. A large number of the poor already have jobs, but those are in the informal sector. Informal sector employment in developing countries offers little job security and inadequate income (Bell and Newitt 2010). Consequently, expanding employment-intensive growth to create more and better job opportunities, distinguishing between formal and informal work, has long been an objective in many developing countries. Cambodia is no exception. The country's economic growth rate was a commendable 8.1 percent between 2000 and 2011. During that period, industry showed the fastest annual growth at 13 percent, compared with services' 8.3 percent and agriculture's 4.8 percent. Yet labour has been absorbed into industry quite slowly, reaching only 9.1 percent of total employment. The figure for services is 22 percent, while agriculture accounts for the rest. Cambodia's employment structure has not changed much: most employment is still found in rural areas, where productivity is low and most of the potential workers are unemployed or underemployed. Meanwhile, low wages make it difficult for people to lift themselves out of poverty, and there are few opportunities for them to improve their skills or to start or expand their own businesses. The poverty level was 19.8 percent in 2011 (MOP 2012).

Various dimensions of employment found to have positive impacts on reducing poverty are emphasised in previous studies. These studies outline the links between growth and poverty, and the related opportunities and constraints for the poor. Aspects that have been highlighted cover the problems of economic structural changes and different development of rural and urban economies, including farm and non-farm employment. A study of the links between employment and poverty must also examine the productivity of different kinds of employment, as well as the redistribution of income. Workers' job skills, waged employment in the formal and informal sectors, and the rural credit market are also relevant. The mismatch between labour demand and supply, the role of poor people's empowerment in driving pro-poor growth, and labour force participation in the informal economy from a gender perspective are also popularly discussed. The importance of the agricultural labour market structure, self-employment and the impact of irregular work are also well documented. However, the existing literature on the links between employment and poverty in Cambodia mainly describes the characteristics of employment, rural poverty and wage differences. This study attempts to update current knowledge, explore the labour market structure across sectors and examine the impact of employment on poverty probabilities.

Section 2 reviews the literature on the links between employment and poverty, covering the relationship between these two themes to growth and market structure. Section 3 highlights current economic growth, employment structure and the poverty situation. Section 4 describes the impact of employment and the labour market on poverty. Section 5 is an empirical study of employment and poverty linkages. Section 6 concludes with policy implications.

2
Literature Review

A considerable amount of literature on the links between employment and poverty has touched on growth, job creation and labour markets. There are several views about the economic growth process and the effect of growth on employment. For example, Kakwani and Pernia (2000) argued that economic resources should be given to people in the higher income group because of their high propensity to save in that an increase in savings leads to more investment and higher incomes. The poor benefit later on from the spending of the rich. However, the job skills of the poor are so inadequate as to preclude them from sharing in those benefits (Loayza and Raddatz 2006). Another study, focusing on Brazil, found that the services sector had the potential to absorb more workers than agriculture and industry (Ferreira *et al.* 2010). Block and Webb (2001) stated that earnings from non-farm employment were positively linked with the livelihood survival of the poor. However, the poor did not receive the same benefit from this non-farm employment. That depended on their networks or access to earning sources. Kuznets (1963) similarly concluded that earnings are much more unequally distributed in the non-agriculture sector than in the agriculture sector. Employment in agriculture would be attractive for the poor only when there was perfect mobility and world price equalisation (Gutierrez *et al.* 2007).

Employment for the poor is not only about self-sufficiency, but also about sustainability and a healthy earning source enabling them to improve their quality of life. Huong *et al.* (2003) stated that the poor can take advantage of growth when they are employed in the higher value and export-oriented sectors where higher levels of productivity and productivity improvement are required. Ianchovichina and Lundstrom (2008), exploring the constraints on economic growth in Zambia, indicated that the poor had limited resources stemming from low returns on employment, especially in agriculture, while waged employment for the poor was scarce. An estimated 40 percent of workers worldwide earn less than USD2 per day, which is not enough to lift their families above the poverty line (ILO 2011). Low returns to employment put some workers at a disadvantage economically, limiting their participation in growth. Meanwhile, employment in high-return activities is concentrated in urban areas and absorbs few workers because these jobs are mostly capital intensive. Occupations that are more productive improve the conditions of the poor only when accompanied by higher real wages (Huong *et al.* 2003).

A labour market is said to function well when it embraces respect for two core objectives. The first is efficiency, which means that workers are able to find jobs that match their skills, education and experience at appropriate wages. The second is fairness, which requires that pay is set based on the value of the work of the employee (ILO 2008). These objectives are rarely reached in most developing countries because markets are distorted by a lack of information, illiteracy, huge economic and social differences between regions, and political power imbalances. Such conditions make it difficult to find a balance between labour demand and supply. As a result, much of the labour force is left idle or underemployed. Thorat and Dubey (2012) describe rural and urban sectors in the labour market. The main economic groups in the rural sector include the self-employed, waged labourers and households with multiple income sources. Those in the urban sector include

the self-employed, employees (wage and salary earners), casual labourers and people in their household business. Lundstrom and Ronnas (2006) discuss the importance of labour markets in coordinating labour demand and supply and in ensuring the smooth flow of information about accessibility to employment and income sources. A specific aim of labour market policy is to reduce the welfare loss from unemployment and to protect workers from exploitation. However, in practice, interventions in the labour market, especially the establishment of minimum wage laws and labour unions, often result in rising labour costs, which can price low-skilled workers out of the market. An increase in labour costs would reduce the demand for labour and increase labour supply, resulting in high unemployment. A labour market is said to determine economic performance when its regulation contributes to wage flexibility (Kilicaslan and Taymaz n.d.).

3
Economic Growth, Employment Structure and Poverty

3.1. Sectoral Growth and Structural Change

Much of Cambodia's economic and social infrastructure is still damaged or underdeveloped due to a succession of various political regimes from 1970 onwards. However, the country has achieved sound economic growth from steady output growth in industry and services, while agriculture has remained technologically stagnant. Per capita GDP has risen from around USD200 in the early 2000s to USD911 in 2011. The contribution of industry to GDP has increased from around 10 percent in the 1990s to almost 30 percent currently. The share of agriculture has decreased from around 40 percent in 1990s to 26 percent in 2011. Meanwhile, the contribution from the service sector has risen from 35 percent in the 1990s to its current rate of around 39 percent. Since the 1990s, when the economy transitioned to an open market system from one that was centrally planned, industry has grown at a very rapid rate but slowed during the global financial crisis from 2008 to 2010, although Cambodia was not hit as hard as some other countries. Agriculture grew slowly.

Table 1. Sectoral Growth, 1995–2011

(At constant 2000 prices, percentage)	1995-1998	1999-2003	2004-2007	2008-2011
Agriculture, fisheries and forestry	**4.8**	**3.6**	**6.3**	**4.5**
Crops	-13.6	3.5	13.8	5.6
Livestock and poultry	1.2	2.2	5.4	2.8
Fishing	5.2	2.2	2.1	4.5
Forestry and logging	21.4	-6.7	3.5	0.5
Industry	**11.6**	**18.5**	**14.0**	**5.6**
Mining	-2.4	22.7	18.6	20.9
Manufacturing	18.2	18.4	13.4	8.3
Electricity, gas and water	16.4	10.2	16.7	7.3
Construction	-1.5	20.1	15.5	-1.7
Services	**6.3**	**9.6**	**11.6**	**4.9**
Trade	4.2	3.9	7.7	6.4
Hotels and restaurants	10.9	13.6	17.4	7.3
Transport and communications	3.6	12.1	8.3	6.2
Finance	42.5	13.3	21.6	13.9
Public administration	8.1	-2.3	-0.5	5.1
Real estate and business	7.5	12.1	12.4	-2.4
Other services	8.8	19.1	16.4	5.6
Total GDP	**6.1**	**9.2**	**11.1**	**5.0**

Source: NIS (unpublished data covering 1993-2011)

Cambodia's growth can be divided into three phases (Hatsukano 2010). From 1989 to 1998 (the transition to an open market economy), annual GDP growth averaged 6.3 percent. Agriculture, at a rate of 4.8 percent, grew more slowly than industry (12 percent) and services (6.3 percent). During that period, crop production fell by 14 percent, while forestry and logging rose by 21 percent and fishing by 5.2 percent. Mining and construction were not so successful. However, manufacturing grew at a significant pace, especially garments (64 percent) and rubber (29 percent). In services, finance was particularly well run, growing by 43 percent, followed by hotels and restaurants (11 percent), and real estate (7.5 percent). The second phase was from the late 1990s to 2003. During this period, the economy grew at the promising rate of an

average 9.2 percent annually. The significant sectors were mining, garment manufacturing, metal production, construction, hotels and restaurants, transport and communications, finance and real estate. Forestry and logging declined, while crop production improved. The third phase runs from 2004 to the present. Cambodia between 2004 and 2007 experienced remarkable economic growth at an annual rate of 11 percent. Most economic sectors increased at a notable rate. However, GDP from 2008 to the present has risen more sluggishly at 5.0 percent annually. The growth rates of most sectors have been lower than in the previous phases except for mining and rubber manufacturing, while construction and real estate have declined slightly (Table 1).

Currently, the share of the garment sector continues to increase while that of crops has diminished. Fishing, construction, real estate, and transport and communications have equally contributed to GDP (sharing around 6.0 percent). The share from finance has improved. Many state-owned enterprises that were not strong enough to stand by themselves were abolished or privatised, and small and medium enterprises have become crucial for stimulating growth and for employment creation. However, most of the sectoral growth has been boosted by large foreign investment inflows.

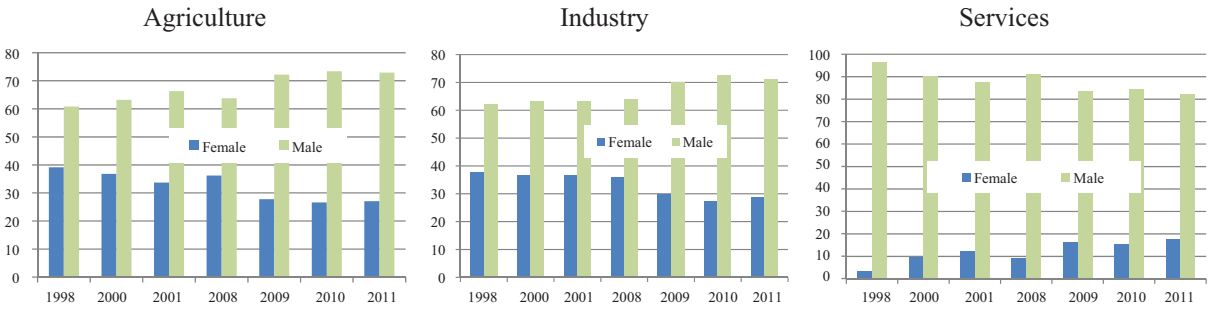
3.2. Employment

According to the National Institute of Statistics, the labour force aged between 15 and 64 was an average 54 percent of the total population during the 10 years to 2011. The employment participation rate has been around 83 percent of the total labour force. In this paper, employment is defined as working at least one hour per week (NIS 2011). In the same period, agriculture absorbed 60 percent of total employment, followed by services at 26 percent and industry at 14 percent. Manufacturing alone accounted for 8.7 percent of the total workforce.

From 2000 to 2011, the labour force expanded by 3.3 percent annually, and new employment (formal) increased by an annual average of 3.6 percent. New job creation has not kept pace with the expanding labour force, however. Therefore, the informal sector still plays a key role in absorbing the unemployed. Because people cannot afford not to work, some have had to accept vulnerable jobs (the opposite of decent work)—this group has become known as the working poor. For this reason, the unemployment rate has been very low, around 1.1 percent, over the period. Although the numbers of males and females in the labour force were almost equal, more males than females entered the labour market. Males accounted for 53 percent of total employment. One of the reasons for this is that Cambodian females are traditionally responsible for taking care of most household chores.

Employment in services between 2000 and 2011 has grown at an annual average rate of 3.1 percent, faster than employment growth in agriculture (1.9 percent) and industry (1.7 percent). This resulted from a rise in individual incomes (both domestic and international) that has accelerated private consumption and demand for personal and medical care (hospitals, beauty care, and hairdressing among others) and other facilities (tourist attractions, resorts, hotels and restaurants, recreation and amusement centres).The quality of employment in this sector remains a concern, however. Figure 1 indicates that the proportion of females employed in services has been an average 15 percent during 2008-11. This share has continued rising over time. In agriculture and industry, the share of female employment has decreased.

Figure 1: Male and Female Paid Employment by Sector (selected periods)



Source: World Development Indicators (WDI) 2014

More employment opportunities are important to ensure that growth is shared and poverty reduced, but what is crucial is an improvement in the quality of labour to attract more value-added investment and to get a better return for workers. In 2011, only 2.5 percent of the workforce had completed tertiary education, 21 percent left education with a secondary certificate and 27 percent with primary education. (In Thailand, 17 percent have tertiary education, 14 percent secondary education and 39 percent primary education.) However, the educational level of workers has been increasing, albeit slowly, during the last three years.

A larger share of people in rural than in urban areas were employed, according to the Cambodia Socio-Economic Survey (CSES). An average of 68 percent of the rural labour force was employed, but only 57 percent of the urban labour force (Table 2). The majority of rural workers earn their living from the land. Fifty-nine percent of rural workers were involved in rice and other crop production, followed by manufacturing (9.8 percent) and trade (9.5 percent). Only 21 percent of the rural labour force worked in paid employment, while 44 percent had their own family businesses and 35 percent did unpaid work in family businesses, considered informal employment. Noticeably, the informal sector has helped to absorb the growing rural labour force, in particular the seasonally unemployed and rural-urban migrants.

Trade provided 28 percent of urban employment, followed by agriculture (16 percent), manufacturing (11 percent) and public administration and defence (8 percent). Forty-three percent of workers in urban areas had paid jobs, 35 percent had their own businesses and 22 percent worked without pay in family businesses. There were few gender differences in occupations and types of jobs.

Table 2: Employment of Urban and Rural Labour (%)

	2004	2007	2008	2009	2010	2011	Average
Urban	51.8	59.6	59.6	58.2	54.8	59.8	57.3
Rural	58.5	71.9	70.3	70.4	64.9	73.1	68.2

Source: CSES 2004-11

3.3. Poverty Situation

Although Cambodia has achieved a significant and sustained rate of growth, which is necessary for its development, this growth has not yet been sufficient to eliminate poverty. The country needs growth that not only expands production but also increases employment and integrates the poor into the economy (Krongkaew *et al.* 2006).

Poverty is calculated using daily household expenditures on food and non-food items (MOP 2013). The current poverty line is based on CSES 2009 data. Phnom Penh residents are considered poor if their daily expenditure is under 6347 riels, while the figure for other urban areas is 4352 riels and for rural areas 3503 riels. Overall, the country poverty line is 3871 riels. The poverty headcount has declined from 47.8 percent in 2007 to 22.9 percent in 2009 (Table 3). The government's Rectangular Strategy Phases I and II prioritise the development of agriculture, infrastructure, employment and human resources. The country is committed to achieving its Millennium Development Goals by 2015 despite its difficult history and the challenges from global financial uncertainties. However, with support from national and international agencies, the global economic focus (especially of the giant economies, i.e. China, Japan, Korea and even the US) turning towards Asian markets, and the growth of the country's middle class, Cambodia can be optimistic about economic expansion and the social and public reforms that are underway.

Table 3: Poverty Incidence (%), 2007-11

	2007	2008	2009	2010	2011
Poverty (Cambodia)	47.8	29.9	22.9	21.1	19.8
Poverty (rural)	52.3	31.9	24.6	22.7	20.7
Share of poorest quintile in national consumption	6.9	7.5	8.0	8.3	9.0
Gini coefficient of consumption inequality	0.41	0.38	0.34	0.34	0.31

Source: MoP 2012

People of the Mekong plains area mainly make a living by fishing and growing dry season rice, both of which are vulnerable to natural catastrophes. This region has the highest poverty rate in the country: in 2007, its poverty headcount was 38 percent (household weights not included). The poverty headcount was also high in the Tonle Sap area, 28.5 percent, where the major sources of earnings are fishing and floating rice cultivation, although significant amounts of wet season rice are often destroyed by flooding. Only 8.3 percent of people in the plateau and mountain area are poor. This area depends greatly on forest resources and dry season rice; cultivation in the wet season provides a poor yield. Phnom Penh's poverty level was 17.8 percent. In 2009, the poverty rate worsened in the Tonle Sap and plateau-mountain areas, while in other places it declined slightly. The poverty rate was higher in Phnom Penh in 2011 at 21 percent—a result of fast urban population growth, possibly from internal migration.

Most rural people are farmers, sharecroppers or casual labourers, having very limited assets. Farmers still use old subsistence methods of harvesting and cultivating, mostly two crops per year on smallholdings. Table 4 shows that families engaged in agriculture and industry have high poverty rates, while those in services have been less prone. The figures for agriculture show a positive trend, but those for industry worsened slightly in 2010-11.

Table 4: Sectoral Poverty Headcount (%)

	2007	2008	2009	2010	2011
Agriculture	46.4	28.5	25.4	20.6	20.4
Industry	39.1	23.7	21.7	22.6	22.7
Services	12.9	8.7	11.8	10.3	10.6

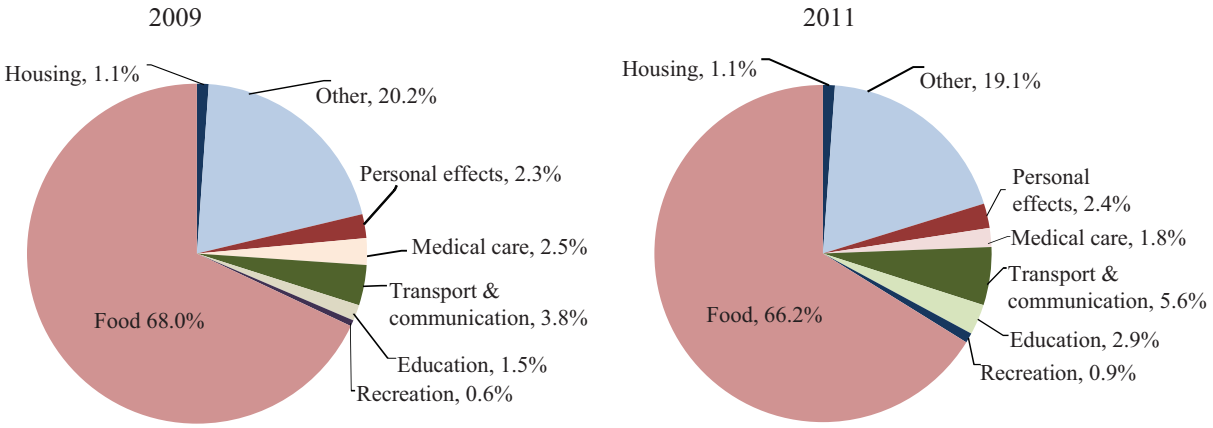
Source: CSES 2007-11

Prior to 2009, poverty was more pronounced, at around 29 percent, among self-employed workers than among unpaid family workers and paid employees. After that, a significant decline

in poverty was seen for all types of employment. Still, the poverty rate of self-employed workers remained high (18 percent), but waged workers experienced the highest rate (18.5 percent) between 2009 and 2011. The lowest rate, around 11 percent, was for unpaid family workers. From these figures, it could be deduced that formal and informal employment played almost the same role in providing jobs and improving the living standards of workers regardless of the GDP growth rate or of any legal or social protection.

The poor spent less than 3871 riels per day. Most of their spending was for food, 68 percent in 2009. Transport costs were also a concern, while housing and recreation took only a small share of total spending (Figure 2). The structure of daily expenditure did not differ significantly between 2009 and 2011. Food still took biggest proportion, but this declined, and spending on transport and communications and education increased.

Figure 2: Daily Expenditure Composition of Poor Households



Source: CSES 2009, 2011

4
Effect of Employment and the Labour Market on Poverty

4.1. Employment Intensity of Growth

After the impressive 11 percent growth achieved in 2004-07, GDP growth slowed and has hovered near the 5 percent mark for the last five years. This is mainly due to the effects of the global financial crisis and economic downturn on Cambodia's narrowly based economy. The current lower growth rate is below the strategic objective in Rectangular Strategy Phase II (2008-13) of 7.0 percent average annual economic growth. However, the rate during the past five years has not dipped below 5.0 percent. The growth rate of agriculture did not change much, while it decreased in industry and services.

Agriculture remains the dominant employer but its absorption capacity has become smaller over time. Industry appears to be a promising sector because of its growth rate and capacity to provide employment. The employment intensity of growth or elasticity of employment with respect to GDP explains the relationship between employment and sectoral growth. This paper uses arc elasticity as calculated by Kapsos (2005) to show an association between employment and sectoral growth, determined by the equations given below:

$$\varepsilon_i = \frac{\Delta E}{\Delta Y} = \frac{(E_{it} - E_{i(t-1)})/E_{i(t-1)}}{(Y_{it} - Y_{i(t-1)})/Y_{i(t-1)}}$$

$$\varepsilon_i = 1 - \frac{\Delta P}{\Delta Y}$$

$$\Delta P = (1 - \varepsilon)\Delta Y$$

where ε is employment elasticity of output; E_{it} *and* Y_{it} stand for the employment and output of i sector in time t; ΔE *and* ΔY are the change in employment and output; and ΔP is the change in productivity. Data on economic output was taken from the National Institute of Statistics (unpublished data for the period 1993-2011), while employment figures came from the International Monetary Fund (IMF 2009), the World Bank's World Development Indicators (1995-2011) and the Asian Development Bank's Key Indicators for Asia and the Pacific (1994-2011). These were combined and checked in order to minimise inaccuracies.

Table 5: Interpreting Employment Elasticities

	GDP growth	
Employment elasticity	**Positive GDP growth**	**Negative GDP growth**
$\varepsilon < 0$	(-) employment growth (+) productivity growth	(+) employment growth (-) productivity growth
$0 \leq \varepsilon \geq 1$	(+) employment growth (+) productivity growth	(-) employment growth (-) productivity growth
$\varepsilon > 1$	(+) employment growth (-) productivity growth	(-) employment growth (+) productivity growth

Source: Adapted from Kapsos (2005)

Table 6 estimates the employment elasticity of growth in four different periods. Between 1995 and 1998, elasticity was high overall, being greater than unity. This means that total employment increased more than 10 percent if GDP rose by 10 percent. This period covers the early stages of transformation from a centrally planned to an open market economy. The country opened up to foreign investment in all sectors and privatised most of the weak state-owned enterprises, while infrastructure facilities were built and rehabilitated (Hatsukano 2010). It was a period of sound employment growth but not of aggregate productivity growth. The employment elasticity of industrial growth was huge (4.3), which means that 1995-98 could be described as a boom period for this sector, expanding employment opportunities even with low productivity growth. A large increase of employment with high labour productivity relative to the growth rate occurred in agriculture and services.

Table 6: Sectoral Employment Elasticity of Growth (selected periods)

	1995-98	1999-2003	2004-07	2008-11	2008-11 (no 2009)
Agriculture	0.78	0.44	0.09	-55.76	0.34
Industry	4.33	6.91	-2.71	2.39	-2.15
Services	0.99	1.03	0.71	-3.65	-3.48
Total	1.01	0.74	0.39	-0.16	-0.36

Source: Author's calculations based on NIS 1993-2011 (unpublished); IMF 2009; WDI 1995-2011

From 1999 to 2011, the reconstruction and pre-take-off period for the country's economy (Hatsukano 2010), the capacity to absorb labour was limited, and economic growth gained more from labour productivity than from labour supply. This was reflected in negative elasticity (-0.2) and positive GDP growth (4.9 percent). From 2008 to 2011, agriculture and services were dramatically affected by the global economic crisis and its aftermath. The elasticity of agriculture was hugely negative at 55.8. Employment in the sector dropped by 19 percent in 2009 and by a further 4.8 percent in 2010 before rebounding in 2011 (5.3 percent). Services' elasticity was also a negative 3.6. The worst year for the sector was 2009, in which there was a negative growth rate of 9.5 percent, but agricultural employment increased by 39 percent after a decline of 44 percent in 2008. The employment elasticity of industry was a negative 2.7 in 2004-07, reflecting a weak labour absorption capacity. It seems that industry managed to employ labour during the global economic downturn, judging from its big elasticity (2.4). This sector is labour-intensive and is now showing encouraging signs of employment creation. Its ability to pull in labour is substantial relative to its growth rate. The sector is considered to be labour- rather than productivity-driven and so has the potential to mop up labour left behind by agriculture. Agriculture and services have a slower pace of labour absorption, but they still create jobs.

Table 7: Employment Elasticity of Growth by Sex

	1995-98	1999-2003	2004-07	2008-11
Female	0.591	0.386	0.441	0.649
Male	0.822	0.499	0.333	0.718

Source: Author's calculation based on NIS 1993-2011 (unpublished); IMF 2009; WDI 1995-2011

Employment prospects have always been better for males than for females (except during 2004-07). For every 10 percent of additional GDP growth in 2008-11, the extra chance of being employed for females was 6.5 percent, while for males it was 7.2 percent (Table 7).

Employment of females has been increasing compared with the previous period. Even so, it is lower than that of males.

4.2. Labour Productivity, Real Wages and Poverty

Cambodia has benefited more or less from the structural and technological transformations of globalisation. The country has received substantial foreign investment in most sectors and has become dependent on foreign sources to anchor its economy and to some extent to safeguard its social development. To a limited degree, the country has been able to imitate know-how and to adopt new production technology. The country continues to increase the role of infrastructure and education in its development. More quality investment is needed now to generate jobs and to strengthen the quality of the labour force. This will result in a healthy labour supply, which is one of the most important factors of economic productivity.

The labour share of GDP represents the proportion of labour to total production inputs. In 2011, the labour share of agricultural GDP was 65 percent, of services 69 percent and of industry 51 percent (on a rising trend in each sector). Labour is a dynamic and flexible engine for the economic transition to new technologies and industrial development. As well as wages, labour productivity is an important factor for investment. It is a key resource for growth and competition (Krugman 1994). Labour productivity has a significant role in poverty reduction. First, productivity improvement benefits the poor directly by increasing agricultural yields, improving incomes from family businesses and raising the earnings of workers (Datt and Ravallion 1998). Second, it can reduce the prices of goods, which benefits both rural and urban poor. Largely, it presents a gain for both producers and consumers (CSLS 2004). Thus, the poor need to improve the quality of their human and material inputs to benefit.

Aggregate labour productivity has improved over the years. Worker productivity changed from around USD0.26 per hour in 1998 to USD0.32 in 2004 and USD0.47 during the five years to 2011. From the elasticity figures, agriculture and services were found to be productivity-driven sectors, much needed for this stage of the country's industrialisation (Thirtle *et al.* 2001). Workers in agriculture produced an average of USD0.29 per hour for these last few years, more than in 2000 (around USD0.14 per hour). Change in other agricultural inputs, such as improved seeds and expanded use of fertiliser, pesticides and machinery, has supported the growth of labour productivity. Productivity in services was USD0.65 per hour for the five years to 2011—51 percent higher than in 2004, but only 1.5 percent more than in 2000. Table 8 shows that industry had the highest labour productivity but was not a productivity-driven sector.

Table 8: Sectoral Labour Productivity (USD/hour/worker)

	1997	1998	2000	2001	2004	2007	2008	2009	2010	2011
Agriculture	0.22	0.17	0.14	0.15	0.18	0.25	0.24	0.30	0.32	0.33
Industry	1.19	0.94	0.75	0.53	0.61	0.62	1.36	0.68	0.70	0.75
Services	0.82	0.40	0.64	0.49	0.43	0.46	0.94	0.64	0.57	0.65
Average	0.37	0.26	0.28	0.27	0.32	0.39	0.50	0.48	0.48	0.51

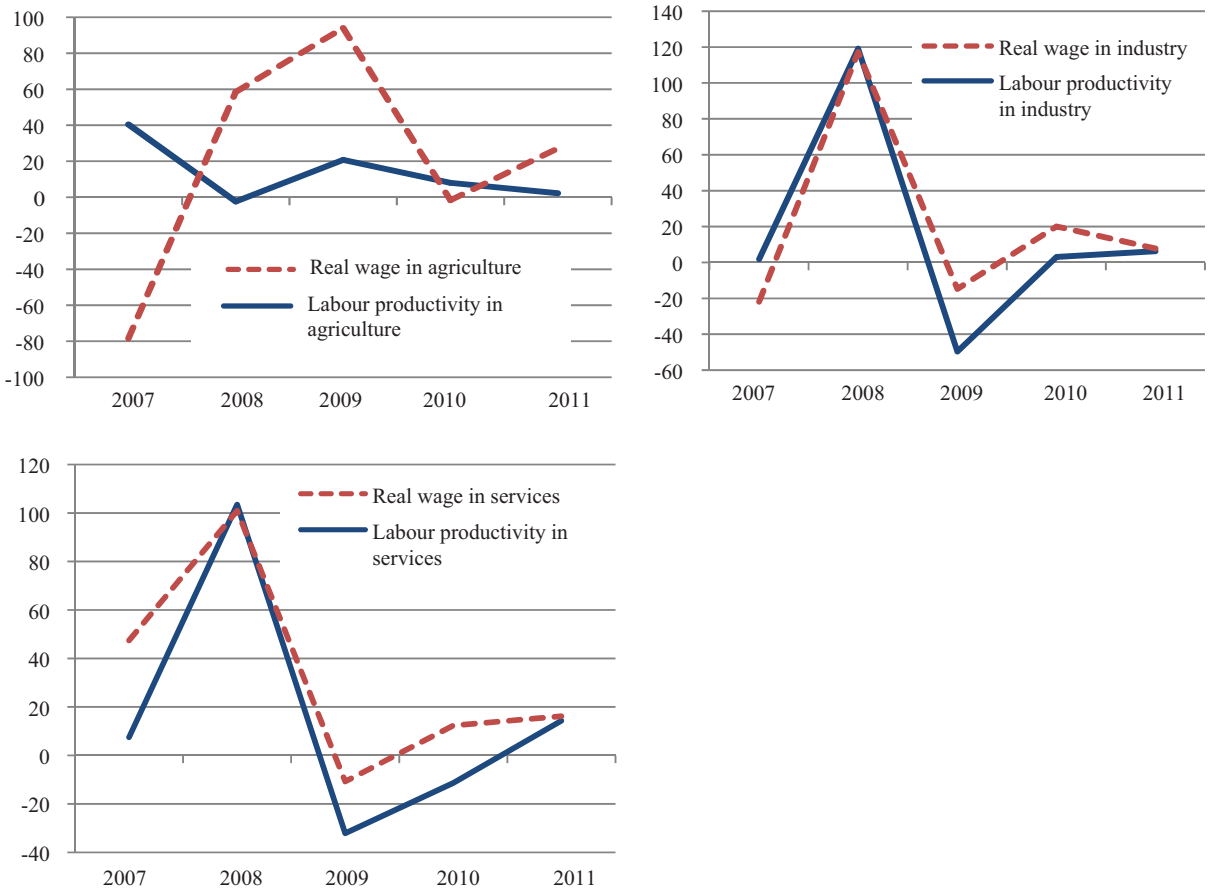
Source: Author's calculation based on NIS 1993-2011 (unpublished); CSES 2004-11; IMF 2009; WDI 1995-2011

Cambodia needs employment paying decent wages to raise people's quality of life. The country has low labour costs, which is good for labour-intensive investment, but low wages may be insufficient to cover daily living. As a result, workers have been striking for higher wages, especially in industry. The main question is how much the poor need in order to live without worry. From the CSES, the average annual wage growth rate was high for agriculture

(19 percent) followed by industry (5.3 percent) and services (18 percent) during 2007-11. Agricultural workers were paid an average KHR228,036 (USD56.2) per month in 2011. Those in industry were paid KHR375,362 (USD92.5) per month and in services KHR534,464 (USD131.7). The wage gap between sectors was relatively large.

Workers in all sectors in the plains and plateau-mountain areas received lower wages than their counterparts in other areas during 2007-11. Waged employment was an economic necessity, especially for those living in the Phnom Penh area, accounting for 57 percent of their total household income, while people in the coastal zone were less dependent (25 percent).

Figure 3: Growth of Labour Productivity and Real Wages by Sector, 2007-11



Sources: NIS 2011; CSES 2004-11; WDI 1995-2011

A minimum wage law has not yet been passed, only notice No. 041/11, in March 2011, regarding the minimum wage of garment workers. This was set at USD61 (KHR247,599) per month. The minimum was raised to USD80 (KHR320,000) per month in 2013 and USD100 (KHR398,000) per month in early 2014 because of negotiations between the government, labour unions and the Garment Manufacturers Association. However, labour law has stated that the setting of a minimum wage should ensure that every worker has the wherewithal to live with human dignity (guaranteed minimum wage system). The system does not differentiate between professions or jobs, but a difference between regions can be taken into consideration in setting a minimum wage when it is based on regional standards of living. Moreover, wages have to be adjustable according to the country's economic situation and the cost of living (Kong n.d.). The minimum wage is believed to reduce poverty in most countries because it affects the poor more than the average wage does (Lustig and McLeod 1997). Nevertheless, there is doubt about how many

poor are actually part of this minimum wage system, which mostly benefits a small number of workers, and not the poorest, who are mostly employed in the informal sector, which is not covered by such regulation. Thus, increasing wages in the informal sector is important.

The link between real wages and labour productivity is very strong. A wage increase is expected to follow a rise in productivity so that the productivity increase can lead to a better life. Alternatively, it could be said that wage growth tracks increases in productivity (Cashell 2004). The economic theory of Gregory Mankiw (2007) claimed that to generate full employment, wages growth should not surpass productivity growth. Moreover, changes in wages should be in line with the movement of labour productivity to ensure a fully competitive labour market. But this does not mean that wages growth is determined by productivity alone (Zhang *et al.* 2013). Figure 3 shows that wages growth was higher than productivity growth, meaning that it would not benefit agricultural employers to hire more labour and that shedding labour was more desirable. Another reason for wage rate growth being higher than productivity growth might be that the original starting wage was low, making its growth rate seem fast, while productivity growth might be closely related to stagnant technology and limited human capacity. However, the movement of wages and productivity was still in line for services and industry, which means that it would be opportune for firms to hire more labour to expand output, as long as wage rises remained below productivity rises.

4.3. Employment Characteristics

Agriculture absorbs a large part of the labour force aged between 15 and 25, its share varying between 41 percent in 2004 and around 35 percent in 2010. Youth employment in the sector dropped to 32 percent in 2011. In the older age group (41 to 64 years), the share kept on increasing from 29 percent in 2004 to 36 percent in 2011. Generally, industry employed the largest number of young people (around 45 percent). Twenty percent was the figure for those aged 41-64 in the five years to 2011. The majority of workers in services were between 26 and 40 years old; only around 26 percent were in the younger group.

Around 60 percent of workers in agriculture and services were married, while in industry married and single workers were almost equal in number. Workers lived in families averaging five to six members. In agriculture, approximately 66 percent of family members were dependents, while in industry and services the figures were around 55 percent. Traditionally, agricultural workers have not been as educated as others have. From 2004 to the present, workers in that sector had the lowest education (around fifth grade). Those in industry spent an average of six years at school, while the services workforce generally reached the eighth grade.

While the rural workforce was mostly employed in agriculture and urban workers were more to be found in services, industry for the past two years has employed almost equal numbers of rural and urban workers. Those engaged in agriculture worked an average of 13 hours a week less than those working in industry and 11 hours less than those employed in services. They also worked fewer days.

Table 9: Employment Characteristics (%)

		2004	2007	2008	2009	2010	2011
Agriculture	Urban	9.4	12.6	12.3	4.7	8.8	9.0
	Rural	90.6	87.4	87.7	95.3	91.2	91.0
	Male	49.8	51.6	52.9	49.9	47.3	47.4
	Female	50.2	48.4	47.1	50.1	52.7	52.6
	Age 15-25	40.6	34.8	34.1	35.7	34.6	32.0
	Age 26-40	30.2	33.3	32.6	32.4	31.4	32.3
	Age 41-64	29.2	31.9	33.3	31.8	34.0	35.7
	Average education	5.3	5.4	5.5	5.6	5.7	6.0
	Av. working hours	35.6	30.6	30.9	33.4	33.3	32.7
	Av. working days	18.9	20.6	19.4	19.3	19.8	19.8
	Dependency ratio	71.4	68.0	65.6	62.4	60.6	60.5
	N	25623	6609	5983	21098	4782	4961
Industry	Urban	19.7	27.3	27.0	23.0	44.1	40.1
	Rural	80.3	72.7	73.0	77.0	55.9	59.9
	Male	46.8	53.2	51.7	49.0	50.8	45.8
	Female	53.2	46.8	48.3	51.0	49.2	54.2
	Age 15-25	49.2	43.2	43.9	46.2	43.0	43.8
	Age 26-40	30.7	34.7	33.5	34.2	37.6	38.6
	Age 41-64	20.1	22.0	22.5	19.7	19.3	17.6
	Av. education	6.2	6.3	6.3	6.4	6.9	7.2
	Av. working hours	45.3	46.1	47.2	45.4	47.6	49.2
	Av. working days	21.8	23.7	23.9	23.9	25.1	25.8
	Dependency ratio	62.3	59.8	55.0	53.1	49.7	49.6
	N	5294	1550	1526	5221	1596	1650
Services	Urban	40.3	60.1	60.3	48.3	67.5	69.9
	Rural	59.7	39.9	39.7	51.7	32.5	30.1
	Male	50.6	52.4	51.4	50.9	50.6	52.1
	Female	49.4	47.6	48.6	49.1	49.4	47.9
	Age 15-25	29.9	27.7	26.9	26.1	25.2	24.6
	Age 26-40	36.3	36.4	37.7	40.0	41.0	41.0
	Age 41-64	33.8	35.9	35.4	33.9	33.8	34.4
	Av. education	8.2	8.8	8.8	8.2	8.9	9.3
	Av. working hours	42.9	45.0	43.6	46.1	46.7	46.9
	Av. working days	21.7	24.7	24.9	25.5	26.2	26.4
	Dependency ratio	63.8	50.1	50.3	52.3	48.3	45.4
	N	11345	3734	3782	8607	3681	3459

Source: CSES 2004-2011

4.4. Cambodia's Employment Regulation

Cambodia's employment law was adopted in 1997 and amended in 2007. This law is not enforced at all in informal employment. It has been used with the 2002 law on social security, royal decrees, sub-decrees, *prakas*, notices and other policies and regulations issued by the government and Ministry of Labour and Vocational Training to deal with employment problems like the termination of work contracts and other conflicts.

Labour law protects both the demand and supply sides. It covers dimensions such as labour agreements, labour contracts, labour rights and obligations, regulations on establishment of enterprises, working conditions and placement and recruitment of workers. The Ministry of Labour has the prime administrative responsibility, with activities ranging from the inspection of working premises to monitoring labour market problems. A trade union law is in preparation. However, the right to form trade unions and professional organisations, freedom of association,

workers' rights and any bargaining agreements have been recognised in the 1993 constitution and the labour law as well as in International Labour Office (ILO) conventions adopted here.

Employers and workers are required to pay contributions to the National Social Security Fund administered by the ministries of Labour and Economy and Finance. This system is now in its first phase, and covers only occupational risks; later elements will include healthcare and pensions. Employers are required to pay 0.8 percent of an employee's monthly base wage.

Long working hours can affect workers' health as well as their productivity. Labour law limits an individual's working hours to 200 hours per month, approximately 48 hours per week or eight hours per day, including short breaks. Under the law, no more than two hours per day of overtime are allowed. Workers are entitled to safe and hygienic working conditions, which are the responsibility of their employer (Kong n.d.).

5
Empirical Analysis of the Links between Employment and Poverty

5.1. Model Specification

This paper uses a probit[1] probit model to explore the magnitude of the probable effects of employment on household poverty in Cambodia. It examines whether an increase in the number of family members engaged in each economic activity will reduce or increase the likelihood of their being poor. This approach has been adopted from previous studies by Jemio and Choque (2003), including factors such as employment, human capital and related assets. They developed this approach in order to examine the connection between poverty and employment in Bolivia. Huong *et al.* (2003) and Krongkaew *et al.* (2006) also used the probit model in assessing the connection between employment and poverty in Vietnam and Thailand, respectively, including employment characteristics, household characteristics, income and means of income production and socio-economic environment as factors that affected poverty. Adopting the approaches of these earlier works, this study considers the model below:

$$Y = \alpha + \beta E + \sum \pi X + \varepsilon$$

Table 10: Definition of Variables

Y	Probability of being poor
E → Agri_hh(d)	Dummy variable: 1 if household head works in agriculture, and 0 if in industry
X	Household characteristics
Sex_hhh(d)	Dummy variable: 1 if household head is male, 0 otherwise
Age_hhh	Age of household head (years)
Edu_hhh	Education of household head
Paid_employ_hhh(d)	Dummy variable: 1 if household head works in paid employment, 0 otherwise
Urbanrural(d)	Dummy variable: 1 if household head lives in a rural area, 0 otherwise
HHsize	Household size
HH5	Number of household members aged below 6 years
HH6_17	Number of household members aged between 6 and 17 years
HH18_64	Number of household members aged between 18 and 64 years
Work_hour	Average working hours of household members per week
Work_day	Average working days of household members per month
Agri_income	Income from agriculture
Non_agri_income	Income from other sources
Land_hh	Size of household agricultural land (hectares)
Land_hhsq	Size of household agricultural land quared (hectares)
α,β,π	Coefficient of each variable
ε	Error term

[1] The probability of the outcome variable (taking only two values—in this case whether or not the household is poor) changing when there is a change in the value of the regressor.

From the above description, among workers in the three main sectors, those engaged in services were the least likely to be poor, while those employed in industry were almost worse off than agricultural workers. Therefore, the paper focuses on the probability of workers in agriculture and industry being poor.

5.2. Data

The study uses CSES data to run the probit function. The survey has been conducted for six rounds, in 2004, 2007, 2008, 2009, 2010 and 2011, but only five rounds are used for the estimations due to the different expenditure structure in 2004. The CSES has many variables for the micro level examination. This data consists of large households and more than 100 variables covering socio-economic indicators such as demographic information, economic activities, education, housing, health and so forth. This survey has been widely used in CDRI research studies.

5.3. Empirical Results

The estimate is presented after solving the problem of multicolinearity, leaving only significant variables. Probit coefficients rarely have any direct interpretation. Therefore, marginal effects from Dprobit are measured to see the effects that change in the regressors have on the outcome variable, which is poverty likelihood (Table 11).

From Table 11, it can be seen that, in 2007, households engaged in agriculture had an 11 percent higher chance of being in poverty at a very significant level than households engaged in industry. The rate of poverty likelihood became smaller in the next few rounds, falling to 2.4 percent higher than industry in 2009. Poverty likelihood cannot be proved in 2010 and 2011; the result shows the same sign as in 2009 but is at a statistically insignificant level. A higher probability of being poor is significantly found among those in paid employment than among the self-employed or those in unpaid family work.

A one-year increase in the education of the household head appears to reduce the probability of the household being poor by around 1.8 percentage points in every round at a very high level of significance. Moreover, the region in which people live seems to have no influence on their likelihood of poverty, except that in 2008 the probability of being poor worsened for those living in rural areas at a strongly significant level. It is obvious that a household size larger than the average 4.7 members is an obstacle to families being better off. It is particularly difficult for families to move out of poverty if the members are largely under 18 years old, while the probability of members aged 18 to 64 reducing poverty is significant only in 2010. Households having land greater than 1.2 hectares are less likely to be poor. Working hours (in 2008) and working days (in 2010) of household members reduce household poverty likelihood, but not at a significant level.

Table 11: Dprobit Regression Results, 2007-11

	2007	2008	2009	2010	2011
Agri_hhh (d)	0.112***	0.095***	0.024*	0.021	0.031
	(-0.024)	(-0.021)	(-0.011)	(-0.019)	(-0.019)
Sex_hhh (d)	0.011	-0.013	0.002	0.037	-0.012
	(-0.024)	(-0.022)	(-0.012)	(-0.019)	(-0.021)
Age_hhh	-0.001	-0.001	-0.001	-0.001	-0.000
	(-0.001)	(-0.001)	(-0.0004)	(-0.001)	(-0.001)
School_hhh	-0.014***	-0.019***	-0.018***	-0.018***	-0.021***
	(-0.003)	(-0.003)	(-0.001)	(-0.003)	(-0.003)
Paid_emply_hhh (d)	0.097**	0.115***	0.053***	0.051*	0.111***
	(-0.032)	(-0.031)	(-0.014)	(-0.025)	(-0.028)
Urbanrural (d)	0.045	0.089***	-0.019	0.017	-0.015
	(-0.025)	(-0.021)	(-0.017)	(-0.022)	(-0.024)
HHsize	0.046*	0.056**	0.054***	0.069***	0.064***
	(-0.022)	(-0.019)	(-0.011)	(-0.019)	(-0.019)
HH5	0.063*	0.059*	0.068***	0.058*	0.049*
	(-0.026)	(-0.023)	(-0.013)	(-0.023)	(-0.023)
HH6_17	0.043	0.033	0.020	0.012	0.016
	(-0.022)	(-0.020)	(-0.011)	(-0.020)	(-0.020)
HH18_64	-0.004	-0.029	-0.017	-0.042*	-0.015
	(-0.021)	(-0.019)	(-0.011)	(-0.018)	(-0.018)
Work_hour	-0.002**	-0.001	-0.001*	0.001	-0.002**
	(-0.001)	(-0.001)	(-0.0003)	(-0.001)	(-0.001)
Work_day	0.001	0.001	-0.002**	-0.002	0.001
	(-0.001)	(-0.001)	(-0.001)	(-0.001)	(-0.001)
Agri_income	1.69E-06	1.86E-06	-0.0001***	-6.1E-05	-0.0001*
	(-3.7E-05)	(-1.9E-05)	(-1.8E-05)	(-3.5E-05)	(-3.1E-05)
Non_agri_income	-0.001***	-0.0001*	-0.0001***	-5.9E-05	-1.3E-05
	(-7.1E-05)	(-3.5E-05)	(-1.5E-05)	(-4.8E-05)	(-1.3E-05)
Land_total	0.045***	-0.007	-0.009**	-0.022**	-0.015
	(-0.012)	(-0.015)	(-0.003)	(-0.008)	(-0.011)
Land_totalsq	-0.007***	-0.004	2.65E-05	0.0001	0.0001
	(-0.002)	(-0.003)	(-2.8E-05)	(-0.0001)	(-0.001)
N	**3054**	**3021**	**8812**	**2260**	**2318**

Note: *p<0.05, **p<0.01, ***p<0.001

Source: Author's calculation based on CSES 2007-11

6
Conclusion and Policy Implications

Cambodia has a plentiful young labour force entering the market every year. Yet the growth of jobs and the growth of new entrants do not balance, while the unemployment rate stays low because of the loose definition of employment. The employment structure has not changed much since the country started to open its economy. The slow growth sector, agriculture, soaks up a large part of the labour force, whereas the fast growth sector, industry, takes in a more modest amount. However, agriculture has been regarded as productivity-driven, while the growth of industry has been labour-intensive, although the labour productivity of this sector has been the highest. The study found that employment in agriculture and services is easily affected by shocks, as was the case during the global financial crisis and its aftermath in 2009.

The labour market is still narrow and dominated by male employment. Although employment participation of females remains lower than that of males, the numbers are increasing in all sectors. Many young workers are employed in light and labour-intensive industries like garments and footwear manufacturing, rubber manufacturing and food processing, which are emerging sectors. Mostly people of middle and old age having lower education, and who work fewer hours and fewer days, undertake employment in agriculture. Although wages growth has been greater than productivity growth, indicating employment insecurity, the movement of wages was still in line (the same trend) with that of productivity, leaving an opportunity for firms/employers to hire more labour to expand production.

From the empirical estimations, agricultural households have a higher probability of being poor than those engaged in industry. The study also found other crucial factors in determining the likelihood of poverty besides employment variables. Education of the household head, the number of household members aged between 18 and 64 years and the size of household land reduce household poverty to a significant extent. Paid employment, household size and household members aged below 18 years are variables contributing to household poverty.

Cambodian policies for poverty reduction include special economic zones to support industrial development, attracting investment through improved business infrastructure and facilities and promoting linkages between agriculture and industry. Rice is a prominent agricultural crop, and the government is trying to promote rice export through rice intensification (irrigation and fertiliser use). Yet the implementation of these policies has been slow, and there is a need for better enforcement. Effective implementation would help the growth of every sector, which would then create more employment opportunities. Decent work for all is an explicit target of pro-poor policies assuring a fair income for productive employment. Based on empirical analysis, people employed in agriculture are more trapped in poverty than those in other sectors. Pro-poor policy should put more focus on agriculture.

Macro policies: Accelerating irrigation development and identifying farmers' water rights in irrigation schemes would help to improve agricultural productivity and increase work availability because irrigation is the lifeblood of this sector. It needs higher labour productivity to reach a level that is at least comparable to that of industry and services. Land is a necessary source of food, income, shelter and social identity for the poor. However, a large number of people hold only small plots of land without reliable titles. Expanding access to agricultural land by fair and accurate documenting, mapping and titling would encourage crop production, thereby enlarging downstream economic activities. These would help the creation of both farm

and off-farm employment. It is not new to mention the diversification of agricultural products and markets, but there should be a mechanism to make this happen.

Household policies: Education is a positive variable to free households from poverty. The poor can improve their productivity as well as their capabilities if they have more and better education. More public investment in education is needed, especially funds allocated to higher secondary schools and targeted at the poor, as well as additional funds for primary and lower secondary schools as suggested in Tong and Phay (forthcoming). In addition, wage adjustments should be seriously considered because wages contribute to poverty reduction.

References

Bell, S. and K. Newitt (2010), *Decent Work and Poverty Eradication: Literature Review and Two Country Study* (London: Ergon Associates Limited)

Block, S. and P. Webb (2001), "The Dynamics of Livelihood Diversification in Post-Famine Ethiopia", *Food Policy,* 26(4): 333-350

Cashell, Brian W. (2004), *Productivity and Wages* (Ithaca, NY: Cornell University Press)

CSLS, Centre for the Study of Living Standards (2004), *Productivity Growth and Poverty Reduction in Developing Countries* (Ottawa: CSLS)

Datt, G. and M. Ravallion (1998), "Farm Productivity and Rural Poverty in India", *Journal of Development Studies,* 34: 62-85

Ferreira, H.G.F. G.P. Leite and M. Ravallion (2010), "Poverty Reduction without Economic Growth? Explaining Brazil's Poverty Dynamics, 1985-2004", *Journal of Development Economics,* 93(1): 20-36

Gutierrez, C., C. Orecchia, P. Paci and P. Serneels (2007), *Does Employment Generation Really Matter for Poverty Reduction?* Poverty Research Working Paper 4432 (Washington, DC: World Bank)

Hatsukano, Naomi (2010), "Industrial Location in Cambodia: Industrial Policies and Economic Statistics", in Ikuo Kuroiwa (ed.), *Spatial Statistics and Industrial Location in CLMV: An Interim Report* (Chiba, Japan: Institute of Developing Economies-JETRO)

Huong, L.P., Tuan Q.B. and Minh H.D. (2003), *Employment Poverty Linkages and Policies for Pro-poor Growth in Vietnam* (Hanoi: Institute of World Economy)

Ianchovichina, E. and S. Lundstrom (2008), "What Are the Constraints to Inclusive Growth in Zambia?" (Washington, DC: World Bank)

ILO, International Labour Office (2008), "Promotion of Rural Employment for Poverty Reduction", International Labour Conference, 97th Session (Geneva: ILO)

International Labour Office (2011), *Global Employment Trends 2011: The Challenge of a Jobs Recovery* (Geneva: ILO)

IMF, International Monetary Fund (2009), *Cambodia: Statistical Appendix,* IMF Country Report 09/48 (Washington, DC: IMF)

Jemio, C.L and C.M. Choque (2003), *Employment-poverty Linkages and Policies: The Case of Bolivia* (Geneva: ILO)

Kakwani, N. and E. Pernia (2000), "What is Pro-poor Growth?" *Asian Development Review,* 18(1): 1-16

Kapsos, S. (2005), *The Employment Intensity of Growth: Trends and Macroeconomic Determinants,* Employment Strategy Papers (Geneva: ILO)

Kilicaslan, Y. and E. Taymaz (n.d.), "Labour Market Regulation, Industrial Structure and Economic Performance" (Ankara: Middle East Technical University)

Kong, P. (n.d.), *Introduction to Cambodian Law: Cambodia Labor and Employment Law* (Phnom Penh: Cambodia)

Krongkaew, M., S. Chamnivickorn and I. Nitithanprapas (2006), *Economic Growth, Employment and Poverty Reduction Linkages: The Case of Thailand,* Issues in Employment and Poverty, Discussion Paper No.20

Krugman, P. (1994), *The Age of Diminished Expectations* (Cambridge, MA: MIT Press)

Kuznets, S. (1963), "Quantitative Aspects of the Economic Growth of Nations: VIII. Distribution of Income by Size", *Economic Development and Cultural Change,* 11(2): 1-80

Loayza, N. and C. Raddatz (2006), *The Composition of Growth Matters for Poverty Alleviation,* Policy Research Working Paper 4077 (Washington, DC: World Bank)

Lundstrom, S. and P. Ronnas (2006), *Integrated Economic Analysis for Pro-poor Growth,* Sida Methods Document (Stockholm: Sida)

Lustig, C.N. and D. McLeod (1997), *Minimum Wages and Poverty in Developing Countries: Some Empirical Evidence* (Washington, DC: Brookings Institution Press)

Mankiw, Gregory N. (2007), 4th edition, *Principles of Economics,* Cengage Learning

MOP, Ministry of Planning (2012), *Annual Progress Report* (Phnom Penh: MOP)

Ministry of Planning (2013), *Integration of Demographic Perspectives in Development* (Phnom Penh: MOP)

NIS, National Institute of Statistics (2011), *Statistical Yearbook of Cambodia 2011* (Phnom Penh: NIS)

Thirtle, Colin, Xavier Irz, Lin Lin, Victoria McKenzie-Hill and Steve Wiggins (2001), "Relationship between Changes in Agricultural Productivity and the Incidence of Poverty in Developing Countries", DFID Report No. 7946

Thorat, S. and A. Dubey (2012), "Has Growth Been Socially Inclusive During 1993-94 –2009-10?" *Economic & Political Weekly,* XLVII(10)

Tong K. and Phay S. (forthcoming), "Public Spending on Education and Inclusiveness in Cambodia" (Phnom Penh: Cambodia Development Resource Institute)

World Bank (2014), "World Development Indicators" http://data.worldbank.org/data-catalog/-world-development-indicators

Zhang, Xiaobo, Shahidur Rashid, Kaikus Ahmad, Valerie Mueller, Hak Lim Lee, Solomon Lemma and Saika Belal (2013), *Rising Wages in Bangladesh,* IFPRI Discussion Papers 01249, International Food Policy Research Institute

CDRI Working Paper Series

1) Kannan, K.P. (November 1995), *Construction of a Consumer Price Index for Cambodia: A Review of Current Practices and Suggestions for Improvement*.
2) McAndrew, John P. (January 1996), *Aid Infusions, Aid Illusions: Bilateral and Multilateral Emergency and Development Assistance in Cambodia.* 1992-1995.
3) Kannan, K.P. (January 1997), *Economic Reform, Structural Adjustment and Development in Cambodia.*
4) Chim Charya, Srun Pithou, So Sovannarith, John McAndrew, Nguon Sokunthea, Pon Dorina & Robin Biddulph (June 1998), *Learning from Rural Development Programmes in Cambodia.*
5) Kato, Toshiyasu, Chan Sophal & Long Vou Piseth (September 1998), *Regional Economic Integration for Sustainable Development in Cambodia.*
6) Murshid, K.A.S. (December 1998), *Food Security in an Asian Transitional Economy: The Cambodian Experience.*
7) McAndrew, John P. (December 1998), *Interdependence in Household Livelihood Strategies in Two Cambodian Villages.*
8) Chan Sophal, Martin Godfrey, Toshiyasu Kato, Long Vou Piseth, Nina Orlova, Per Ronnås & Tia Savora (January 1999), *Cambodia: The Challenge of Productive Employment Creation.*
9) Teng You Ky, Pon Dorina, So Sovannarith & John McAndrew (April 1999), *The UNICEF/ Community Action for Social Development Experience—Learning from Rural Development Programmes in Cambodia.*
10) Gorman, Siobhan, with Pon Dorina & Sok Kheng (June 1999), *Gender and Development in Cambodia: An Overview.*
11) Chan Sophal & So Sovannarith (June 1999), *Cambodian Labour Migration to Thailand: A Preliminary Assessment.*
12) Chan Sophal, Toshiyasu Kato, Long Vou Piseth, So Sovannarith, Tia Savora, Hang Chuon Naron, Kao Kim Hourn & Chea Vuthna (September 1999), *Impact of the Asian Financial Crisis on the SEATEs: The Cambodian Perspective.*
13) Ung Bunleng, (January 2000), *Seasonality in the Cambodian Consumer Price Index.*
14) Toshiyasu Kato, Jeffrey A. Kaplan, Chan Sophal & Real Sopheap (May 2000), *Enhancing Governance for Sustainable Development.*
15) Godfrey, Martin, Chan Sophal, Toshiyasu Kato, Long Vou Piseth, Pon Dorina, Tep Saravy, Tia Savara & So Sovannarith (August 2000), *Technical Assistance and Capacity Development in an Aid-dependent Economy: the Experience of Cambodia.*
16) Sik Boreak, (September 2000), *Land Ownership, Sales and Concentration in Cambodia.*
17) Chan Sophal, & So Sovannarith, with Pon Dorina (December 2000), *Technical Assistance and Capacity Development at the School of Agriculture Prek Leap.*
18) Godfrey, Martin, So Sovannarith, Tep Saravy, Pon Dorina, Claude Katz, Sarthi Acharya, Sisowath D. Chanto & Hing Thoraxy (August 2001), *A Study of the Cambodian Labour Market: Reference to Poverty Reduction, Growth and Adjustment to Crisis.*
19) Chan Sophal, Tep Saravy & Sarthi Acharya (October 2001), *Land Tenure in Cambodia: a Data Update.*

20) So Sovannarith, Real Sopheap, Uch Utey, Sy Rathmony, Brett Ballard & Sarthi Acharya (November 2001), *Social Assessment of Land in Cambodia: A Field Study.*

21) Bhargavi Ramamurthy, Sik Boreak, Per Ronnås and Sok Hach (December 2001), *Cambodia 1999-2000: Land, Labour and Rural Livelihood in Focus.*

22) Chan Sophal & Sarthi Acharya (July 2002), *Land Transactions in Cambodia: An Analysis of Transfers and Transaction Records.*

23) McKenney, Bruce & Prom Tola. (July 2002), *Natural Resources and Rural Livelihoods in Cambodia.*

24) Kim Sedara, Chan Sophal & Sarthi Acharya (July 2002), *Land, Rural Livelihoods and Food Security in Cambodia.*

25) Chan Sophal & Sarthi Acharya (December 2002), *Facing the Challenge of Rural Livelihoods: A Perspective from Nine Villages in Cambodia.*

26) Sarthi Acharya, Kim Sedara, Chap Sotharith & Meach Yady (February 2003), *Off-farm and Non-farm Employment: A Perspective on Job Creation in Cambodia.*

27) Yim Chea & Bruce McKenney (October 2003), *Fish Exports from the Great Lake to Thailand: An Analysis of Trade Constraints, Governance, and the Climate for Growth.*

28) Prom Tola & Bruce McKenney (November 2003), *Trading Forest Products in Cambodia: Challenges, Threats, and Opportunities for Resin.*

29) Yim Chea & Bruce McKenney (November 2003), *Domestic Fish Trade: A Case Study of Fish Marketing from the Great Lake to Phnom Penh.*

30) Hughes, Caroline & Kim Sedara with the assistance of Ann Sovatha (February 2004), *The Evolution of Democratic Process and Conflict Management in Cambodia: A Comparative Study of Three Cambodian Elections.*

31) Oberndorf, Robert B. (May 2004), *Law Harmonisation in Relation to the Decentralisation Process in Cambodia.*

32) Murshid, K.A.S. & Tuot Sokphally (April 2005), *The Cross Border Economy of Cambodia: An Exploratory Study.*

33) Hansen, Kasper K. & Neth Top (December 2006), *Natural Forest Benefits and Economic Analysis of Natural Forest Conversion in Cambodia.*

34) Pak Kimchoeun, Horng Vuthy, Eng Netra, Ann Sovatha, Kim Sedara, Jenny Knowles & David Craig (March 2007), *Accountability and Neo-patrimonialism in Cambodia: A Critical Literature Review*.

35) Kim Sedara & Joakim Öjendal with the assistance of Ann Sovatha (May 2007), *Where Decentralisation Meets Democracy: Civil Society, Local Government, and Accountability in Cambodia*.

36) Lim Sovannara (November 2007), *Youth Migration and Urbanisation in Cambodia*.

37) Chem Phalla *et al.* (May 2008), *Framing Research on Water Resources Management and Governance in Cambodia: A Literature Review*.

38) Pak Kimchoeun and David Craig (July 2008), *Accountability and Public Expenditure Management in Decentralised Cambodia.*

39) Horng Vuthy and David Craig (July 2008), *Accountability and Planning in Decentralised Cambodia.*

40) Eng Netra and David Craig (March 2009), *Accountability and Human Resource Management in Decentralised Cambodia*.

41) Hing Vutha and Hossein Jalilian (April 2009), *The Environmental Impacts of the ASEAN-China Free Trade Agreement for Countries in the Greater Mekong Sub-region*.

42) Thon Vimealea, Ou Sivhuoch, Eng Netra and Ly Tem (October 2009), *Leadership in Local Politics of Cambodia: A Study of Leaders in Three Communes of Three Provinces*.

43) Hing Vutha and Thun Vathana (December 2009), *Agricultural Trade in the Greater Mekong Sub-region: The Case of Cassava and Rubber in Cambodia*.

44) Chan Sophal (December 2009), *Costs and Benefits of Cross-border Labour Migration in the GMS: Cambodia Country Study*.

45) CDRI Publication (December 2009), *Costs and Benefits of Cross-country Labour Migration in the GMS: Synthesis of the Case Studies in Thailand, Cambodia, Laos and Vietnam*.

46) CDRI Publication (December 2009), *Agricultural Trade in the Greater Mekong Sub-region: Synthesis of the Case Studies on Cassava and Rubber Production and Trade in GMS Countries.*

47) Chea Chou (August 2010), *The Local Governance of Common Pool Resources: The Case of Irrigation Water in Cambodia*.

48) CDRI Publication (August 2010), *Empirical Evidence of Irrigation Management in the Tonle Sap Basin: Issues and Challenges*.

49) Chem Phalla and Someth Paradis (March 2011), *Use of Hydrological Knowledge and Community Participation for Improving Decision-making on Irrigation Water Allcation*.

50) Pak Kimchoeun (May 2011), *Fiscal Decentralisation in Cambodia: A Review of Progress and Challenges*.

51) Christopher Wokker, Paulo Santos, Ros Bansok and Kate Griffiths (June 2011), *Irrigation Water Productivity in Cambodian Rice System*.

52) Ouch Chandarany, Saing Chanhang and Phann Dalis (June 2011), *Assessing China's Impact on Poverty Reduction In the Greater Mekong Sub-region: The Case of Cambodia*.

53) Chann Sopheak, Nathan Wales and Tim Frewer (August 2011), *An Investigation of Land Cover and Land Use Change in Stung Chrey Bak Catchment, Cambodia*.

54) Nang Phirun, Khiev Daravy, Philip Hirsch and Isabelle Whitehead (June), *Improving the Governance of Water Resources in Cambodia: A Stakeholder Analysis*.

55) Kem Sothorn, Chhim Chhun, Theng Vuthy and So Sovannarith (July 2011), *Policy Coherence in Agricultural and Rural Development: Cambodia*.

56) Tong Kimsun, Hem Socheth and Paulos Santos (July 2011), *What Limits Agricultural Intensification in Cambodia? The role of emigration, agricultural extension services and credit constraints*.

57) Tong Kimsun, Hem Socheth and Paulos Santos (August 2011), *The Impact of Irrigation on Household Assets*.

58) Hing Vutha, Lun Pide and Phann Dalis (August 2011), *Irregular Migration from Cambodia: Characteristics, Challenges and Regulatory Approach*.

59) Chem Phalla, Philip Hirsch and Someth Paradis (September 2011), *Hydrological Analysis in Support of Irrigation Management: A Case Study of Stung Chrey Bak Catchment, Cambodia.*

60) Saing Chan Hang, Hem Socheth and Ouch Chandarany with Phann Dalish and Pon Dorina (November 2011), *Foreign Investment in Agriculture in Cambodia*

61) Ros Bandeth, Ly Tem and Anna Thompson (September 2011), *Catchment Governance and Cooperation Dilemmas: A Case Study from Cambodia.*

62) Chea Chou, Nang Phirun, Isabelle Whitehead, Phillip Hirsch and Anna Thompson (October 2011), *Decentralised Governance of Irrigation Water in Cambodia: Matching Principles to Local Realities.*

63) Heng Seiha, Kim Sedara and So Sokbunthoeun (October 2011), *Decentralised Governance in Hybrid Polity: Localisation of Decentralisation Reform in Cambodia*

64) Tong Kimsun, Sry Bopharath (November 2011), *Poverty and Evironment Links: The Case of Rural Cambodia.*

65) Ros Bansok, Nang Phirun and Chhim Chhun (December 2011), *Agricultural Development and Climate Change: The Case of Cambodia*

66) TONG Kimsun (February 2012), *Analysing Chronic Poverty in Rural Cambodia Evidence from Panel Data*

67) Keith Carpenter with assistance from PON Dorina (February 2012), *A Basic Consumer Price Index for Cambodia 1993–2009*

68) Roth Vathana (March 2012), *Sectoral Composition of China's Economic Growth, Poverty Reduction and Inequality: Development and Policy Implications for Cambodia*

69) CDRI Publication (March 2012), *Understanding Poverty Dynamics: Evidence from Nine Villages in Cambodia*

70) Hing Vutha, Saing Chan Hang and Khieng Sothy (August 2012), *Baseline Survey for Socioeconomic Impact Assessment: Greater Mekong Sub-region Transmission Project*

71) Kim Sedara and Joakim Öjendal with Chhoun Nareth and Ly Tem (December 2012), *A Gendered Analysis of Decentralisation Reform in Cambodia*

72) Hem Socheth (March 2013), *Impact of the Global Financial Crisis on Cambodian Economy at Macro and Sectoral Levels*

73) Hay Sovuthea (March 2013), *Government Response to Inflation Crisis and Global Financial Crisis*

74) Ngin Chanrith (March 2013), *Impact of the Global Financial Crisis on Employment in SMEs in Cambodia*

75) Tong Kimsun (March 2013), *Impact of the Global Financial Crisis on Poverty: Evidence from Nine Villages in Cambodia*

76) Hing Vutha (March 2013), *Impact of the Global Financial Crisis on the Rural Labour Market: Evidence from Nine Villages in Cambodia*

77) Saing Chan Hang (March 2013), *Household Vulnerability to Global Financial Crisis and Their Risk Coping Strategies: Evidence from Nine Rural Villages in Cambodia*

78) Tong Kimsun and Phay Sokcheng (March 2013), *The Role of Income Diversification during the Global Financial Crisis: Evidence from Nine Villages in Cambodia*

79) Lun Pidé (March 2013), *The Role of Rural Credit during the Global Financial Crisis: Evidence From Nine Villages in Cambodia*

80) Saing Chan Hang (March 2013), *Binding Constraints on Economic Growth in Cambodia: A Growth Diagnostic Approach*

81) Hing Vutha (June 2013), *Leveraging Trade for Economic Growth in Cambodia*

82) Nang Phirun (July 2013), *Climate Change Adaptation and Livelihoods in Inclusive Growth: A Review of Climate Change Impacts and Adaptive Capacity in Cambodia*

83) Tong Kimsun, Lun Pide and Sry Bopharath with the assistance of Pon Dorina (August 2013) *Levels and Sources of Household Income in Rural Cambodia 2012*

84) Ou Sivhuoch (August 2013), *Sub-National Civil Society in Cambodia: A Gramscian Perspective*

85) Ou Sivhuoch and Kim Sedara (August 2013), *20 Years' Strengthening of Cambodian Civil Society: Time for Reflection*

86) Sen Vicheth and Ros Soveacha with the assistance of Hieng Thiraphumry (October 2013), *Anatomy of Higher Education Governance in Cambodia*

87) Kim Sedara and Joakim Öjendal With the assistance of Chhoun Nareth (November 2013), *Gatekeepers in Local Politics: Political Parties in Cambodia and their Gender Policy*

88) Chheat Sreang (December 2013), *Impact of Decentralisation on Cambodia's Urban Governance*

89) Nang Phirun and Ouch Chhuong (January 2014), *Gender and Water Governance: Women's Role in Irrigation Management and Development in the Context of Climate Change*

90) CDRI Publication (January 2014), *ASEAN 2030: Growing Together for Economic Prosperity - the Challenges (Cambodia Background Paper)*

91) Theng Vuthy, Khiev Pirom and Phon Dary (April 2014), *Development of the Fertiliser Industry in Cambodia: Structure of the Market, Challenges in the Demand and Supply Sidesand the Way Forward*

CDRI - Cambodia's leading independent development policy research institute

☞ 56 Street 315, Tuol Kork
✉ PO Box 622, Phnom Penh, Cambodia
☎ (855 23) 881 384/881 701/881 916/883 603
🖷 (855 23) 880 734
E-mail: cdri@cdri.org.kh
Website: www.cdri.org.kh

Price: USD2.00

9 789995 052850