Labor Productivity and Access to Markets Matter for Pro-Poor Growth

The 1990s in Burkina Faso and Vietnam.

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Table of Contents

Figures

Tables

1. Introduction

Employment is widely perceived as being amongst the most important channels for translating growth into poverty reduction. However there has been limited empirical research to date on the relationship between growth, employment and poverty reduction. This paper focuses on two countries, Burkina Faso and Vietnam, with very distinct patterns of growth and poverty reduction. It examines how employment transmitted growth to the poor during the 1990s in each of these cases and what the role was of specific policies and initial country conditions. In particular, we attempt shed some light on Vietnam's relative success in terms of pro-poor growth. Understanding these questions will be important in informing the formulation of policies that maximize the participation of the poor in the growth process.

This paper is undertaken within the broader framework of the Operationalising Pro-poor Growth (OPPG) study, which is based on 14 country case studies that examine linkages between growth and poverty reduction during the 1990s.[1] The aim of this paper is to supplement the more general labor market analysis contained in the case studies, with a detailed inspection of how employment serves as a transmission channel from growth to poverty reduction. The analysis is based on household survey data for Vietnam (VLSS 1993, 1998) and Burkina Faso (EP 1994, 2003) as well as a review of the 14 OPPG country case studies.

We find that there are two important factors that maximize the effectiveness of employment in transmitting growth to the poor: (1) an increase in labor productivity that is (a) broad based and (b) concentrated in sectors where the poor are disproportionately employed or to which they have access, and (2) strong (domestic and foreign) demand for the goods and services produced by the poor and access to these markets.

Indeed, Vietnam's relative success in terms of growth and poverty reduction can, in part, be attributed to the combination of these two factors. First, a broad-based increase in agricultural labor productivity combined with a strong domestic and foreign demand for crops produced increased earnings for the majority of the poor and stimulated domestic demand for non-agricultural goods and services produced by the poor. Second, an increase in (low-skilled) informal labor productivity combined with growing domestic and foreign demand for informal goods and services, created higher earning opportunities for agricultural workers and further reduced poverty. In turn, higher non-agricultural earnings further stimulated demand for agricultural goods and services, thereby creating a virtuous circle of growth and poverty reduction. We conclude that while agricultural, trade and other policies were central to Vietnam's success in stimulating growth and reducing poverty, certain initial conditions also played an important role. Not least of these were a high population density, an educated workforce, reasonable infrastructure and strong government institutions.

The paper is organized as follows. We begin with a brief review of what the existing literature tells us regarding the linkages between growth, labor markets and poverty reduction. We then briefly review what can be learned from the 14 OPPG country case studies is this respect. Section 4 introduces Burkina Faso and Vietnam and provides some basic stylized facts at the

[1] The OPPG program, initiated in 2003, is a joint work program undertaken by AFD, BMZ (KFW/GTZ) DFID and the World Bank to better understand the options facing policy makers in terms of increasing the impact of growth on poverty reduction.

beginning of the 1990s, with an aim to set out the initial country conditions. It also highlights how these two countries represent the two extreme patterns of growth and poverty reduction observed in the 14 OPPG country case studies. Section 5 provides a profile of poverty in the labor market in Burkina Faso and Vietnam, identifying who the poor were at the beginning of the 90's, which groups faced the highest risks of poverty and how this changed during the '90s. In section 6, we examine how labor markets transmitted growth to the poor in Vietnam. We analyze how growth was reflected in the structure of employment and the extent of underemployment and what the impact was on earnings in sectors where the poor and non-poor were employed. Using panel data we then examine the extent to which the poor in Vietnam were able to benefit from growth by moving out of agriculture and into faster-growing industrial and services sectors. In section 7 we examine how growth affected the structure of employment and earnings in Burkina Faso during the 1990s. We then briefly analyze how employment affected the distributional pattern of growth in both countries in section 8. Finally, section 10 draws some conclusions on how specific policies and initial country conditions affected the way in which employment transmitted growth to the poor in Burkina Faso and Vietnam and what factors can help to explain Vietnam's relative success in terms of growth and poverty reduction.

2. What does the literature tell us about the links between growth, labor markets and poverty reduction?

Labor markets are widely perceived to be amongst the most important channels through which growth may translate into poverty reduction (DFID 1997;Fields, G. S. 2005;ILO 2003;McKay, A. 1997;Squire, L. 1993;World Bank 1990). This is mainly for two reasons: (1) *labor is the most abundant asset of the poor* (poor people in developing countries derive little income from other sources than their labor)[2] and (2) *what distinguishes the poor from the non-poor is their labor earnings*, as labor force status is repeatedly found to be a critical determinant of household welfare in developing countries.

In traditional dual economy development models such as those of Lewis (1954), Kuznets (1955) and Ranis and Fei (1961) labor markets were implicitly perceived as the principal means through which growth would translate into poverty reduction. The Kuznets (1955) hypothesis, of an inverted U shape of the relationship between economic growth and benefits of the poor, argued that investment in capital to stimulate growth would, in the initial stages of development, result in an increase in inequality, but that eventually inequality would decrease as economies would undergo structural changes and labor would shift out of agriculture into industry. Growth would thus automatically "trickle down" to the poor as average labor incomes rose with growth. Later labor market dualism literature also indirectly examined how labor markets transmitted growth to the poor and emphasized the dualistic nature of labor markets in developing countries. They argued that these labor markets were characterized by a (richer) "formal", "modern", "industrial" or "urban" sector and a (poorer) "informal", "traditional", "agricultural" or "rural" sector (see Fields, G. S. 2005, for a detailed review of dual and multi-sector labor market models). Although the causes and nature of informal employment in developing countries have been much debated over the past thirty years and it is not entirely clear whether informal employment is always associated with a greater risk of poverty than formal employment (see Box 1), there is no doubt

[2] Note that not all the poor have sufficient labor assets. For example, households with high dependency rates and some female headed households may have insufficient labor assets. Moreover, although labor is usually the most abundant asset of the poor, the poor often have other assets, including land or livestock.

that an important share of both total employment and total GDP in low income countries is in the informal sector.[3] Finally, while these development models provide important theoretical frameworks for understanding how labor markets may distribute growth to the poor, there has been very little empirical research on this topic.[4]

Box 1. What is the informal sector and how can we measure it?[5]

There is no consensus over what constitutes the informal sector worldwide. Over the past 30 years, the term has been used in developing, western industrialized, centrally planned and transition countries to analyze a wide spectrum of activities that escape taxation, measurement, and regulation. The term 'informal sector' or 'informal economy' has been used to describe such diverse activities as street vending, hawking, undeclared domestic work, barter, stealing state property, corruption, tax evasion, the Mafia and organized crime. Here we focus on the main definitions and sources of debate in developing countries.

There have been two main parts to the informal sector debate in developing countries: The first, which dominated much of the 1970s and 1980s, focused on the informal-formal sector relationship. Those who supported the 'duality' approach' argued that there were two distinct urban economies (the poor/informally unemployed vs. the rich/formally employed), while their critics argued that formal and informal activities are not separate and independent but parts of one, overall capitalist system in which informal activities are subordinate to, and dependent on, the formal sector. The second part of the debate, which took off in the late 1980s in Latin America with the publication of de Soto's (1989) work on Peru, is concerned with the causes of the informal sector: is the primary cause of the informal sector rural-urban migration and poverty or is it excess regulation, taxation and heavy state bureaucracy? In other words, is informal employment voluntary or involuntary?

There have been, broadly speaking, two sets of operational definitions: (1) informal employment as employment in household enterprises with certain characteristics. These include operating at a low level of organization, with little or no division between labor and capital and as factors of production and on a small scale. Moreover, labor relations- where they exist- are based mostly on casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees (see ILO 1993); (2) informal employment as unregistered wage-employment for which the employer does not pay social security contributions (could be in household enterprises or larger formal enterprises)(see Bosch, M. and W. Maloney 2004). Although in many cases these definitions overlap they are not identical (for a review of concepts and definitions of informal employment see Bernabè, S. 2002;Jhabvala, R., et al. 2003).

For the purposes of this study, we adopt both definitions and consider the following types of workers as informally employed: (1) wage employees for whom the employer does not pay social security contributions (may be approximated by the lack of written agreement) (2) self-employed (own-account workers and employers) in non-agricultural household enterprises (3) unpaid family workers in non-agricultural household enterprises (see table A7 in the annex for details). All others are considered formally employed or self-employed in agriculture.

The labor market can be defined as the place where labor services are bought and sold (see Fields, G. 2005) As such, it consists of wage and self-employment, both formal and informal and in all sectors of the economy, including agriculture. An analysis of how employment transmits economic growth to the poor in developing countries should therefore take due account of all types of employment. Moreover, both theoretical and empirical research on labor markets in

[3] Some recent estimates by Schneider (2002) of the size of the informal sector at the end of the 1990s show that informal employment accounts for roughly 40% of the labor force in Africa and Central and South America and approximately 35% in transition countries, compared to only 13% in North America and 18% in Europe. Although measuring the informal sector is plagued with methodological and definitional issues, and cross country comparisons have to be interpreted with great caution, these findings are consistent with other attempts at measuring the informal sector (see Charmes, J. 2000;Gennari, P. 2004;Schneider, F. and D. Enste 2000;World Bank).

[4] One exception is the on-going work by the ILO and SIDA, which examines the linkages between economic growth, employment and poverty through a series of country case studies.

[5] This section draws heavily on Bernabè (2002).

developing countries has shown that, contrary to western industrialized countries, the main correlate of poverty is not unemployment, but low hourly labor earnings and underemployment.[6] Therefore we focus our analysis on how growth affected earnings and underemployment in sectors where the poor (and non-poor) were employed and whether the poor were able to move into sectors where earnings were higher and/or underemployment was lower. We also explore how this process was affected by initial country conditions and the policy environment. Before turning to a detailed analysis of Burkina Faso and Vietnam, we begin with a brief review of the 14 OPPG country case studies to assess, more broadly, what factors affected how employment transmitted growth to the poor and then examine to what extent these factors were important in the cases of Burkina Faso and Vietnam.

3. Lessons from the OPPG country case studies[7]

The information in the country case studies on how employment serves as a transmission channels from growth to poverty reduction varies considerably in scope and detail. However, it can be used to derive some themes to be explored in more detail in the empirical analysis that follows. Five sets of policies and initial conditions emerge from the case studies as important for ensuring that employment transmits growth to the poor:

1. labor intensive growth;
2. a broad based increase in agricultural productivity and improved market access;
3. access to non-farm (informal) employment;
4. reasonably flexible formal labor markets, migration and remittances;
5. a strong human capital base.

First, growth tended to be more pro-poor if it was labor intensive and thus used the main (and often only) asset of the poor.[8] The great achievements of *Indonesia* in terms of pro-poor growth can largely be attributed to the labor intensity of its growth. Economic growth since the mid-1960 was fuelled by three main sources: economic recovery and rehabilitation of the existing capital stock and infrastructure, rapid growth in agricultural productivity, and the emergence of a dominant manufacturing sector stimulated by foreign direct investment and exports, all of which drew on an abundance of unskilled labor. Indeed, a high labor intensity of output characterized the most pro-poor episodes of Indonesia's growth. When labor intensity slipped and the capital-output ratio rose, poverty reduction slowed dramatically. Similarly, the exceptional rates of growth and poverty reduction in *Vietnam* during the 1990s were accompanied by a sharp increase in export led labor-intensive manufacturing growth. In Tunisia, economic growth during the nineteen eighties and nineties was also led by the labor-intensive and export-oriented manufacturing sector and resulted in significant rates of poverty reduction.

[6] In most developing countries unemployment is not an option as unemployment insurance is often inadequate or inexistent. As a result, the majority of the population must engage in some work, for however little, to generate livelihoods. This means that the majority of the poor are employed (see Majid, N. 2001) and that considerable portions of the labor force may be "underemployed" (or involuntarily working less than normal working hours) (see Hussmanns, R., et al. 1990).

[7] This section draws heavily on Spatz (2005).

[8] In this paper we adopt the definition of pro-poor growth adopted by the OPPG study. This refers to the absolute definition of pro-poor growth whereby growth is pro-poor if it reduces poverty. In subsequent sections, we also refer to the relative concept of pro-poor growth, which emphasizes the distributional pattern of growth.

Second, growth was pro-poor when it involved a broad based increase in agricultural productivity and improved market access. The majority of the poor in the 14 country case studies were employed in agriculture. The examples of *Bangladesh, Indonesia, and Vietnam* show that investment in rural infrastructure and the introduction new high-yielding varieties can be an important mechanism for pulling people out of poverty. Poverty was reduced both in rural areas due to higher farm incomes, and in urban areas due to lower prices of food staples consumed by the urban poor. However in other countries the structural change in agricultural production was only partially successful because it was restricted geographically and/or to few cash crops and because of barriers to market access. In *Bolivia*, for instance, it was restricted to a few low-land provinces with more favorable climatic conditions, while in other countries it was restricted to a few cash crops, such as cotton in *Burkina Faso*, cocoa in *Ghana,* coffee and cotton in *Uganda,* and coffee, cotton and sugar in *Zambi*a. Hence, the improvements in productivity and earnings benefited only a relatively small part of the rural population so that its contribution to overall poverty reduction was limited. The importance of market access is nicely exemplified in the case of *Zambia,* where regions with a higher average distance to markets were substantially more reliant on subsistence agriculture and also had a substantially higher poverty headcount.

While agricultural activities may have been pro-poor in the sense that a given economic growth rate translated into relatively high rates of poverty reduction, the country case studies also reveal that economic growth and employment creation in this sector remained too low to reduce poverty in the long-run. In 13 out of the 14 countries considered, with *Zambia* being the exception, average GDP growth in agriculture was lower than in the rest of the economy. [9] In contrast, the structural change of the economy and the employed labor force toward industry and services along the lines of a country's comparative advantage was a promising long-term strategy to achieve economic growth and poverty reduction, in *Tunisia*, *El Salvador* and *Vietnam*. In most cases, the shortage of arable land set natural limits to a purely agriculture-based development strategy.

Third, access to rural non-farm and urban informal employment facilitated the participation of the poor in the growth process and mitigated increases in poverty in times of economic decline. The limits of a purely agriculture-based development strategy highlight the importance of diversifying the rural economy and of strengthening the economic linkages between farm and non-farm activities. Supportive evidence is provided in the country case studies of *Bangladesh*, *El Salvador, Indonesia* and *Vietnam.* They show that the non-farm sector has emerged as an important source of rural part-time and full-time employment, and that access to non-farm employment and the possibility to establish micro-enterprises have become the major correlates of income and income growth for the rural poor. Over time, employment in the non-farm sector has become, on average, far more rewarding than any mode of employment in the farm sector. Due to this difference in labor earnings, a sizeable proportion of the rural labor force in the four countries has shifted towards non-farm activities. And to come full circle, once the excess unskilled labor in rural areas is absorbed, employment growth in the non-farm sector can push up wages for agricultural workers, thereby providing further stimulus to the modernization of agriculture. The poverty reduction achieved in this virtuous cycle can be

[9] Additionally, the agricultural sector is highly vulnerable to crop failures due to unfavorable climatic conditions. Their poverty effects are well documented in the case study of *Burkina Faso*. The drought of 1997/1998 increased rural poverty through lower incomes, and urban poverty through higher prices of food staples. By contrast, only the rural areas of *Bolivia* saw a rising incidence of poverty when the country was hit by El Niño. Urban poverty continued to fall, albeit probably at a lower pace.

substantial – not least because income inequality tends to be lower in rural areas, which in turn implies a higher growth elasticity of poverty (Bourguignon, F. 2003).

The country case studies also suggest that rural farm and non-farm (informal) activities as well as the urban informal sector provided safety nets in times of structural change and economic crises.[10] In *Romania* and *Zambia* and *Bolivia*, the stabilization programs and the subsequent structural reforms caused a temporary contraction of the urban formal sector, mainly at the expense of unskilled workers. In *Zambia*, the state-owned copper industry shed labor to reduce excess capacity and to regain international competitiveness and many of the newly privatized enterprises (especially in the labor-intensive food and textile industries) collapsed in the face of falling trade barriers and growing international competition. Similarly, *Romania* experienced shrinkage of the industrial sector when it started to restructure its large state-owned enterprises. As a result, both countries saw significant backward (i.e., urban-rural) migration. Subsistence agriculture served as an employment buffer for the unskilled migrants, while the skilled migrants moved into rural non-farm informal activities. In *Bolivia*, the urban informal sector absorbed the surplus labor when the country entered into a severe economic crisis at the end of the 1990s, as evidenced by the increase of the informal sector employment share from 45 percent in 1997 to 50 percent in 2001.

Fourth, highly regulated formal labor markets restricted the participation of the poor in economic growth, while the ability to migrate (both internationally and internally) enabled them to benefit from it. The country case studies provide evidence of how highly regulated labor markets can restrict the access of the poor to (better) formal sector jobs, however they provide little evidence of how less regulated labor markets may facilitate access to these jobs. The *India* study provides state-level evidence on the impact of "pro-worker" regulations on economic growth and poverty. Not only did states with "pro-worker" regulations report significantly lower growth rates, but these regulations also lessened the growth elasticity of poverty. That is, states with "pro-worker" regulations were less effective at reducing poverty for a given level of economic growth. This is because "pro-worker" regulations tend to compress the (formal) wage distribution and to increase the dismissal protection in the formal sector. Both effects raise the labor costs, and particularly so of unskilled workers, thereby restricting the access of the poor to jobs in the formal labor market. The same story can be told for other countries with highly inflexible formal labor-markets (i.e. where hiring and firing are difficult), such as *Bolivia* and *Romania,* where "pro-worker" regulation kept the employment and income opportunities in the formal labor market below levels that would otherwise have been possible. By contrast, in *Indonesia*, the high degree of labor-market flexibility during the Suharto era promoted the spatial and sectoral labor mobility and, thus, the structural change of the economy. However, after the Asian crisis the national minimum wage was increased in the face of aggressive union activity and, as a result, virtually all of the employment growth since 1997 has taken place in the informal sector at wages that have remained well below their peaks before the crisis. Nevertheless labor regulations, albeit imperfect, constitute a form of social protection and the challenge is to craft labor market interventions that improve opportunities for workers, while also fostering incentives for firms to invest, create jobs and expand (see World Bank 2005).

[10] With the exception of weather-induced economic crises such as the drought in Burkina Faso in 1997/1998 and the El Niño phenomenon in Bolivia during the 1990s.

International and internal migration facilitated the participation of the poor in the growth process, both directly, through new employment opportunities for the poor migrants, and indirectly through their transfer of remittances back home. In all six country case studies which address this issue,[11] migration patterns were very responsive both to spatial income differences and to changing economic conditions. Migration from rural to urban areas and from poor to rich regions prevailed with net migration flows being considerably smaller (or even negative in the case of *Romania* and *Zambia*) in times of economic crises in the formal sector of the economy. However, migration can also lead to an increase in inequality. First, rural-urban migration was selective in that skilled workers were more likely to migrate than unskilled workers, which hampered the growth potential of, and left behind pockets of poverty in, rural areas, as was the case in *Bangladesh*. Second, the case studies of *El Salvador* and *Vietnam* clearly show that international migration further contributed to an increase of income inequality since the remittances from international migrants were mainly received by households in the upper tail of the income distribution.

Finally, a strong human capital base increased the employability of the poor and enabled them to benefit from the growth process. The participation of the poor in the growth process is not only constrained by the lack of spatial mobility or coordination failures in the labor market, but also by the lack of employability of a non-negligible part of the population. The case of *Bangladesh* clearly reveals that even during a successful structural change process, some chronically poor are left behind due to their low educational attainment and their low endowment of land and capital. They tend to be disadvantaged twice. First, they are often unable to tap the new employment opportunities in the rural non-farm sector and the urban industrial and service sector that have the potential to lift them over the poverty line. Second, even if they do gain access, they are restricted to the low-productivity end of these activities.

4. Introducing Burkina Faso and Vietnam

At the beginning of the 1990s, Burkina Faso and Vietnam were amongst the poorest countries in the world. They started off with similar levels of GDP per capita and poverty rates. However they had very different initial conditions particularly in terms of level of inequality, human capital, structure of employment and population density. In just over a decade Vietnam has achieved one of the highest rates of economic growth and poverty reduction in the world, while Burkina Faso has seen moderate growth and little poverty reduction.

4.1 Some stylized facts at the beginning of the 1990s

At the beginning of the 1990s Vietnam and Burkina Faso were amongst the poorest countries in the world. As shown in table 1, they had a similar level of GDP per capita (roughly US$ 240 per year) and poverty headcount (roughly 58% and 55% of the population lived below the national poverty line respectively).[12] They were both highly rural economies with approximately 80% of their populations residing in rural areas. Poverty was also concentrated in rural areas, where about two-thirds of households were poor and where more than 90% of their country's poor populations were concentrated.

[11] Bolivia, El Salvador, Ghana, Romania, Vietnam and Zambia.

[12] Note that in PPP terms, Burkina's GDP per capita was USD912 in 1994, while Vietnam's was USD1384 (constant 2000 USD).

However the similarities between these two countries end more or less there. Table 1 shows that, *at the beginning of the 1990s, Vietnam was a relatively equal society, with an (consumption) GINI of 0.3, while Burkina was one of the more unequal of the countries examined in the OPPG study with a (consumption) GINI coefficient of 0.47.* While low levels of inequality in Vietnam can be attributed to its socialist system, Burkina's higher levels of inequality largely reflect the structure of the labor force as a very small group of formal (urban) employees had relatively high earnings while the vast majority of the population engaged in (mainly subsistence) agriculture.

Table 1. Vietnam and Burkina Faso at the beginning of the 1990s

	Vietnam	*Burkina Faso*
GDP pc (NA) US$	247.2	241.4
share of urban population	19.9	20
Population density (inhabitants per Km sq.)	240	49
Poverty and inequality		
P0 national (%)	58.1	55.5
P0 urban (%)	25.1	14.7
P0 rural (%)	66.4	63.4
Gini index (consumption)	0.3	0.47
share of poor in rural areas (%)	90.7	96.12
Structure of GDP (%)		
agriculture	29	35
industry	27	22
services	44	43
Composition of employment (%)		
agriculture	67.4	87.2
Industry	13.8	3.3
Services	18.8	9.5
Human Capital		
Adult literacy rate*	92	82.7
Net enrollment rates primary**	86.7	33.4
Net enrollment rates secondary	30.1	19.9
Governance		
Government Effectiveness - Percentile Rank (0-100) (2002)***	48.5	27.8
Control of Corruption - Percentile Rank (0-100) (2002)***	33	57.7

Sources: SIMA (WDI 2003), OPPG case studies, Huong et al. (2003), Kaufmann et al. (Kaufmann, D., et al. 2003;Ministry of Economy and Finance of Burkina Faso and World Bank 2001).

Notes:

* share of adult population that can read

** enrollment rates for Burkina Faso are by age group (6-12 years) and (13-18 years)

*** Kaufmann, D., et al (Kaufmann, D., et al. 2003). 0 is lowest score 100 is highest.

Moreover, we see that *at the beginning of the 1990s, Vietnam had a much stronger human capital base than Burkina Faso*. Vietnam had already achieved universal primary education with net enrollment rates at roughly 87%, while in Burkina only 33% of children aged 6 to 12 years were enrolled in primary education. Secondary enrollment rates were relatively speaking quite low in Vietnam but doubled by 1998 and were in any case considerably higher than Burkina's.

Also very important were differences in the structure of employment. Although Burkina and Vietnam had similar economic structures, in that roughly 30 to 35% of GDP was generated by the primary sector, while the secondary and tertiary sectors accounted for 22 to 27% and roughly 44% of GDP respectively, the structure of employment was quite different. Vietnam already had a small, but nevertheless existing non-agricultural labor force, and most importantly it had a

sizeable share of employment in the industrial sector (roughly 14% of employment), while Burkina's labor force was almost exclusively employed in agriculture and the industrial sector was almost inexistent (only 3% of total employment). As we will see, these initial conditions significantly influenced their patterns of pro-poor growth during the 1990s.

Furthermore, *the striking difference in population densities* (Vietnam had 240 inhabitants per Km. sq. while Burkina Faso had only 49), plays an important part in explaining why Vietnam was able to achieve high growth rates in labor-intensive manufacturing, while this may not be possible for a sparsely populated country (with low human capital) like Burkina Faso. Not only is Burkina sparsely populated but it is a land-locked Sahelian country, with very limited rainfall and weak natural resource endowment that is very vulnerable to climactic shocks. This is in contrast to Vietnam, which has an extensive coast and is relatively rich in natural resources, both important factors in facilitating the structural shift in agriculture that took place during the 1990s.

Finally, table 1 also presents some indicators that attempt to capture *the quality of governance in these two countries*. These indicators are developed by Kaufmann (2003) for 199 countries.[13] The Government Effectiveness indicator combines responses on the quality of public service provision, the quality of the bureaucracy, the competence of civil servants, the independence of civil service from political pressures and the credibility of the government's commitment to policies. The second indicator, Control of Corruption, measures perceptions of corruption, conventionally defined as the exercise of public power for private gain. It includes different dimensions ranging from the frequency of "additional payments to get things done", to the effects of corruption on the business environment, to measuring "grand corruption" in the political arena or in the tendency of elite forms to engage in state capture.

We see that at the beginning of the 1990s, Vietnam scored relatively high on the government effectiveness indicator, while Burkina scored very low – indeed it is second lowest (after Zambia) in the 14 OPPG country case studies. As we will see, the existence of an effective public sector, with competent civil service able to provide a range of public services is not to be underestimated in Vietnam's success in poverty reduction. In contrast, we see that Vietnam scores relatively low on the control of corruption indicator, which may reflect perceptions of increasing corruption that accompany the transition to a market economy, while Burkina Faso scores relatively high – in fact second only to Tunisia in our 14 country case studies.

4.2 Patterns of pro-poor growth during the 1990s

Although Vietnam and Burkina Faso started the 1990s with similar levels of GDP per capita and poverty headcount, during the 1990s, they experienced two very different patterns of growth and poverty reduction. If we rank the 14 countries according to their rates of GDP growth, poverty reduction and change in inequality, we find that Vietnam and Burkina belong to opposite ends of the spectrum. Table 2 shows that whereas Vietnam experienced high rates of economic growth, high rates of poverty reduction and rising inequality, Burkina experienced moderate growth, low poverty reduction and declining inequality.

[13] These indicators are based on several hundred individual variables measuring perceptions of governance, drawn from 25 separate data sources constructed by 18 different organizations.

In just over a decade, Vietnam has transformed itself from one of the world's poorest countries to one of the most successful ones (although it remains a low-income country). These achievements can largely be attributed to a radical and comprehensive economic reform package, better known as *doi moi* (renovation), which began in the late-1980s, following a deep economic crisis. These reforms were aimed at stabilizing and opening the economy, enhancing freedom of choice for economic units and introducing competition so as to create a supportive policy and institutional environment for growth and poverty reduction (Huong, P. L., et al. 2003). In particular the reform measures included: price liberalization; devaluation and unification of the exchange rate; increases in interest rates to positive levels in real terms; reducing subsidies to State Owned Enterprises (SOEs); agricultural reforms, including land reform; stimulating private sector development; and the removal of domestic trade barriers.

Table 2. Economic Growth, Poverty Reduction and Changes in Inequality during the 1990s. OPPG Country Case Studies.

	Survey year 1	Survey year 2	Annual GDP growth (%)	Annual change in Gini (%)	Annual change in Poverty Headcount (%)
Bangladesh	1992	2000	3.10	1.50	-2.80
Bolivia	1989	2002	1.20	-0.10	-1.00
Brazil	1993	2001	1.50	-0.20	-2.30
Burkina Faso	1994	2003	2.20	-0.50	-1.80
El Salvador	1991	2000	2.50	0.30	-5.40
Ghana	1992	1999	1.60	0.60	-3.80
India	1994	2000	4.40	0.40	-3.30
Indonesia	1996	2002	-0.80	-0.90	0.70
Romania	1996	2002	0.20	-1.20	6.10
Senegal	1994	2001	2.50	0.70	-2.50
Tunisia	1990	2000	3.00	0.20	-3.80
Uganda	1992	2002	3.30	1.80	-3.90
Vietnam	1993	1998	8.50	1.20	-8.80
Zambia	1991	1998	-2.30	-2.70	1.30

Source: Poverty and income/expenditure data comes from country case studies, except India poverty headcount data that was obtained from PovCal Net. GDP data was obtained from 2004 WDI (based on national accounts). Country poverty and GINI data is based on expenditure/consumption household surveys, except for Brazil, Bolivia and El Salvador, which are based on income household surveys.

As can be seen from table 2, Vietnam's reform package resulted in spectacular economic growth during the 1990s. Between 1993 and 1998 (the period under consideration), annual GDP growth averaged about approximately 8.5%. As in other East Asian countries, economic growth was led by export manufacturing. Rapid economic growth was accompanied by a sharp reduction in poverty headcount, which declined by roughly 8.8% per year, and a 1.2% yearly increase in inequality (the GINI increased from 0.33 to 0.35 between 1993 and 1998).[14]

In Burkina Faso the 1990s were characterized by economic growth, which - although moderate - was nevertheless positive, following years of negative growth. Economic growth was mainly attributable to gains in competitiveness following the 1994 CFA franc devaluation, a favorable development in the world market price for cotton and the implementation of a wide range of reforms in the framework of stabilization and structural adjustment programs (including price and trade liberalization) (see IMF 2003). Growth in real GDP per capita averaged 2.2% per year

[14] Note that between 1993 and 2002, annual GDP growth averaged at about 5.7% per year, while poverty headcount declined at a rate of 7.8% and the GINI increased at a rate of 2.3% (from 0.33 to 0.42).

between 1994 and 2003 and was largely concentrated in the services sector.[15] Despite moderate growth, however, Burkina experienced a relatively low rate of poverty reduction. Table 2 shows that poverty headcount declined by and average of 1.8% per year. While rural poverty declined as a result of increasing earnings in agriculture, urban poverty rates increased, which resulted in a small decline in inequality (the GINI fell by an average of 0.5% per year).

5. Burkina and Vietnam: Poverty and the labor market in the 1990s[16]

The vast majority of the poor in Burkina Faso and Vietnam during the 1990s were employed, since the inadequacy of social protection means that unemployment is a luxury that few can enjoy. The poor were mainly employed in agriculture; however there were pockets of vulnerability amongst the non-agriculturally employed. In particular, those that were informally employed were more likely to be poor, everything else being equal, than the formally employed. Moreover, there was great diversity in well-being also amongst the informally employed. The informal wage-employed faced not only a much higher risk of income poverty than their formal counterparts, but they are also faced greater insecurity, voicelessness and powerlessness. Finally, although the rate of poverty reduction was the lowest in agriculture, it accounted for the majority of poverty reduction in both countries.

5.1 Who were the poor in the labor market? [17]

First of all, table 3 confirms the findings in the existing literature that in developing countries *the poor are mainly the working poor and that unemployment is a "luxury" that few can afford,* suggesting that the main cause of poverty is indeed low earnings and not lack of employment. In both Burkina Faso and Vietnam, at the beginning of the 1990s, 80% or more of the poor were employed and 20% were either unemployed or inactive.[18] Moreover, in Burkina the share of unemployed was five times higher amongst the non-poor than the poor. In both countries the unemployed are concentrated in urban areas since rural workers are more likely to engage in agriculture, even if they are looking for another job, in order to generate some income. As a

[15] Note that during the sub-period 1998-2003, growth was mainly led by the cotton sector.

[16] The analysis of poverty in Burkina Faso is based on the *Enquête Prioritaire* 1994 (EPI) and the *Enquête Prioritaire* 2003 (EP03). While there are differences in survey design, which could potentially bias the results, the OPPG Burkina Faso case study by Grimm and Günther { , 2004 #60} argues that these biases partly offset each other. Moreover, focusing only on the EP98 and EP03 (which are comparable) would tell us little about longer term dynamics in growth and poverty and would not take into account the impact of the 1994 CFA Franc devaluation, a key event in Burkina Faso during the 1990s. In addition Burkina Faso experienced a sever drought in 1997/98, which tends to make 19998 a rather "poor" year and not very representative {for a detailed discussion on the comparability of the 1994 and 2003 EP data see \Grimm, 2004 #60}.

[17] The analysis includes only the population aged 15 years and over. It therefore does not capture child labor, which is considerable in both these countries. For example, in Vietnam roughly 30% of children aged 6 to 14 are found to be working in 1998 (Bales, S. 2000). On the other hand our analysis does capture old-age workers (over 65years), which, given the inadequacy of pension benefits, are also widespread in both countries.

[18] Note that in this section we analyze the labor force and poverty status of the individual. However poverty (household expenditure) is measured at the household level. We are therefore assuming that resources are equally distributed within the household and we are not capturing the impact of the labor force status of other individuals within the household on household expenditure. We recognize the limits of this approach and we are therefore cautious in inferring direct causality between labor force and poverty status. In the next section we examine the status of the household head to see if results are different and we find that they are consistent with the analysis at the individual level.

result they may not be considered unemployed but, as we will see, they are often "underemployed" (involuntarily working less than normal working hours).

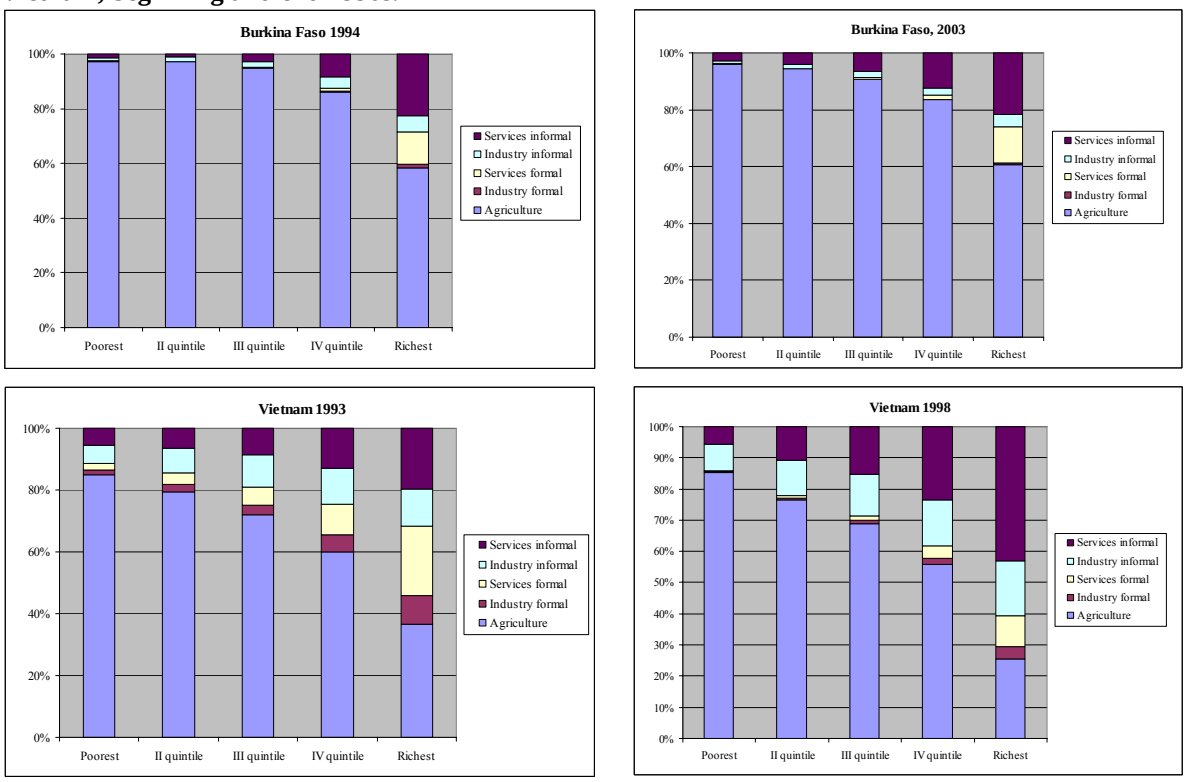
Table 3: Composition of poor and non poor working-age population by labor market status, beginning and end of the 1990s
(%, population over 15 years)

	Burkina Faso				Vietnam			
	1994		2003		1993		1998	
	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor
Employed	87.7	75.4	88.9	79.3	79.5	73.3	82.8	74.8
Unemployed	0.6	3.1	1.2	3.2	0.5	0.9	0.6	0.6
Inactive	11.8	21.5	10.0	17.6	20.0	25.9	16.6	24.7

Source: EP I, III and VLSS 1993, 1998
Notes: see table A7 in the annex for definition of variables.

Second, figure 1 shows that in both countries, *the vast majority of the working poor are employed in agriculture*. In Burkina, more than 95% of workers in the bottom three quintiles were employed in agriculture in the beginning of the 1990s, while in Vietnam; the share was over 75%. Third, we clearly see that *the share of non agricultural employment increases with consumption quintiles and that the majority of non agricultural employment is informal.* At the beginning of the 1990s, informal employment accounted for roughly 29% of employment in the top consumption quintile in Burkina and 32% in Vietnam.

Figure 1. Composition of consumption quintiles by employment status and activity, Burkina Faso and Vietnam, beginning and end 1990s.



Source: EP I, III and VLSS 1993, 1998
Notes:
(1) See table A7 for definition of employment categories.
(2) In Burkina Faso, the poverty line is in the third quintile in both 1993 and 2004, while in Vietnam, it is located in the third quintile in 1993 and the 2nd quintile in 1998

Finally, table 4 shows that, in addition to being self-employed in agriculture, *in Burkina, the informally employed are mainly self-employed, while in Vietnam, they were mainly wage-employed.* Moreover, over the 1990s, the share of informal employees and unpaid family workers in Burkina Faso more than doubled, although they still represented only 2.4% of the poor in 2003. In Vietnam, we see a sharp decline in the share of formal employment as a whole and the poor (and non-poor) becoming increasingly concentrated in self-employed agriculture and to a lesser extent in informal self-employment.

Table 4: Composition of employment by status in employment, poor and non-poor
(%, population over 15years)

	Burkina Faso						***Vietnam***					
	1994			*2003*			*1993*			*1998*		
	Total	Poor	Non-poor	Total	Poor	Non-poor	Total	Poor	Non-poor	Total	Poor	Non-poor
Formal:	**3.2**	**0.3**	**6.9**	**3.4**	**0.3**	**5.9**	**16.2**	**9.2**	**25.0**	**4.5**	**1.0**	**6.7**
Employees	2.6	0.1	5.8	2.8	0.1	4.9	5.4	1.6	9.8	1.2	0.1	1.7
Self-employed	0.5	0.1	0.8	0.2	0.1	0.5	7.6	3.9	11.9	3.2	0.5	4.7
Others	0.1	0.1	0.3	0.4	0.1	0.6	3.4	3.6	3.3	0.4	0.4	0.4
Informal:	**10.3**	**3.3**	**19.1**	**12.1**	**5.2**	**18.0**	**24.8**	**20.6**	**30.0**	**35.1**	**22.2**	**41.7**
Employees	1.8	0.3	3.6	2.5	0.8	3.9	14.4	14.3	14.3	19.0	14.6	21.4
Self-employed	6.4	2.3	11.5	6.7	2.8	10.1	10.5	6.3	15.7	15.9	7.6	20.2
Unpaid family workers	2.2	0.8	4.0	2.9	1.6	4.0	0.0	0.0	0.0	0.1	0.0	0.1
Self-employed in agriculture	**86.5**	**96.2**	**74.0**	**84.5**	**94.5**	**75.9**	**59.0**	**70.2**	**45.0**	**60.4**	**76.7**	**51.5**
Total	100	100	100	100	100	100	100	100	100	100	100	100

Source: EP I, III and VLSS 1993, 1998

Notes: see table A7 in the annex for definition of variables. Note that whereas in the categories of employment status and sector presented in figure 1, all those employed in agriculture are included in the "agriculture" category, regardless of status in employment; in table 4 wage employees in agriculture are included in the wage employees category as we expect them to exhibit different characteristics from those self-employed in agriculture. These are often landless casual laborers. Moreover, unpaid family workers that are employed in agriculture have been included in the self employed in agriculture category as they are more similar to those self employed in agriculture than they are to unpaid family workers in non agricultural household enterprises.

5.2 Which groups faced the highest risks of poverty?

Although the bulk of the poor are employed in agriculture, non-agricultural employment is not a guarantee against poverty and there are pockets of poor amongst the non-agricultural employed. In particular, informal employment and especially informal wage employment significantly increases the risk of poverty in both countries with respect to formal employment, everything else being equal.

Table 5 presents poverty headcount, gap and severity by labor force and employment status of individuals. *First, we see that the unemployed generally face lower than average poverty risks, confirming our previous suggestion that unemployment is not associated with lower welfare and that employment is not necessarily a route out of poverty.* This is particularly evident in Burkina, where in 1994 only 17% of the unemployed were poor compared to 52% of the working age population as a whole. *Second, we see that individuals employed in agriculture face by far the highest poverty risks*. In Burkina Faso in 2003, 51% of those employed in agriculture were poor compared to 43% of the working age population as a whole and in Vietnam 45% were poor compared to 33% of the working age population in 1998. Their poverty is also the most severe, as they are on average much further below the poverty line than any other group.

Table 5. Poverty measures by employment status and sector, beginning and end of 1990s
(population over 15 years)

	Burkina Faso						*Vietnam*					
	1994			*2003*			*1993*			*1998*		
	P0	P1	P2	P0	P1	P2	P0	P1	P2	P0	P1	P2
Total	**52**	**19**	**9.1**	**42.9**	**14.2**	**6.4**	**53**	**16**	**6.7**	**33**	**7.9**	**3**
Employed by Status												
Formal:	***5.4***	***1.9***	***0.9***	***3.8***	***1.1***	***0.5***	***31***	***8.5***	***3.3***	***7.2***	***1.1***	***0***
Employees	2.4	0.6	0.2	2.4	0.7	0.3	17	3.3	1.1	5	0.3	0
Self-employed	17.3	7.9	4.2	10.4	2.7	1.4	29	7.5	2.7	5.1	0.7	0
Others	25	6.6	3.1	9.4	2.3	0.8	58	19	8	34	7.9	3
Informal:	***17.9***	***5.6***	***2.5***	***19.5***	***5.4***	***2.1***	***46***	***14***	***5.7***	***22***	***4.7***	***2***
Employees	10.1	2.6	1	13.8	3.2	1.2	55	18	7.7	27	6.1	2
Self-employed	19.5	6.3	2.7	19.2	5.3	2.1	33	8.4	3	17	3.1	1
Unpaid family workers	19.7	6.3	2.9	24.8	7.3	3.1	67	28	14	18	5.4	2
Self-employed in agriculture	***62.1***	***23***	***10.9***	***51.2***	***17.2***	***7.7***	***66***	***21***	***8.7***	***44***	***11***	***4***
Employed by sector												
agriculture	61.9	22.9	10.8	51.2	17.2	7.7	65.7	21	8.9	44.6	11.4	4.2
industry formal	10.8	9.1	4	14.3	4.5	2.2	29.5	7.5	2.7	8.1	1.3	0.3
services formal	4	1.6	0.8	2.8	0.8	0.4	21.1	4.9	1.7	6.1	0.9	0.2
industry informal	28.8	9.1	4	25.8	6.9	2.7	44.1	11.9	4.5	25.2	5.3	1.7
services informal	13.3	4.2	5.8	17.6	4.8	1.9	34.3	9	3.5	14.2	2.7	0.8
Unemployed	17.5	6.1	2.9	21.8	5.9	2.2	39	10	3.8	34	6.8	2
Inactive	37.3	14	6.9	29.9	10.1	4.9	47	14	5.6	18	24	6

Sources: VLSS 1993, 1998, EP I, EP III

Notes:

1. Unpaid family workers exclude those employed in agriculture, which have been classified as self-employed in agriculture. However wage employees in agriculture are included in either formal or informal wage employed depending on whether or not they have a written agreement and/or social security contributions are paid. All those employed in agriculture (wage and self employed) are included in the agriculture category under sector of employment, which explains differences in results for the self employed in agriculture and the agriculture categories.
2. The poverty headcount index (P0) gives the share of individuals with per capita consumption below the poverty line. The poverty gap (P1) takes into account how far, on average, the poor are below the poverty line, while poverty severity (P2) is the square of the poverty gap and takes into account not only the distance separating the poor from the poverty line, but also the inequality among the poor by giving more weight to those that are the furthest from the poverty line (see Foster, J., et al. 1984).

Third, informal employment is associated with higher poverty risks than the corresponding type of formal employment at the beginning and at the end of the 1990s. This is confirmed by the multivariate analysis of the correlates of poverty (see table A1 and Box 2). After controlling for other household characteristics, we find that at the beginning of the 1990s, households headed by the informally employed, faced a risk of poverty that was 41% higher than those headed by the formally employed in Burkina and 19% higher in Vietnam. *Moreover, the difference is particularly pronounced for wage employees*. Table 5 shows that in Burkina, at the end of the 1990s, only 2% of formal wage employed were poor compared to 14% of the informal wage employed. The contrast was even starker in Vietnam, where only 5% of formal wage employed were poor compared to 27% of their informal counterparts. Informal wage employed, by definition, are employed without a written contract or the payment of social security contributions. They are typically employed in low-skilled jobs (such as construction and trade)

on precarious, unprotected contracts. Not only do they face a higher risk of poverty, but they also lack job security and are not protected by labor or other legislation. As such they are not protected against health and safety risks, exploitation, unfair dismissal, discrimination, etc. Moreover, they lack the freedom of association and the right to collective bargaining, which is one of the four core labor standards (ILO 1998). In other words, informal wage employed face multiple dimensions of poverty, which go beyond income poverty and include insecurity, voicelessness and powerlessness (see World Bank 1990).

Box 2: What household characteristics were associated with the greatest risk of poverty?

We use multivariate (probit) analysis to examine the impact of labor force status of the household head on the probability of a household being poor. Given the results of the poverty profile, we are especially interested in whether informal employment increases the risk of poverty with respect to formal employment, *ceteris paribus.* Table A1 (in the annex) presents the results of a probit regression for the probability of a household being poor.

First of all, table A1 shows that, everything else being equal**,** *the labor force status of the household head is a significant determinant of poverty.* Controlling for other households characteristics, we find that the labor force status of the head is highly significant in both countries. Second, *at the beginning of the 1990s, households headed by the informally employed, faced a risk of poverty that was 41% higher than those headed by the formally employed in Burkina and 19% higher in Vietnam, ceteris paribus.* Moreover, over the 1990s, this risk increased considerably in Vietnam and declined in Burkina, reflecting the changes in inequality in both these countries (inequality increased in Vietnam and declined in Burkina). As regards those employed in agriculture, although they constitute the bulk of the poor in both countries, in Vietnam at the beginning of the 1990s, households headed by individuals employed in agriculture faced a lower risk of poverty, everything else being equal, than did those headed by the informally employed. However, by the end of the '90s the risk was almost the same, reflecting an increase in informal earnings during this period. In Burkina, farmers were more likely to be poor, *ceteris paribus*, than informal workers throughout the decade.

Third, during the 1990s, the *risk of poverty for the inactive relative to the formally employed increased considerably in Vietnam (from 14% to 32%) while it decreased in Burkina (from 52% to 35%).* As we will see, this reflected increasing inequality between the formally employed and the rest of the labor force in Vietnam, and decreasing inequality in Burkina. Fourth, we find that, in line with findings in other countries worldwide, *everything else being equal, the higher the educational attainment of head, the lower the probability of household being poor.* In Burkina, having primary education significantly reduced the probability of being poor while in Vietnam having secondary or higher education was significant. However the relative reduction in the risk of poverty associated with higher educational attainment declined in Vietnam over 1990s, reflecting the contraction of formal sector employment.

Other household characteristics that had a significant impact on the probability of being poor were the size of the household (to be expected as we are not adjusting for economies of scale), the receipt of remittances (in Burkina, but not in Vietnam), receipt of credit and owning livestock. Region and urban/rural setting were highly significant in both countries, reflecting findings worldwide that living in depressed regions and in rural areas significantly increases probability of poverty. Finally, we see that everything else being equal, the ethnic identity is highly significant in Vietnam. Belonging to an ethnic minority increases the probability of being poor by 20-23% everything else being equal. This reflects findings elsewhere that ethnic minorities constitute amongst the most vulnerable groups in Vietnam (Glewwe, P., et al. 2000;Huong, P. L., et al. 2003;Poverty Working Group 1999).

Finally, table 5 shows how poverty risks changed over the 1990s. First of all, although the rate of poverty reduction was lowest in agriculture (poverty headcount declined by roughly 6% per year in Vietnam and 2% per year in Burkina), this sector accounted for the majority of the overall reduction in poverty since the large majority of the poor were employed in agriculture. Second, in Vietnam, poverty headcount and gap decreased most in formal services and industry, where a

small minority of the poor was located. As we will see this reflects improvements in productivity and growing wages in these sectors. In Burkina, poverty headcount actually declined only in agriculture and formal services, while poverty increased in informal services and formal industry, reflecting declining real wages in these sectors. We will attempt to explain these changes in the sections that follow by examining how changes in the structure and intensity of employment as well as labor mobility translated into changes in earnings and poverty reduction.

6. How did employment transmit growth to the poor in Vietnam during the 1990s?

Having identified who the poor are in the labor market, we can now turn to the question of how employment transmitted growth to the poor. As previously discussed, the existing literature suggests that labor markets will transmit growth to the poor if underemployment is reduced and/or the earnings for the poor increase. In turn, changes in earnings and underemployment will be affected by changes in demand and supply of labor, which will be reflected in the structure of employment. We begin by examining how economic growth was reflected in the structure and intensity of employment in Vietnam. We then analyze how it affected earnings. Finally, using panel data, we examine whether the poor were able to move from low earning sectors to higher earnings sectors.

Between 1993 and 1998, the sectoral pattern of growth in Vietnam was not reflected in a change in the structure of employment. However, it was accompanied by a substantial increase in the share of informal (wage and self) employment. Informal employment provided a route out of poverty for many agricultural workers and a safety net for formal workers who lost their formal positions. However the greatest impact on poverty reduction was not achieved in the fastest growing (industrial and services) sectors, but in agriculture, thanks to strong improvements in agricultural productivity and strong domestic and foreign demand for crops produced.

6.1 Growth and the structure of employment and underemployment

Between 1993 and 1998, Vietnam's high rates of economic growth were led by exports of labor intensive manufacturing goods. However the sectoral pattern of growth was not reflected in the structure of employment. Table 6 shows that value added in the industrial sector grew by an average of 10% per year, while agriculture and services grew by only 2% and 6% per year. The industrial growth was spurred by the opening to the international market and led by labor intensive manufacturing industries such as garments and footwear (Dollar, D. 2004). Indeed, we see that industrial exports grew by an average of 12% per year and agricultural exports contracted by an average of 19% per year.[19] However we observe very little change in the structure of employment. The only sector which saw any meaningful change was the services sector, whose share of the working age population increased by roughly 3% per year.[20] Nevertheless, Vietnam's labor market underwent some very important transformations during this period.

[19] In fact, the share of manufacturing exports alone increased even more during this period (by 100%), while that of mining declined by 24%.

[20] By 2003, the changing sectoral composition of GDP was beginning to be reflected in the composition of employment, as the share of agriculture declined to less than 50%, while the share of industry and services increases to 16% and 25% respectively (Huong, P. L., et al. 2003). Note that our estimates of the sectoral composition of employment differ from those of Huong et al. because we only include population of working age (i.e. 15 years and over) whereas Huong et al. include children and exclude population aged 65 years and over.

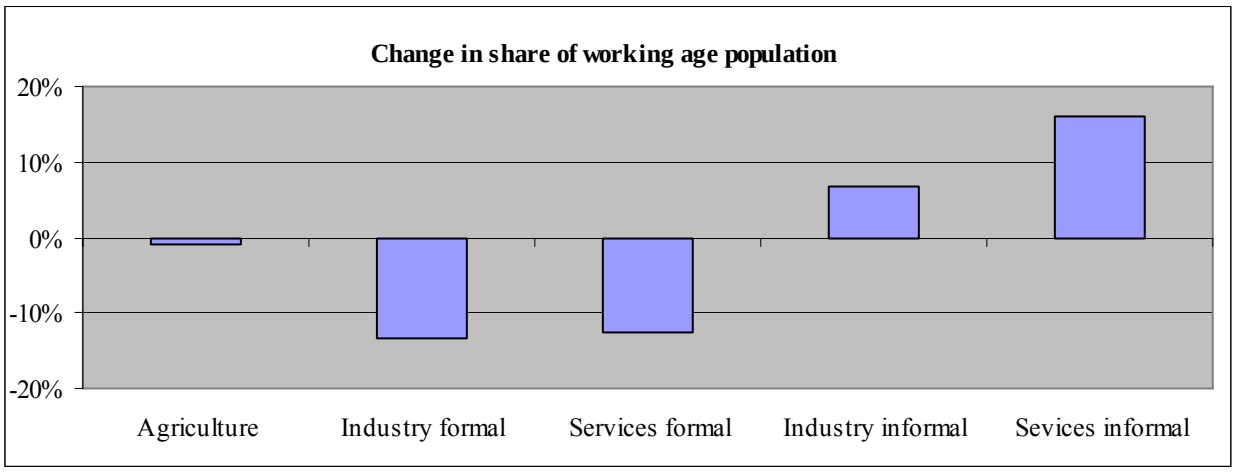
Table 6. Vietnam growth rates by sector of economic activity 1993-98
(annual averages)

	Value added per capita	Employment rate	Share of total exports
Agriculture	2%	-1%	-19%
Industry	10%	1%	12%*
Services	6%	3%	n/a

Source: VLSS 1993, 1998
Notes:
(1) *manufacturing increased its share of total exports by 100% while mining industry declined by 24% (see Bonschab, T. and R. Klump 2004).
(2) employment rate is total employed/working age population (pop over 15years).

First, there has been a massive informalization of non-agricultural employment such that an increasing share of the employed is working without social protection and in informal family businesses. Figure 2 shows changes in the employment rate by sector and status in employment. We see a considerable contraction of formal employment and an expansion of informal employment. While the share of working-age population employed in formal industry and services declined by roughly 13% per year, that of informal industry and services expanded by 7% and 16% per year respectively.[21] The contraction of formal employment occurred for both wage and self employed. Table 7 shows that the share of formal wage employment declined from 12% of industrial employment in 1993 to 5% in 1998, while that of formal self-employment declined from 19% to 5%. The story is similar in the services sector.[22]

Figure 2: Vietnam: change in the employment rate by employment status and sector (1993-98)
(mean annual percentage change)



Source: VLSS1993, 1998
Notes: Refers to the primary job. Working age population is population over 15years.

[21] By 1998, 97% of construction employment and 88% of manufacturing was informal, while in services sector, 83% of trade employment was informal.
[22] Note that a small share of the increase in informal services employment can be accounted for by a change in the definition of informal wage employment between 1993 and 1998. In 1993, informal wage employees were those for whom the employer did not pay social security contributions. In 1998, they were those for whom the employer did not pay social security contributions or who did not have a written agreement (proxy for social security contributions). However, employees of public organizations do not have written agreements in Vietnam as they are hired by a decision from the hiring ministry. As a result some of these are incorrectly considered informally employed. However this does not affect our results significantly as the total share of informal employment would decrease by only 4.5%.

Table 7: Vietnam, sector of economic activity by employment status, 1993 and 1998 (%)

	Industry		Services	
	1993	*1998*	*1993*	*1998*
Formal wage employment	12	5	18	2
Formal self-employment	19	5	27	12
Informal wage employment	46	53	17	38
Informal self-employment	23	37	39	48
Total	**100**	**100**	**100**	**100**

Source: VLSS 1993, 98

What can explain the informalization of employment in Vietnam during this period? Although we have no definite answers to this question, we can offer two possible explanations. First, there is anecdotal evidence that the privatization and increased foreign direct investment that is accompanying the transition from a centrally planned to a market economy in Vietnam is associated with an increased use of temporary contracts on the part of medium and large firms, which do not pay social security contributions. Therefore, part of the informalization of employment could be accounted for by workers remaining in "formal" enterprises with informal contracts. Second, our analysis of panel data suggests that there may also have been considerable shedding of labor in formal enterprises as more than 50% of formal industrial workers changed sectors altogether (e.g. moved from formal industrial employment into agriculture or informal services) and these transitions are associated with lower improvements in well-being, *ceteris paribus*, suggesting that workers did not move "voluntarily."

Second, economic growth has been accompanied by a decline in the rate of underemployment, particularly in sectors where the poor were employed. Severe underemployment is defined here as involuntarily working less than 15 hours per week in the main job (see Box 3). Table 8 shows that the sectors in which the poor were employed had the highest initial rates of underemployment and saw the greatest decline in underemployment. The greatest reduction in underemployment was achieved in the industrial sector and particularly construction and light industry (manufacturing). Equally, we see agriculture, hotel, restaurant and sales, all sectors where the poor are employed, also showing a decline, albeit smaller. [23] In contrast, "other industry" (heavy industry and utilities) and "other services" (public sector), which are both heavily formal, had lower initial rates and experiences a smaller reduction in underemployment. As we will see the decline in the rate of underemployment contributed, in part, to improvements in productivity (output per worker) and growth of real monthly earnings for the poor.

Table 8. Vietnam severe underemployment rates by sector of economic activity and settlement type, beginning and end 1990s (%)

Sector	Rural	Urban	Total	Rural	Urban	Total
agriculture	**14.77**	**20.27**	**15.1**	**13.45**	**21.4**	**13.77**
industry	**10.1**	**12.55**	**11.33**	**5.91**	**7.94**	**6.82**
light industry	10.7	12.91	11.82	7.35	8.01	7.66
construction	8.51	16.09	12.15	2.37	9.76	5.07
other industry	6.78	4.62	5.65	3.97	3.94	3.96
services	**7.43**	**7.82**	**7.64**	**7.42**	**7.58**	**7.5**
hotel/restaurant/sales	9.02	8.49	8.73	8.87	6.35	7.48
other services	5.53	6.97	6.3	5.81	9.07	7.53
Total	**13.72**	**11.95**	**13.38**	**12.06**	**9.54**	**11.57**

Source: Bales (Bales, S. 2000).

[23] Note that data between 1993 and 1998 was not entirely comparable due to a change in questionnaire design. Bales (2000) imputes hours worked from the agricultural activity module.

Box 3: What is Underemployment?

According to the 1982 International Conference of Labor Statisticians, underemployment is defined as "involuntarily working less than the normal duration of work determined for the activity" (Hussmanns, R., et al. 1990). Normal working hours for an activity are defined by national legislation and are 48 hours per week (6 days a week, 8 hours per day) for Vietnam and 40 hours per week for Burkina Faso (ILO 2005). Bales (2000) and World Bank (1995) define *severe* underemployment as involuntarily working less than 15 hours per week, which is the definition adopted in this paper.

Underemployment has particular relevance in developing countries and most notably in connection with agriculture. In many developing countries measured unemployment is consistently low. One of the reasons is that a limited number of workers are covered by unemployment insurance or other social benefits. The bulk of the population must engage at all times in some economic activity, however little or inadequate it may be. Although at the same time they may be seeking other or additional work they may not be considered unemployed. Since the standard definition of employment, and the one used in the case of Vietnam, is whether an individual worked for at least one hour during the reference period (usually the past week), all individuals engaging in any type of survival activity are considered employed.

Bales (2000) shows that more than half of all employed people aged 15 to 64 worked less than normal working hours in Vietnam in 1998. Although this share has fallen from 65% at the beginning of the 1990s to 57% in 1998, it is still high. In urban areas, approximately 40% of the employed reported working less than 40 hours per week, while in rural areas the share was around 60%.

6.2 Growth, earnings and poverty

Economic growth was accompanied by a considerable but uneven increase in earnings. Although sectors where the poor were employed saw a considerable increase in earnings, these grew faster in sectors where the non-poor were concentrated. It is important to note that we examine only earnings for wage employees, as we do not have data for the self-employed, while the analysis on the structure of employment included both. We define earnings to include wages received, both monetary and in-kind.

The informalization of non agricultural employment was accompanied by faster growth in formal than informal earnings, suggesting a faster increase in the productivity of formal workers. At the beginning of the 1990s, differences in earnings were not very large between sectors.[24] However, table 9 shows that the contraction in the share of formal wage employment was accompanied by a greater increase in formal than informal earnings.[25] Mean real monthly earnings grew by 14% for formal wage employed in services and only 1% for the informally employed in that sector.[26] Similarly, in industry, formal wage employed saw an increase of 11% in mean real earnings, while wages of the informally employed grew by 9%. These results suggest that the productivity (defined as output per worker) of formal wage employed grew faster than those of the informally employed. This could be due to several factors. It could be that less productive (unskilled) labor was pushed out of formal employment and either placed on temporary contracts or laid-off. [27] It

[24] With the exception of formal wage employed in services (teachers and civil servants) that had particularly low wages but whose wages increased considerably during this period.

[25] Note that the difference in mean real formal and informal wages is statistically significant in both years. Differences in earnings between formal and informal services workers are also statistically significant while those between formal an informal industry workers are not.

[26] Only part of this difference can be explained by the increase in teachers' salaries over this period.

[27] Bales (2001), for instance, finds a widening wage gap between skilled and unskilled workers, which could, in part, be a result of unskilled workers being pushed into informal employment.

could also reflect a greater investment in capital in the formal sector (particularly in industry). Finally, it could also indicate an increase in the value of formally produced goods thanks to a greater relative increase in demand.

Table 9. Vietnam mean real monthly net earnings and change in mean real monthly and hourly net earnings for all wage employed 1993-98
(annual averages, thousand Dong)

	1993	*1998*	*Annual change Monthly Earnings (%)*	*Annual change Hourly Earnings (%)*
Total	***335.1***	***548.7***	***10.4***	***8.3***
	(8.25)	(8.47)		
Formal industry	377.5	619.9	10.4	10.9
	(19.61)	(29.55)		
Formal services	230.3	594.1	20.9	13.8
	(11.80)	(49.04)		
Informal industry	378.1	609.6	10	9.2
	(8.35)	(13.41)		
Informal services	343.1	483	7.1	1.1
	(30.03)	(11.57)		
Industry	378	610.5	10.1	9.6
	(7.79)	(12.46)		
Services	282.6	489.3	11.6	7
	(15.44)	(11.28)		
Formal	278.9	609.8	16.9	13.1
	(10.61)	(26.27)		
Informal	366.7	543.7	8.2	6
	(11.31)	(8.90)		

Source: VLSS 1993 and 1998.
Notes: standard errors are in brackets

Nevertheless, the increase in real informal earnings at a time of massive expansion in labor supplied into this sector indicates some productivity gains and an increase in demand for informally produced goods and services. Since the informal sector is associated with low skills and is generally labor (rather than capital) intensive, it is unlikely that productivity gains from increased quality of capital or labor could be entirely responsible for the increase in real informal earnings. Another important factor is probably the increase in both domestic and foreign demand for informally produced goods and services, which pushes up the price of these goods and services and increases demand for informal labor. Domestic demand was largely stimulated thanks to the widespread increase in agricultural earnings, which accompanied the structural transformation of the agriculture sector (see below) and increased disposable income of a significant share of the population (see Huong, P. L., et al. 2003). At the same time, foreign demand for informally produced goods was stimulated by trade liberalization and the resulting increase in demand for Vietnam's manufacturing exports, since the vast majority of manufacturing employment was informal. It is likely that demand for informal services (e.g. petty trade) was largely domestic, while that for informal industry was largely export-led, as reflected by the faster growth in hourly wages in the industrial sector (9% vs. 1% per year). Finally, productivity and wages gains for the informal wage employed were also partly due to an increase in hours worked (decline in the rate of underemployment) which led to an increase in output per worker and monthly real earnings. This was particularly true for employees in services where yearly mean hourly wages increased only 1% but monthly wages increased 7% per year.

Finally, in the agriculture sector, a structural shift to higher value products led to an increase in productivity and an increase in the intensity of agricultural employment, which resulted in moderate but broad increase in earnings. Although we do not have data on earnings in agriculture, which are in any case highly unreliable (not least because of the valuation of in-kind earnings), we can use expenditure as a proxy. This of course assumes that agricultural households consume all that they earn (no savings) and may also include consumption of gifts or in-kind transfers. Nevertheless it is widely considered to provide a more accurate approximation of agricultural earnings than income data. Mean real expenditure of agricultural workers increased by approximately 6% per year between 1993 and 1998 and although this was smaller than that in other sectors, the impact on poverty reduction was impressive, as the vast majority of the poor were employed in agriculture. This was partly the result of a major land reform, which laid the foundations for the growth of a market for land. The Land Law of 1993, essentially issued land use certificates to all rural households enabling them to inherit, transfer and exchange their land (see Bonschab, T. and R. Klump 2004).[28] This, coupled with the removal of price controls on agricultural goods and trade liberalization led to an intensification and diversification away from low-value outputs (staple crops) to higher value ones (livestock, aquaculture, perennial crops, fruits) as well as to export crops (rice and coffee). The structural shift was accompanied by an increase in agricultural prices (both paid by consumers and received by producers) relative to non-farm prices and resulted in a strong and broad increase in agricultural earnings.[29]

What was the impact on poverty?

Poverty rates declined fastest in the formal sector, where earnings increased fastest and where the non-poor were disproportionately employed. However the informal and agricultural sectors accounted for the bulk of poverty reduction. Productivity gains and increasing wages in the formal sector were reflected in a faster reduction in poverty headcount amongst formal than informal workers. Table 5 indicated that poverty headcount declined by roughly 14% per year for the formally employed in industry and services whereas it declined by only 9% and 12% for their informal counterparts and by 6% for workers in agriculture. However, despite the slower reduction in poverty, the agriculture and informal sectors accounted for the bulk of poverty reduction during this period as the vast majority of the poor were employed in these sectors. As we will see, the increase in agricultural earnings accounted for more than 70% of workers who moved out of poverty reduction during this period.

It is important to note that when linking changes in earnings of workers to changes in poverty status of households, we must be very cautious, as within a given household there may be individuals employed in different sectors with different earnings. Since earnings are assumed to

[28] It is important to note that land reform began as early as 1981, and was implemented progressively over 20 years, which may have contributed to its apparent success. In the beginning of the 1980s, the "contract system" allowed farmers to use some land plots independently from the policies of cooperatives and thus to experiment in free market exercises. From 1988, decollectivization of land began and land uses rights were granted to individual households (Bonschab, T. and R. Klump 2004). A similar gradual land reform program was also successfully implemented in China.

[29] Between 1993 and 1998 the price of rice rose by 62% while the price of non-food items rose by just 23%. The price of other food items rose even faster than the price of rice so that food prices increased by 68% overall (Haughton, D., et al. 2001).

be shared equally in the household, we cannot entirely attribute a worker's movement out of poverty to changes in his or her earnings. This is particularly true for rural households that may engage in agriculture as well as other non-farm (informal) activities. It is very possible that the significant reduction in poverty observed amongst individuals working in agriculture may in part be thanks to strong increase in earnings of other household members employed in non-agricultural sectors. It may also be due to multiple job-holding, which is particularly prevalent amongst farmers who often also engage in part-time non-agricultural work. Indeed Haughton et al. (2001) estimate that as many as 37% of workers have more than one job.

6.3 How did labor market flexibility and labor mobility enable the poor to benefit from growth? A panel data analysis for Vietnam.

We use the panel aspect of the VLSS data, which provide matched records of the two waves of the VLSS in 1993 and 1998, to follow workers through time and examine to what extent labor market flexibility and labor mobility allowed the poor to benefit from growth by moving from unemployment or employment in low-earnings sectors to higher earnings sectors. It is important to note that we are following individuals between two points in time that are 5 years apart and that yearly transitions between different labor force states that occurred within the observed period can therefore not be captured. As a result, our findings may underestimate actual labor movements within the five-year period. After briefly reviewing flows between labor force states, we concentrate on job mobility between formal, informal and agricultural employment and assess which types of employment transitions had the greatest impact on poverty reduction.

Vietnam's labor market as a whole is relatively flexible (flows of labor in and out of employment are high) and there is a much higher degree of labor mobility than the figures on structure of employment would suggest. However this is almost exclusively in and out of agriculture and informal employment, while there is very little movement into formal employment. Informal employment provided a route out of poverty for agricultural workers as well as a safety net for formal workers who lost their formal position. However the bulk of poverty reduction was achieved within sectors and most importantly within agriculture.

6.3.1 Labor market flexibility

The labor market is considered to be flexible if the risk of losing and of finding a job is high and if the duration of job search is short and results in a satisfactory worker-job match (see Rutkowski, J. J. and World Bank. Europe and Central Asia Region. Human Development Sector Unit. 2003). In contrast, a stagnant labor market is characterized by limited labor flows, such that both firing and hiring are on the low side. In many countries high labor market regulation (e.g. high minimum wages, high social security contributions, strict hiring and firing restrictions) increase the cost of labor for employers and therefore lead to an "inflexible" labor market where the unemployed and inactive cannot easily move into employment. The argument goes that flexible labor markets facilitate the transmission of growth to the poor because they allow the unemployed to easily find jobs during periods of growth.

Labor flows are best described by transition matrixes, which show estimated probabilities that workers move across different labor force states. Table 10 provides transition probabilities across employment, unemployment, and inactivity between 1993 and 1998. The diagonals indicate the

percentage of individuals who remained in the same state over the five-year period, while the distribution across rows tells us how the status of individuals changed over the five-year period.

Table 10. Vietnam: Transition probabilities across labor force states
(%, population over 15)

	1998			
1993	Employed	Unemployed	Inactive	Total
Employed	88.3	0.3	11.4	100
Unemployed	71.3	5.6	23.1	100
Inactive	54.5	0.8	44.7	100
Total	81.8	0.4	17.8	100

Source: VLSS.

The high degree of mobility from unemployment into employment suggests that *Vietnam's labor market is relatively flexible*. Only 6 percent of the unemployed were still unemployed after 5 years, while 71% had found jobs.[30] We also see substantial outflows from inactivity into jobs and significant outflows from employment into inactivity. These findings suggest a relatively flexible labor market, in which individuals are able to move from unemployment and inactivity into employment to take advantage of employment opportunities created by the economic growth. Forteza and Rama (2001) also find low labor rigidity in Vietnam over the period 1970-1999. Their results suggest that the labor market in Vietnam was less rigid than the OECD average and more comparable with the labor market in the USA.

However the vast majority of the unemployed found jobs in the informal sector as the formal sector did not expand. Table 11 shows that the vast majority of the mobility out of unemployment and inactivity was into informal employment and farming. Indeed, 56% of individuals who had been unemployed in 1993 were informally employed by 1998, while only 3% found formal sector jobs. On the other hand, the inactive were more likely to find jobs in agriculture as 34% of previously inactive worked as farmers in 1998 and 19% were informally employed. Only 1.7% found formal jobs.

Table 11. Vietnam: Transition probabilities by labor market status
(%, population over 15)

1993	*1998*					
	Formal	Informal	Farmers	Unemployed	Inactive	Total
Formal	13.5	52.5	18.8	0.4	14.9	100
Informal	4.6	54.6	29.4	0.8	10.6	100
Farmers	1.3	12.3	75.3	0.1	10.9	100
Unemployed	2.9	56.3	12.0	5.6	23.1	100
Inactive	1.7	18.9	33.9	0.8	44.7	100
Total	3.3	25.1	53.5	0.4	17.8	100

Source: VLSS.
Note: Recall that the categories "farmers" and "agriculture" are not equivalent. Farmers include only self employed in agriculture, while "agriculture" includes both self and wage employed in agriculture.

Therefore these findings suggest that whereas the labor market as a whole may be relatively flexible, the formal labor market may be less flexible. Indeed, as in many developing countries, the concept of labor market flexibility that is applied in western industrialized countries may not

[30] Also note that 23% of the unemployed became inactive after 5 years. Some of these could be the so-called "discouraged unemployed" who have lost hope of finding a job.

be very useful, as the inadequacy of unemployment benefits means that most people must engage in some type of work most of the time. Thus, high labor market regulation may result not in high unemployment rates, but in high informal employment rates. In such a context, the issue of whether flexible labor markets facilitate the transmission of growth to the poor may be best addressed by examining mobility between different types of employment to assess whether the poor are able to move into higher earning sectors. We therefore turn our attention to the sample of individuals who were observed to be employed at the beginning and the end of the five year period.

6.3.2 Labor mobility

Table 12 shows transition probabilities between different employment sectors and status from 1993 to 1998. The diagonals indicate the percentage of workers who remained employed in the same sector over the five-year period. The distribution across rows tells us how the employment status of individuals changed over the five-year period.

Table 12. Vietnam: Transition probabilities by type of employment and economic activity
(%, population over 15)

1993	1998					
	Agriculture	Industry formal	Services formal	Industry informal	Services informal	**Total**
Agriculture	85.4	0.6	0.8	6.0	7.1	**100**
Industry formal	18.9	13.4	5.2	41.6	21.0	**100**
Services formal	12.5	1.0	17.4	5.5	63.6	**100**
Industry informal	30.6	2.7	3.0	47.2	16.5	**100**
Services informal	21.1	1.1	6.5	13.9	57.5	**100**
Total	**66.1**	**1.4**	**3.1**	**11.6**	**17.8**	**100**

Source: VLSS.

First, we find that although agricultural workers were the least likely to leave their sector, approximately 15% did move out of agriculture over this five-year period, which is quite significant by international standards. We see that those who left agriculture moved almost exclusively into the informal sector, with 7% moving into informal services and 6% into informal industry. Moreover, movements out of agriculture were into both self employment and wage employment. More than half of those who moved into informal services became self employed, while those who moved into informal industrial jobs became both self and wage employed (see table A2 in the annex). These results indicate that there was a higher degree of mobility out of agriculture than the figures on the structure of employment would suggest. Although the share of agriculture in total employment declined by only 3% over this period, we see that in fact a much higher share of workers moved out of agriculture, while some others moved in. In fact, agriculture accounts for 53% of the mobility in Vietnam during this period in that out of the 30% that changed employment status, approximately 10% were workers who moved out of agriculture and 6% were workers who moved into agriculture (see table A3).

Second, there have been large shifts of labor from formal into informal and agricultural employment suggesting that these may be providing a social safety net for workers who lose formal sector jobs. We note that 12% and 19% of workers who in 1993 were employed in formal services and industrial jobs respectively had moved into agriculture by 1998, despite the fact that agriculture was the sector associated with the lowest standard of living. As we will see these workers had lower chances of moving out of poverty, suggesting that agriculture may have

served as a safety net for some formal sector workers who were released from formal sector jobs because of restructuring. These transitions are also reflected in the transition probabilities by settlement type, which show that more than 6% of urban employed in 1993 became employed in rural areas in 1998, while only 3% moved from rural to urban areas (see table A4). Similarly, we find considerable movement from formal into informal employment, reflecting the overall contraction of formal employment and expansion of informal employment. Table 12 shows that approximately 63% of individuals who were employed in formal industrial and 69% of those employed in formal services jobs in 1993 had moved into the informal sector by 1998. [31]

Third, although informal employment may be a stepping stone out of agriculture, there is little evidence that it could be a stepping stone into formal employment. Indeed, the evidence from the analysis of Vietnam panel data suggests the opposite may be true, as Table 12 shows there is extremely little movement into formal employment Movements into formal employment account for approximately 2% of total mobility in Vietnam during this period (see table A3). Although this suggests that there may be barriers to formal employment, it could also be a reflection of the fact that Vietnam was undergoing a transition from centrally planned to market economy, which involves the downsizing of the public (formal) sector and an expansion of the (informal) private sector. Further research is needed to assess whether barriers to formal employment really exist.

Therefore, we find a much higher degree of labor mobility in Vietnam than the figures on the structure of employment would suggest. However, mobility was almost exclusively in and out of agriculture and informal employment. In the next section, we examine what kinds of movements are associated with greatest reduction in poverty? To simplify interpretation, we group all formal and informal employed into two categories.

6.3.3 The impact on poverty

First of all, moving out of agriculture reduced the risk of poverty. Table 13 shows that the change in poverty incidence was highest for those who moved out of agriculture than for those who remained employed in agriculture and that it was higher for those who were able to move into formal employment than for those who found jobs in the informal sector. This is confirmed by the multivariate analysis (see Box 4), which shows that, relative to staying in agriculture, moving into informal employment significantly increased the probability of moving out of poverty (by 16% in services and 5% in industry), and that the probability of escaping poverty was even higher for those who became formally employed (27% in services, 33% in industry), *ceteris paribus*.

Table 13. Vietnam: Percentage change in poverty incidence of those who remained employed in 1998 by type of employment *(population over 15)*

1993	1998			
	Agriculture	Formal	Informal	Total
Agriculture	-31.3	-70.4	-43.0	-33.2
Formal	-53.2	-62.5	-47.6	-51.2
Informal	-33.8	-36.8	-41.3	-37.1
Total	**-32.1**	**-59.4**	**-41.4**	**-33.6**

Source: VLSS 11993, 1998

[31] Note that most of the movement from formal industry and services jobs was into informal industry and services jobs suggesting that some of the informalization may have been due to an informalization of contractual agreements (i.e. an increase in temporary or oral contracts).

In Vietnam, mobility into informal employment was effective at reducing poverty because, as we have seen, it was accompanied by an increase in demand for informal goods and services, which was reflected in an increased demand for labor in this sector. The increasing demand was due, on the one hand, to the growth in disposable incomes of the rural population that accompanied significant improvements in agricultural productivity during this period, and on the other to trade liberalization and the promotion of export-led manufacturing, which was largely produced by informal workers.

Second, although moving out of agriculture had the greatest positive impact on the probability of moving out of poverty, more than two thirds of workers who moved out of poverty in Vietnam remained or became employed in agriculture. Table 14 shows that agriculture still accounted for 71% of poverty reduction in Vietnam, since 64% of those who moved out of poverty remained employed in agriculture, while the remaining 7% moved into agriculture from formal and informal employment. Similarly, Bales (2001) finds that over 90% of the reduction in poverty occurred because earnings rose within each sector, with the largest gains (55-60%) of poverty reduction accounted for by improvements in income within the agricultural sector. The inter-sectoral employment shift accounted for only 6 -9% of the poverty reduction.

Table 14. Vietnam Percentage of employed that moved out of poverty by employment status and sector (1993-1998)
(%, population over 15yrs)

1993	1998					
	Agriculture	Industry formal	Services formal	Industry informal	Services informal	Total
Agriculture	64.3	0.6	0.9	6.4	6.0	78.%
Industry formal	1.0	0.2	0.1	1.0	0.6	2.8
Services formal	1.0	0.1	0.6	0.3	2.4	4.2
Industry informal	3.0	0.2	0.0	3.8	1.3	8.4
Services informal	2.2	0.1	0.2	0.8	3.2	6.5
Total	**71.4**	**1.1**	**1.8**	**12.2**	**13.5**	**100**

Source: VLSS

Third, informal and agricultural employment provided important social safety nets. As we have seen, between 1993 and 1998, the number of formal industrial and services jobs contracted by roughly 18% and this was accompanied by a high level of mobility from formal into informal employment and agriculture. Table 14 shows that the chances of moving out of poverty were higher for those who remained formally employed than for those who moved into agriculture or informal employment. This difference is even greater, once we control for individual and household characteristics. The multivariate analysis (see table A5 and box 4) shows that relative to staying in agriculture, those who moved into informal or agricultural employment were 0.5% to 0.9% more likely to move out of poverty, while those who remained in formal employment were 28% more likely to move out of poverty, ceteris paribus.[32] These findings suggest that informal and agricultural employment were more safety nets than they were desirable alternatives to formal employment. They suggest that formal workers did not "choose" to move into informal or agricultural employment to increase earnings and well-being, but that these were more "survival strategies" in the absence of formal opportunities.

[32] Note that we include all those who moved into informal or agricultural employment and not only those who moved from formal employment. Also, results for those who stayed in formal industrial employment did not significantly affect the probability of moving out of poverty.

Box 4. What labor market, household and individual characteristics were associated with successful transitions out of poverty?

Given that a large number of workers were able to move out of poverty between 1993 and 1998, an important question is: What household and individual characteristics enabled these workers to escape poverty? Examining these characteristics can help to identify individuals with a better chance of moving out of poverty. Section 6.3.3 examines linkages between the type of labor reallocation and poverty reduction. However, whether an individual moved out of poverty is affected by a variety of characteristics and not just by the type of labor force transition. For instance, we find that workers that remained in or moved into formal employment experienced the greatest declines in poverty headcount. However, it could be that it is not the movement into formal employment that was the driving force behind the reduction in poverty but rather rural urban migration, since poverty incidence is significantly lower in urban than in rural areas. We therefore use multivariate analysis to try to determine the impact of each specific variable on the probability of moving out of poverty, while keeping other variables constant.

We estimate a Probit model to determine individual and labor force characteristics that are associated with "successful" transitions out of poverty. The dependent variable takes on the value one if an individual was "poor" in 1993 to "non-poor" in 1998 and zero if an individual remained poor. The explanatory variables include demographic and educational characteristics of the individual (gender, age and age squared and completed level of education), characteristics of the household (size of the household, receipt of remittances from abroad and location) and economic characteristics of the individual, captured by labor force movements between different types of employment (agriculture, industry formal services formal, industry informal, services informal). The results are presented in table A5. The model is estimated using the sample of individuals who were employed both in 1993 and in 1998. The regression coefficients show the marginal effects of each specific characteristic on the probability of escaping poverty, evaluated at the mean of the dependent variable and controlling for all other variables (partial changes). A positive (negative) sign of an estimated coefficient shows that a higher value of the variable increases (decreases) the probability of escaping poverty.

First we find that our model has a good fit and is significant at the 1% level. This means that we can reject the Null Hypothesis (H0) that all coefficients in the population, with the exception of the intercept, are equal to zero.[33] Second we find that, controlling for other individual and household characteristics, the age of workers has no significant impact on probability of escaping poverty, which is consistent with findings in Glewwe et al (2000). Third, gender did have an impact as females were 3 percent more likely to escape poverty between 1993 and 1998 than males were.

Fourth, the educational attainment of workers is also highly significant. We find that the higher the educational attainment, the higher the probability of escaping poverty, keeping all other characteristics constant. Workers with primary education (in 1993) were 17 percent more likely to move out of poverty than those with no education, while the chances of escaping poverty were 23% and 32% higher for those with secondary education and those who completed vocational high school or higher education (university). The significant returns to education reflect the findings of Glewwe et al. (2000), which show that, during the same period, an additional year of formal education of the household head raises the relative probability of escaping poverty by 11 percent.

Fifth, most of the variables that capture the economic characteristics of individuals are highly significant. Two clear patterns stand out. First, the highest probability of escaping poverty was associated with formal employment. The employed that stayed in or moved into formal services employment had 27% to 28% higher probability of escaping poverty relative to those who remained in agriculture (reference category) after controlling for other characteristics. Similarly, those who were able to move into formal industry had a 33% higher probability of escaping poverty than those who remained in agriculture. Second, relative to staying in agriculture, moving into informal employment significantly increased the probability of moving out of poverty, although less than moving into formal employment. Moving into informal services and industry increased the probability of escaping poverty by 16% and 5% respectively, everything else being equal, while staying in these sectors improved chances of escaping poverty by roughly 8% to 9%. Finally, we find that workers who moved

[33] In a probit model, the Likelihood Ratio is used to test the goodness of fit of the model using a Chi2 distribution. However, unlike the *Adjusted* R^2 used in OLS-type models, it cannot provide any information on the percentage of variation in the dependent variable that is explained by the model.

into agriculture had a significantly higher probability of escaping poverty than those who remained in agriculture, *ceteris paribus*, suggesting that they may be better placed to engage in higher-earning activities. Note that we also control for labor force movements of other household members and find that if other household members also changed employment status the probability of escaping poverty increased roughly 9%.

Sixth, we find that all location coefficients are highly significant in determining which workers were most successful at escaping poverty. We see that labor mobility across settlement type was highly significant and workers who remained in or moved into urban areas were 12 percent more likely to escape poverty than those who remained in or moved into rural areas. Moreover, everything else being equal, residing in the Northern Mountain region (the reference category) in 1993, considerably increased the probability of remaining poor relative to all other regions. This is consistent with the findings observed elsewhere (see Bonschab, T. and R. Klump 2004;Glewwe, P., et al. 2000). Workers residing in the South East benefited most from economic growth facing a probability of moving out of poverty that was 40% higher than that of workers residing in the Northern Mountain region, after controlling for all other characteristics.

Finally, household size is found to be highly significant variable. Larger household size reduced the probability of escaping poverty, although this is to be expected as we do not adjust household consumption for economies of scale (see Deaton, A. and S. Zaidi 1999;Lanjouw, P., et al. 1998). The other household variable, which captures the receipt of remittances from abroad is not statistically significant.

The results of the regression analysis confirm the findings based on the analysis of transitions. First of all sector mobility seems to be significantly associated with poverty reduction. Relative to staying in agriculture, all movements are associated with a reduction in poverty, everything else being equal. However the greatest chances of moving out of poverty were for those who were able to move into formal employment. Moving into informal employment also significantly reduced poverty compared to staying in agriculture, but less so than moving into formal employment. Similarly, remaining in or moving into urban areas had the highest likelihood of escaping poverty, keeping other characteristics constant.

7. How did employment transmit growth to the poor in Burkina Faso during the 1990s?

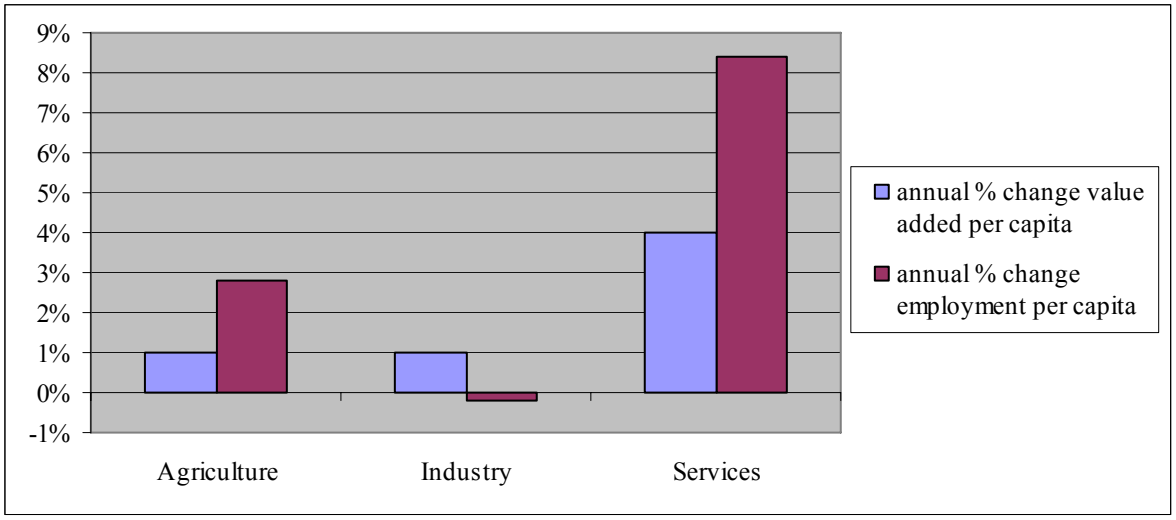
We now examine how growth affected the structure of employment and earnings in Burkina Faso during the 1990s. Unfortunately we do not have data on hours worked so we are unable to examine the impact on underemployment, which is assumed to be substantial in Burkina, particularly in agriculture. Moreover, we do not have panel data so we cannot analyze labor mobility and labor market flexibility. Finally, while the analysis of the structure of employment is based on the sample of both self employed and wage employed workers in both urban and rural areas, the analysis of earnings is limited to the sample of urban wage employed as earnings data are unavailable for rural areas and are deemed unreliable for the self employed.

We find that in Burkina Faso, the sectoral pattern of growth was reflected in a change in the structure of employment in that the strong growth in services was accompanied by an increase in the share of employment in this sector. However it was also accompanied by an increase in poverty headcount in services. This was because the expansion in employment was fuelled by an increase in labor supply that was not matched by an increase in demand and led to a decline in earnings in this sector. At the same time, moderate agricultural growth had the greatest impact on poverty reduction but the impact was constrained both because of weak demand for food crops, produced by the majority of farmers, and because the strong gains in cash (cotton) crops were limited to a small group of farmers.

7.1 Growth and the structure of employment

During the 1990s, the changing structure of employment in Burkina largely reflected the pattern of economic growth. Figure 3 shows that economic growth was led by the services sector, which between 1994 and 2003 grew at an average rate of 4% per year, while agriculture and industry grew at only 1% per year. Growth in services was led by (largely informal) trade, while industrial growth was concentrated in manufacturing. In the agricultural sector, growth was fuelled both by cotton production, which saw an increase in value thanks in part to the 1994 CFA franc devaluation and in part to an increase in the world price of cotton, and by strong growth in food-crop production, particularly after 1998 (see World Bank 2004). The changing composition of employment largely mirrored the pattern of growth as the share of the working age population employed in services grew at roughly 8% per year, while that of agriculture increased by an average of 2.8% per year.

Figure 3. Burkina Faso: Growth in GDP and employment rate by sector of economic activity
(Annual changes, population over 15years)

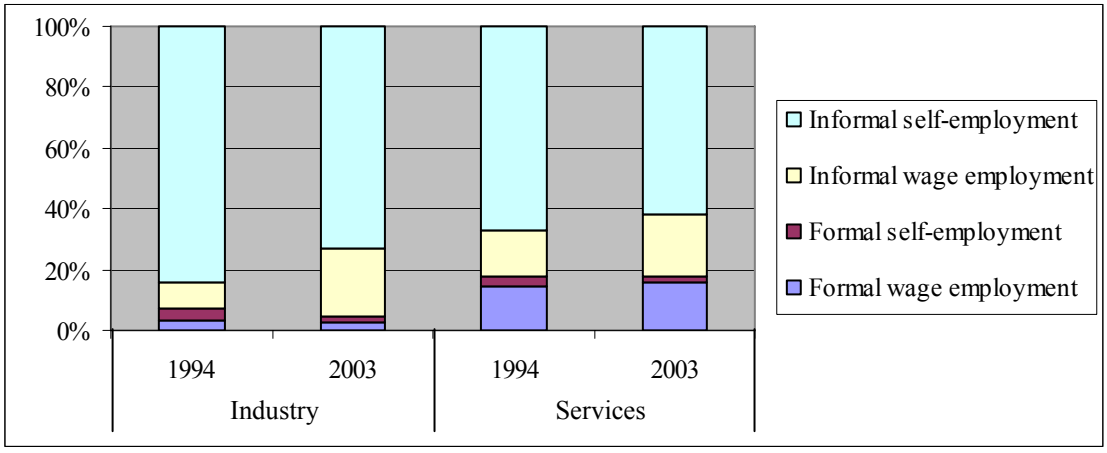


Source: Value added figures from SIMA (World Bank). Similar figures found in (Grimm, M. and I. Gunther 2004).
Note: The results for GDP growth in figure 3 differ considerably from those in the Burkina Faso Poverty Assessment (World Bank 2004)since the latter are based on the period 1998-2003, while the figures in figure 3 are based on 1994-2003.

The changing structure of employment was accompanied by an increase in the share of informal wage employment in both services and industry. Figure 4 shows that the share of informal wage employment increased from 15% to 20% of services employment and from 9% to 23% of industrial employment during this period. [34] These findings reflect the deterioration of working conditions highlighted by Grimm and Gunther (Grimm, M. and I. Gunther 2004), who find that an increasing share of workers were employed with seasonal, daily or other temporary agreements during the 1990s.

[34] Note that the increase in informal wage employment cannot be explained by the timing of the survey. We could expect that part of the increase in informal wage employment may reflect agricultural workers who find temporary informal wage employment during the "off season". However the 1994 survey was carried out just after the harvest, while the 2003 survey was carried out just before the harvest. Therefore, if anything, the results would be biased in the opposite direction (i.e. they would underestimate the extent of informal employment).

Figure 4. Burkina Faso: Sector of Economic Activity by employment status, 1994, 2003



Source: EP I, III

7.1 Growth, earnings and poverty

Growth in the services sector was accompanied by a decline in real earnings and an increase in poverty headcount. Although this result is counter intuitive, it is likely to have been a result of expanding informal labor supply that was not matched by an increase in demand. As we have seen, the expansion of services employment was almost exclusively informal wage employment in trade. Table 15 shows that the high growth rates in services were accompanied by a decline in real earnings, which was particularly sharp for the informal wage employed, suggesting that the expansion in services employment was fuelled by an expansion of labor supply, which was not matched by increasing labor demand.[35] It is likely that the supply of labor in the services sector expanded because of the general decline in real incomes following the CFA franc devaluation. As a result, labor force participation increased as inactive household members sought employment in order to prevent total household income from declining. Consequently, more workers were producing more output, leading to an increase in value added per capita, but productivity (output per worker) declined and therefore real wages declined. The result was a 4% yearly increase in poverty headcount in informal services, while national poverty headcount was declining. Since informal employment accounts for the vast majority of services employment, this resulted in an increase in poverty headcount in the services sector as a whole. The demand for informal goods and services was probably constrained by the general decline in real incomes (mainly in urban areas) and low earnings in agriculture, where the majority of the population was employed. Moreover, there was virtually no foreign demand for non-agricultural goods. This is in contrast to Vietnam where growth in agricultural earnings resulted in an increased demand for informal goods and services and therefore rising earnings for the informally employed.

Moderate agricultural growth increased agricultural earnings and had a positive impact on poverty reduction. However the impact was constrained by difficulties in marketability and market access. As in the case of Vietnam, since data on earnings in agriculture are less reliable than consumption, we use consumption as a proxy for agricultural earnings. Between 1994 and

[35] Note that the difference in mean real wages between industrial and services workers is significant in both years. Moreover, differences between formal and informal industry workers are also significant for both years as are those for formal and informal services workers.

2003, mean consumption increased for workers in agriculture by roughly 2% per year and this was as much, if not more, than the change in mean consumption of any other group (mean real consumption actually declined for all but agriculture and formal services workers). This reflects both the gains from cotton farming and the strong growth in food-crop production. On the one hand, the increased earnings in cotton farming were accompanied by an expansion in the share of agricultural employment and an increase in productivity, which fuelled growth and led to an increase in agricultural earnings. On the other, the growth in food-crop production did not translate into a proportional increase in earnings because of marketability and market access constraints. The small urban population, which suffered a decline in real incomes, and the lack of foreign markets for food-crops, meant that the increased production could not translate into increased earnings (World Bank 2004). This was compounded by difficulties in accessing urban markets due to poor infrastructure connecting rural to urban areas. Nevertheless, increased earnings in agriculture had a positive effect on poverty reduction overall (poverty headcount declined by 2% per year) and accounted for the bulk of poverty reduction in Burkina during this decade.

Table 15. Burkina mean real monthly earnings and average annual change for urban wage employed, 1994-2003
(In thousands of CFA F and in 1994 prices)

	1994	2003	Annual change monthly earnings (%)
Total	**114.3**	**40.7**	**-7.2**
	(13.0)	(1.6)	
Formal industry	116.8	43.7	-7.0
	(46.29)	(6.81)	
Formal services	146.6	59.7	-6.6
	(19.24)	(2.07)	
Informal industry	26.2	14.3	-5.1
	(3.31)	(0.81)	
Informal services	80.0	24.3	-7.7
	(21.82)	(2.78)	
Industry	74.1	20.0	-8.1
	(24.85)	(1.75)	
Services	120.4	43.0	-7.1
	(14.51)	(1.78)	
Formal	143.1	59.1	-6.5
	(17.82)	(2.01)	
Informal	71.7	22.7	-7.6
	(18.48)	(2.34)	

Source: EP I and EP III
Notes:
(1) Standard errors are in brackets.
(2) An Ouagadougou decile-specific deflator is used.
(3) The earnings data may be biased due to the fact that the recall period for wages in 1994 was 7 days, while in 2003 the interviewed person was allowed to choose the recall period and most declared wages on a monthly or yearly basis. In general declarations of individual incomes in households surveys are judged to be largely underestimated (see Grimm, M. and I. Gunther 2004).

8. Employment and the distributional pattern of growth

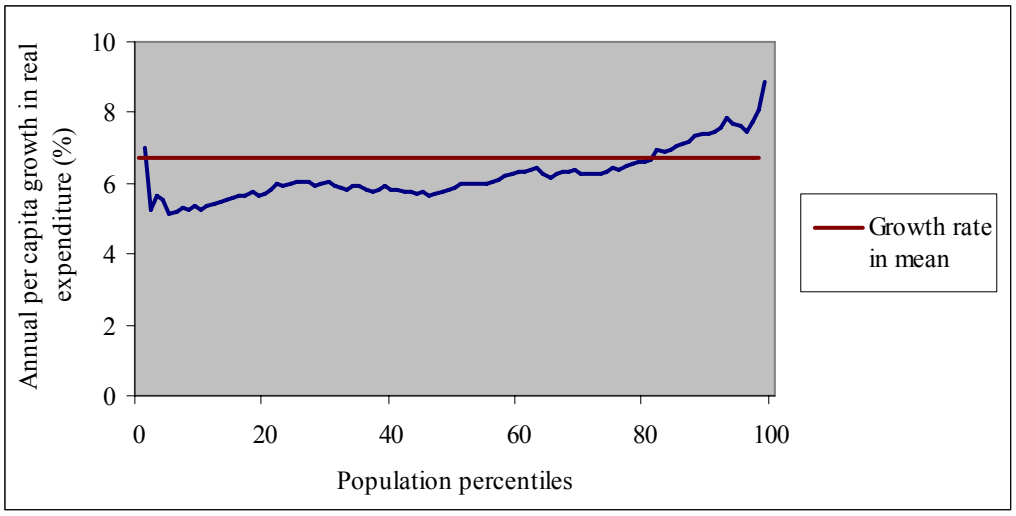
Having analyzed how employment functioned as a transmission channel between growth and poverty reduction, we now briefly examine how it can help to explain the distributional pattern of growth. In Vietnam the expenditure of the non-poor grew faster than that of the poor, reflecting the overall increase in inequality during the 1990s. The widening gap between the

well-being of the poor and non-poor was in part accounted for by status and sector of employment. Workers in agriculture, who were concentrated at the bottom of the distribution, saw the slowest increase in real expenditure, while formal workers, concentrated at the top, experienced the fastest growth. In Burkina Faso, this situation was almost reversed. The expenditure of the non-poor grew more slowly than that of the poor, reflecting the decline in inequality, and real expenditure of agricultural workers (also concentrated at the bottom end of the distribution) increased faster than that of formal and informal workers, who were concentrated at the top.

8.1 Vietnam

In Vietnam, economic growth was pro-poor in an absolute sense but not in a relative sense, as the expenditure of the non-poor grew faster than that of the poor.[36] Figure 5 presents the national growth incidence curve (GIC) for Vietnam during this period. It plots the annual average growth rate in per capita expenditure for different percentile groups in the population and shows that the expenditure of the poorest percentile groups increased more slowly than that of higher percentile groups. This underlies the increase in inequality over this period as measured by the (consumption) GINI, which increased from 0.33 to 0.35 (by 2002 it had increased to 0.42).

Figure 5: Vietnam: National growth incidence curve 1993-1998



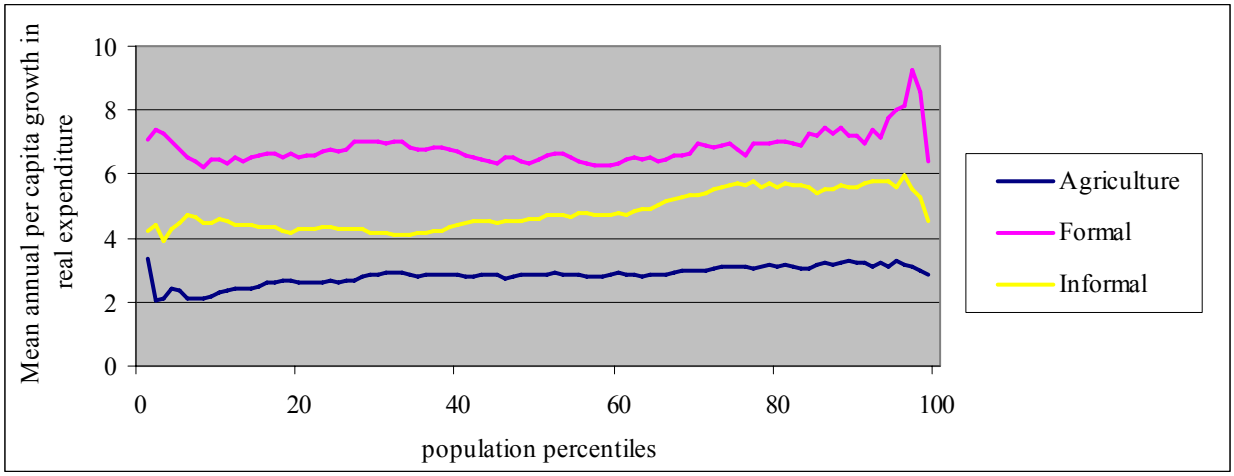
Source: VLSS

How can employment and earnings help to explain this distributional pattern of growth? Figure 6 presents growth incidence curves for workers in agriculture, formal and informal employment. First of all, we see that workers in non-agricultural employment saw a greater increase in mean real expenditure than agricultural workers throughout the distribution. Since the bottom percentiles are composed mainly of agricultural workers (see figure 1) and top percentiles are composed mainly of non-agricultural workers, the expenditure of the non-poor grew faster than that of the poor. Second, formal workers, who were more concentrated in the top quintiles (see figure 1), saw a greater increase in mean real expenditure than informal workers who were more evenly represented throughout the distribution, further contributing to the upward sloping

[36] According to the relative concept of pro-poor growth, growth is pro-poor if the incomes/expenditure of the poor grow faster than those of the non-poor (such that inequality between the poor and the non-poor falls).

national GIC. Third, the fact that the share of informal employment grew at all points in the distribution (figure 1) and that informal mean real expenditure grew faster than agriculture, but slower than formal mean real expenditure, suggest that the informalization of employment may have contributed to narrowing the expenditure distribution, although we must be cautious in our interpretation as we lack a counter factual.

Figure 6. Vietnam: Growth Incidence Curves for Agricultural, Formal and Informal Workers 1993-1998



Source: VLSS 1993, 1998

Finally, figure 6 shows that for formal and informal workers mean expenditure of the richer percentiles increased slightly more than that of the poorer percentiles, further contributing to the upward sloping national GIC. This increase in "within-group" inequality can partly be explained by other household characteristics. For example, multivariate analysis (see table A6 and box 5) shows that after controlling for a series of individual and household characteristics, including sector and status of employment, individuals living in the South East saw an increase in real expenditure that was 30% higher than those in the Northern Mountains. Therefore other explanations for the (relative) non-poor pattern of pro-poor growth, beyond labor force status, include region, settlement type, initial household expenditure and education.

The trends in figure 6 are confirmed by the multivariate analysis of the correlates of changes in well-being (i.e. expenditure). Given the panel nature of the VLSS, we have the unique opportunity to follow individuals through time and estimate the isolated impact of various factors on a change in well-being. We find that, everything else being equal, on average, individuals who were employed in formal services or who moved into formal services saw an increase in real expenditure that was roughly 20% higher than those who remained employed in agriculture. The second highest increase in well-being was for workers who remained or moved into formal industrial employment, who, on average, saw a 16% to 18% increase in well-being relative to those who remained in agriculture, *ceteris paribus*. Workers who remained or moved into informal employment also saw a significant increase in well-being relative to those who remained in agriculture, however on a much smaller scale. On average, workers who moved or stayed in informal industry saw an increase in expenditure of 5% to 8% and workers who stayed or moved into informal services experienced an average increase of 5% to 13% (relative to the reference category).

Box 5. How did labor market transitions affect changes in well-being ?

We have the rare opportunity to follow individuals through time and estimate the isolated impact of various factors on the change in their well-being. We use the VLSS panel data provides matched records for individuals in 1993 and 1998.

We estimate an OLS model to determine individual and household characteristics that are associated with a change in expenditure. OLS regression aims to estimate the mean of the dependent variable, given the independent variables and to assess the conditional effect of a change in the value of a given independent variable on the dependent variable, while controlling for the effects of all other variables. The dependent variable is the change in the natural logarithm of consumption per capita. The right hand (explanatory) variables include demographic and educational characteristics of the worker in the first period (gender, age and age squared and completed level of education) and characteristics of the household (size of the household, receipt of remittances from abroad and location). The variables we are especially interested in are those relating to the economic characteristics of the individual, including labor force movements between different types of employment (agriculture, formal industry, formal services, informal industry and informal services), and between urban and rural regions. The model is estimated using the sample of employed individuals in both 1993 and 1998.

The regression coefficients can be interpreted as follows: (1) for continuous variables (age and household size) it is the marginal impact on the change in (log) consumption per capita for every 1 unit increase in the value of the coefficient, (2) for dummy variables (all others), the coefficients are interpreted as the relative impact on expenditure per capita of the variable taking on value of 1 relative to the reference category equaling 1 (e.g. the primary education coefficient gives the impact on the change in per capita expenditure for an individual with primary education relative to individuals with no education).

We turn to the results in table A6. First, we see that the equation fit for the model is satisfactory as the model accounts for approximately 24% of the variation in the change in (log) consumption per capita (Adjusted R^2). Second, we find that all else being equal, gender is significant in determining a change in well-being and that, on average, females saw a significant increase in expenditure per capita relative to males. Age was also significant and positive, although the size of the coefficient was very small. Third, we find that education is highly significant and there are clearly increasing returns to education. After controlling for all other individual and household characteristics, we find that the higher the level of education, the greater the increase in well-being. On average, workers with primary education saw an increase in well-being that was 8% greater than those with no education, while those with secondary or vocational education experienced an increase in well-being that was 13% to 15% greater. Having a university degree was associated with a 23% greater increase in expenditure relative to having no education.

Fourth, the type of labor market transition is highly significant in explaining a change in well-being. Moving into informal employment significantly increased well-being (relative to staying in agriculture), everything else being equal. However, the biggest increase in well-being was achieved by moving into formal employment, *ceteris paribus*. The results show that relative to staying in agriculture, moving into informal industry increase expenditure by 5%, while moving into informal services increased well-being by 12%. However, moving into formal industry and services increased well-being 18% and 20% more than remaining in agriculture, everything else being equal. Fifth, we find that location is also highly significant. Staying or moving into an urban area was associated with an increase in expenditure that was 17% higher than staying or moving into a rural area, everything else being equal. Finally, relative to living in the northern mountains, living in the South East was associated with by far the greatest increase in well-being (30% higher), *ceteris paribus*. Living in the central highlands also increased well being considerably.

Finally, the results of the multivariate analysis suggest that despite the increase in inequality during this period (the expenditure GINI increased from 0.33 to 0.35) growth was highly pro-poor in Vietnam.[37] We find that not only is the original level of expenditure highly significant in explaining the degree of change in expenditure, but, on average, the higher the initial level of expenditure, the smaller the relative increase in expenditure, *ceteris paribus*. Workers who started off in the second quintile in 1993, saw a 17% lower increase in expenditure than

[37] Note that while the GINI increased from 0.33 to 0.35 between 1993 and 1998, it increased to 0.42 by 2002.

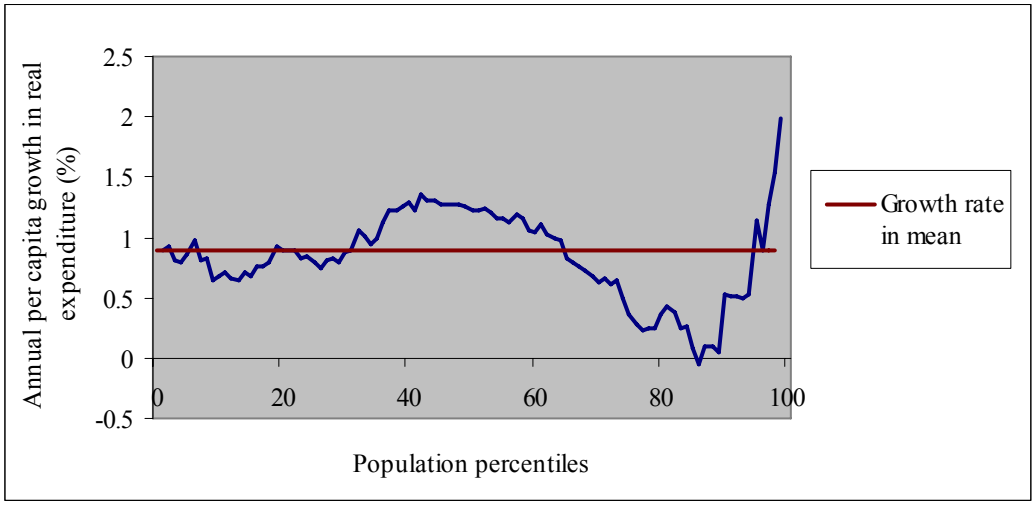
those who started off in the bottom quintile, while those that started in the third and fourth quintiles experienced an increase in expenditure that was 27% and 39% lower respectively. Finally, workers that belonged to the top quintile in 1993 saw, on average, an increase in expenditure that was 61% lower than those who belonged to the bottom quintile.

Finally, the multivariate analysis highlights one other very important point. While the average expenditure of the poor grew more slowly than the average expenditure of the non-poor, once we control for household and individual characteristics, we find that, on average, the expenditure of the poor grew more quickly than that of the non-poor. The multivariate analysis shows that, on average, the lower the initial expenditure quintile, the greater the relative increase in expenditure, *ceteris paribus.* Workers that belonged to the highest quintile in 1993 saw on average an increase in (log) expenditure that was 61% lower than those that belonged to the first quintile, *ceteris paribus*. These results suggest that Vietnam's growth was indeed highly "pro-poor" in that, everything else being equal, the poorest workers benefited relatively more than the richer ones.[38]

8.2 Burkina Faso

In Burkina Faso, growth was pro-poor in both an absolute and relative sense. Between 1994 and 2003, the non-poor experienced a slower increase in real expenditure than the poor, reflecting the overall decline in inequality. Figure 7 plots the national growth incidence curve over this period. It shows that while expenditure generally grew faster than the mean for the bottom 65% of households, it generally grew slower than the mean for the top 35%.

Figure 7. Burkina Faso: National growth incidence curve, 1994-2003



Source: EP I and EP III

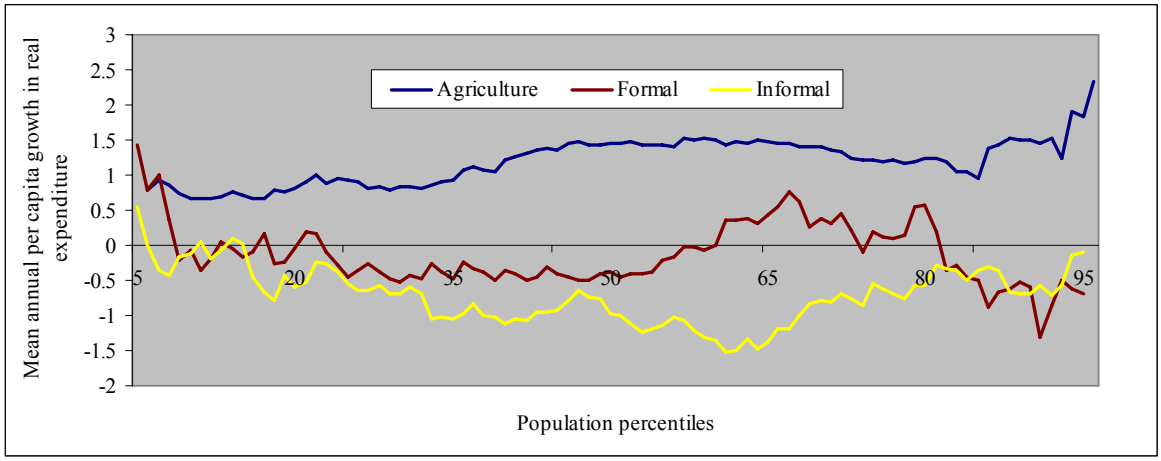
[38] These results appear to run counter those based on the GIC. This could be due to two factors: First, the GIC is based on the change in mean real expenditure (figure 10), while the OLS regression is based on the mean change in real expenditure (Box 4). These are two completely different concepts and can yield entirely different rankings. Note that the mean change in real expenditure is relevant for calculations of inequality (GINI), while the mean change in expenditure is relevant for calculating the Ravallion-Chen rate of pro-poor growth (see Ravallion, M. and S. Chen 2003) Second, in the OLS regression we control for a series of household and individual characteristics, while we have no controls in the GIC. However, even when we do not include any controls, we find the same result, although the magnitude of the coefficients is smaller (belonging to the top quintile in '93 decreases (log) expenditure by 38% compared to the first quintile).

Figure 8 presents growth incidence curves for workers in agriculture, formal and informal employment. We must first of all recall that informal and formal workers are almost exclusively concentrated in the top two quintiles, while agricultural workers dominate the bottom three quintiles, but also account for over 60% of the top two quintiles (see figure 1). This means that results regarding formal and informal workers in the first three quintiles are not entirely reliable.

First, we see that workers in agriculture experienced a growth in real expenditure throughout the distribution while formal and particularly informal workers have generally experienced a decline in real expenditure, partly explaining the (relative) pro-poor pattern of growth. As most informal and formal workers are concentrated in urban areas, these results suggest that the richer non-agricultural urban households were most affected by the CFA franc devaluation as they were more likely to consume imported goods.

Second, we also find that in addition to differences "between groups", mean expenditure of formal workers declined faster the higher the expenditure percentile, further contributing to a narrowing of the expenditure distribution. This effect may have been partly offset by the faster growth in expenditure for the richest (mainly cotton) farmers. Despite the absence of panel data, the probit regression results on the correlates of poverty (see table A1) can provide some insight into other household and individual characteristics that could explain the differences in expenditure growth rates within groups. These include whether the household was involved in cotton production, received remittances, received credit, owned livestock and the region.

Figure 8. Burkina Faso: Growth Incidence Curves for agricultural, formal and informal workers 1994-2003



Source: EP I and EP III
Notes: refers to primary job

9. Conclusions

This analysis of how employment transmitted growth to the poor in Burkina Faso and Vietnam during the 1990s suggests that there are two important factors that maximize the effectiveness of this transmission channel: (1) an increase in labor productivity that is (a) broad based and (b) concentrated in sectors where the poor are disproportionately employed or to which they have access, and (2) strong (domestic and foreign) demand for the goods and services produced by the poor and access to these markets.

We find that relative to Burkina Faso, Vietnam's success in terms of growth and poverty reduction can, in part, be attributed to the combination of these two factors in agriculture, where the poor were disproportionately employed, and in the informal sector, to which they had access. First, a broad-based increase in agricultural labor productivity combined with a strong domestic and foreign demand for crops produced, increased earnings for the majority of the poor and stimulated domestic demand for non-agricultural goods and services produced by the poor. Second, an increase in (low-skilled) informal labor productivity combined with growing domestic and foreign demand for informal goods and services, created higher earning opportunities for agricultural workers. In turn, higher non-agricultural earnings further stimulated demand for agricultural goods and services, thereby creating a virtuous circle of growth and poverty reduction. All of this was made possible by specific policies and certain critical initial conditions, not least of which were a high population density, an educated workforce, strong institutions and reasonable infrastructure.

First and foremost, Vietnam experienced a broad-based increase in agricultural labor productivity thanks to a structural shift to higher value products and strong domestic and foreign demand. In contrast, in Burkina Faso the shift to higher-value cash crops was limited to a small group of farmers and the majority of food crop farmers faced weak domestic and essentially no foreign demand for their products. In Vietnam, policies aimed at stimulating the agricultural sector (land reform, trade and price liberalization for agricultural products) created a structural shift of agricultural production from low value staple crops to higher value cash (including export) crops, increasing agricultural productivity and earnings for the majority of the poor. Moreover, a sizeable urban population and strong non-agricultural growth in urban areas increased disposable income and stimulated demand for agricultural goods, compounding the increase in demand for export crops. As a result, the vast majority of workers who moved out of poverty between 1993 and 1998 remained or became employed in agriculture.

In contrast, in Burkina the strongest productivity gains were in the higher-value cotton sector, which affected only a minority of farmers, who were already concentrated in the top of the expenditure distribution, while more than two-thirds of farmers engaged mainly in food-crop production. Moreover, although output of food crops grew, it could not translate into increased earnings due to limited marketability and market access. Domestic demand was constrained by the small urban population and declining real urban incomes, and there was essentially no foreign demand since food crops are effectively non-tradable. Moreover poor roads and infrastructure also created barriers to accessing existing urban markets. As a result, the impact of agricultural growth on poverty reduction was more limited in Burkina than in Vietnam. The experiences of Vietnam and Burkina Faso reflect those of other countries in the OPPG study. While in Bangladesh and Indonesia a broad based structural shift in agricultural production had a considerable impact on poverty reduction, in Bolivia, Ghana, Uganda and Zambia, the highest rates of agricultural growth were concentrated amongst a minority of farmers engaging in some specific cash crop such as cotton, cocoa or coffee, while the majority of farmers engaged in food-crop production. As a result, the impact on poverty reduction was more limited.

However Vietnam's successful agricultural transformation cannot solely be attributed to good agricultural and trade policies. Vietnam had some very important initial conditions, which Burkina lacked. In particular, Vietnam is rich in natural resources and has an extensive coast line, which made the structural shift to higher value products including aquaculture possible, while Burkina is a land-locked country with limited rainfall and a weak natural resource

endowment. In addition, Vietnam had much stronger infrastructure, and particularly a strong road network, which facilitated access to urban markets, while this was a serious constraint in Burkina. Finally, one of the results of Vietnam's socialist system is strong institutions, including the existence of a rural land register, which is inexistent in Burkina. Therefore, although land distribution was relatively equal in both countries, some important policies and initial conditions made it possible for Vietnam to achieve broad-based increase in agricultural productivity while this did not happen in Burkina.

Second, in Vietnam, growth was accompanied by an increase in domestic and export demand for (low-skilled) labor-intensive goods and services, which created higher earning opportunities for agricultural workers and increased informal labor productivity, while in Burkina both domestic and foreign demand for non-agricultural goods and services stagnated. The modernization of agriculture in Vietnam translated into higher demand for non-tradable informal goods and services, stimulating demand for informal labor. The creation of low-skilled informal jobs provided a stepping stone out of poverty for agricultural workers. Vietnam's experience reflects Mellor's (2000) theory that modernization of agriculture can trigger a virtuous circle of economic growth in farm and non-farm activities since the demand for labor-intensively produced non-tradable goods and services is often constrained by low-purchasing power of the majority of consumers, who are located in rural areas. Income growth in agriculture translates into higher demand for informal goods and services, which is accompanied by a shift of employment from farm to non-farm activities. Employment growth in the agricultural and informal non-farm sectors pushes up rural wages, creating a virtuous cycle of growth and poverty reduction. Similar evidence was found in other OPPG country case studies including Bangladesh, El Salvador and Indonesia, where non-farm informal employment has become an important means out of poverty for the rural population.

Moreover, the increase in domestic demand for informal goods and services in Vietnam was compounded by an increased demand for exports of labor-intensive manufacturing goods, which were largely produced by (low-skilled) informal workers. Increasing informal earnings probably also contributed to the reduction in poverty amongst agricultural workers who lived in households with access to non-agricultural sources of labor income. Thus the increased domestic and international demand for informally produced goods and services ensured that the poor were able to participate in Vietnam's strong economic growth. At the same time, the strong non-agricultural growth resulted in a faster increase in mean expenditure for the (richer) non-agricultural workers than for the (poorer) agricultural workers and accompanied an increase in inequality.

In contrast, in Burkina both domestic and foreign demand stagnated. The increase in agricultural earnings was small and therefore did little to stimulate demand for non-farm goods and services. Moreover, the general decline in real incomes following the 1994 CFA franc devaluation further depressed urban demand. At the same time there was little foreign demand for tradable non-agricultural goods. Therefore, as informal labor supply expanded in the services sector, it was not matched by an increase in demand. As a result, although the expansion of employment generated growth in output, productivity declined and wages fell, leading to an increase in the poverty rate in the services sector. Moreover, the general decline in expenditure of the (richer) non agricultural urban workers combined with the growth in expenditure of the (poorer) agricultural workers was accompanied by declining inequality. Similarly in Bolivia, Zambia and Romania, although we know little regarding the demand for informal labor, the expansion in

informal employment was led by an increase in labor supply as the informal sector provided a social safety net during times of restructuring.

The growth in demand for informally produced goods and services in Vietnam was made possible both by wise trade and export policies and some important initial conditions. First, Vietnam, like many of its East Asian neighbors, has a very high population density and therefore a comparative advantage in the production of labor-intensive manufacturing products, while this would be much more difficult in Burkina Faso, which is sparsely populated. Second, Vietnam started off the 1990s with a much larger non-agricultural sector on which to build non-agricultural growth. Third, Vietnam has a much stronger human capital base, making it possible for agricultural workers to access non-agricultural informal jobs, while much of Burkina Faso's workforce has no education at all. Finally, an important factor contributing to the overall impressive rates of poverty reduction in Vietnam was the commitment of the Government to reducing poverty. A number of programs were implemented to address the needs of the most vulnerable groups including (but not limited to) employment generation, access to credit and access to infrastructure for poorer, more isolated regions (see Huong, P. L., et al. 2003).

Finally, the fact that between 1993 and 1998, the period of fastest growth and fastest poverty reduction in Vietnam, economic growth was concentrated in the industrial sector while more than 70% of workers who moved out of poverty either remained or became employed in agriculture, suggests that it was the combination of policies that stimulated both (labor-intensive) industrial and agricultural growth that was the key to the impressive achievements in terms of pro-poor growth. This is relevant for the broader OPPG study in that it provides some insight into what lies behind the strong correlation found between economic growth and the rate of poverty reduction in the 14 country case studies.

These findings point to the importance of stimulating broad-based agricultural productivity in countries where a significant part of the population is employed in agriculture as an important strategy for achieving pro-poor growth, both because of the direct impact on the earnings of the poor and the impact on domestic demand for non-agricultural goods and services produced by the poor. However this must be accompanied by measures to ensure both marketability and market access for crops produced by the poor. The findings also highlight the importance of accelerating the movement out of agriculture through the expansion of labor-intensive manufacturing and services employment, which is generally informal and accessible to the poor. Given that domestic demand in developing countries is often constrained by low purchasing power of the majority of the population, stimulating foreign demand for labor intensive manufacturing and services can be critical to job creation in these sectors and therefore to poverty reduction. However, we also show that certain key initial conditions must be met for these policies to translate into growth that is pro-poor. Not least of these are an educated workforce, strong institutions and reasonable infrastructure. Finally, although informal employment may provide a stepping stone out of agriculture and poverty in the short run, it is unclear whether it provides access to formal employment. It is, however, associated with a greater risk of income and non-income poverty than formal employment. Therefore, in the longer run, understanding whether there exist barriers to entering formal employment and what the nature of these barriers is will be important in ensuring that growth accelerates the rate of poverty reduction.

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Annexes

Table A1. Correlates of Poverty, probit results, beginning and end of 1990s

Dependent variable: poor (dummy)	*Vietnam*		Burkina Faso	
	1993	*1998*	*1994*	*2003*
Age of Household Head	-0.0255	-0.0259	-0.0021	0.0042
	(0.0038)***	(0.0032)***	(0.0024)	(0.0021)**
Age^2 of Household Head	0.0212	0.0211	0.004	-0.0027
	(0.0039)***	(0.0032)***	(0.0023)*	(0.0021)
Gender of Household Head (Female=1)	0.0198	0.0157	0.0364	0.0996
	(0.0194)	(0.0164)	(0.0251)	(0.0241)***
ln(household size)	0.2338	0.2947	0.2695	0.2637
	(0.0196)***	(0.0165)***	(0.0105)***	(0.0111)***
Education of Head of Household				
No education	-0.0035	0.145	0.135	0.1076
	(0.0208)	(0.0287)***	(0.0201)***	(0.0190)***
Primary education	*f*	*f*	*f*	*f*
Secondary education	n/a	n/a	-0.1404	-0.0661
			(0.0479)***	(0.0353)*
Technical and higher	n/a	n/a	-0.0898	-0.2655
			(0.1725)	(0.0615)**
Lower secondary	-0.1026	-0.1125	n/a	n/a
	(0.0234)***	(0.0148)***		
Upper secondary	-0.2501	-0.1689	n/a	n/a
	(0.0375)***	(0.0147)***		
Vocational	-0.2462	-0.1808	n/a	n/a
	(0.0290)***	(0.0163)***		
University	-0.4368	-0.2461	n/a	n/a
	(0.0434)***	(0.0120)***		
Labor Force Status of Head of Household				
Formal worker	*f*	*f*	*f*	*f*
Informal workers	0.1877	0.2915	0.411	0.2551
	(0.0261)***	(0.0506)***	(0.0614)***	(0.0539)***
Agriculture	0.1576	0.2908	0.4963	0.3538
	(0.0257)***	(0.0404)***	(0.0335)***	(0.0289)***
Unemployed	0.0025	0.6212	0.5452	0.0951
	(0.1681)	(0.0707)***	(0.0.384)***	(0.0979)
Inactive	0.1381	0.3172	0.5219	0.3537
	(0.0284)***	(0.0563)***	(0.0451)***	(0.0546)***
Household Characteristics				
Received remittances	-0.0098	-0.0237	-0.0373	-0.0274
	(0.0198)	(0.0152)	(0.0132)***	(0.0126)**
Have land? Y/N	n/a	n/a	0.028	0.0006
			(0.0223)	(0.024)
Size of land used by household.	0	0	n/a	n/a
	0	(0.0000)***		
Received credit. Y/N?	0.0055	0.053	-0.1337	-0.1641
	(0.0201)	(0.0147)***	(0.0195)***	(0.0193)***
Has livestock. Y.N?	-0.0575	-0.0228	-0.1093	-0.102
	(0.0239)**	(0.0194)	(0.0146)***	(0.0163)***
Rural	0.3102	0.2199	0.2316	0.1592
	(0.0230)***	(0.0145)***	(0.0221)***	(0.0190)***

Region				
Region1	0.056	0.0586	-0.1826	-0.0792
	(0.0274)**	(0.0220)***	(0.0274)***	(0.0268)***
Region2	0.0883	0.0837	0.0623	0.0567
	(0.0261)***	(0.0222)***	(0.0321)**	(0.0300)*
Region3	-0.1907	-0.06	0.0421	-0.1035
	(0.0282)***	(0.0211)***	(0.0354)	(0.0266)***
Region4	-0.174	-0.0822	0.0963	-0.1292
	(0.0509)***	(0.0287)***	(0.0344)***	(0.0240)***
Region5	-0.3277	-0.2358	-0.093	-0.0098
	(0.0274)***	(0.0133)***	(0.0330)***	(0.0325_
Region6	-0.3016	-0.0727	-0.0094	-0.2185
	(0.0246)***	(0.0194)***	(0.0305)	(0.0191)***
Region7	n/a	n/a	-0.0665	-0.1517
			(0.0294)**	(0.0233)***
Region8	n/a	n/a	0.1389	0.1347
			(0.0337)***	(0.0321)***
Region9	n/a	n/a	-0.0526	-0.001
			(0.0303)*	(0.0293)
Region10	n/a	n/a	-0.2031	-0.0923
			(0.0355)***	(0.0305)***
Region11	n/a	n/a	-0.0871	-0.0781
			(0.0368)**	(0.0321)**
Region12	n/a	n/a	0.0596	0.085
			(0.0325)*	(0.0359)**
Ethnic Minority	0.2049	0.2315	0.03	n/a
	(0.0252)***	(0.0248)***	(0.0158)*	
Observations	4799	5999	8574	8485
L.R. Chi^2	1372.80***	1995.19***	2973.44***	2306.81***

Notes:

(a) The unit of observation is the head of household.
(b) The dependent variable for the model is whether the household is below the absolute poverty line (Burkina: 1993: CFA F 53,219; 2004: CFA F 82,672, Vietnam: VND1,160 in 1993 and VND1,790 in 1998).
(c) Standard errors are in brackets.
(d) *,**,*** denote significance at the 10%, 5% and 1% level using two-tailed tests.
(e) f denotes base category.
(f) The coefficients refer to marginal effects in percentages, computed at the average value of the variables for continuous variables and for a discreet change from 0 to 1 for dummies.
(g) L.R. Chi^2 (K-1) refers to the likelihood ratio used to test the goodness of fit of the model and is compared to a Chi^2 distribution of K-1 degrees of freedom, where K is the number of independent variables in the model. (K-1) is 25 for Vietnam and 29 for Burkina 1993 and 28 for Burkina 2004.
(h) Regions are the following: For Vietnam: control= Northern Mountains, region 1= Northern Uplands, region2: North Central, region 3: Central Coast, region 4: Central Highlands, region5: South East, region 6: Mekong River Delta. For Burkina Faso: control= Plateau Centre, region1: Haut Bassins, region 2: Boucle de Mouhon, region3: Sahel, region4: Est, region5: Sud Ouest, region6: Centre Nord, region7: Centre Ouest, region8 : Nord, region9 : Centre Est, region10 : Centre, region11 : Cascades, region12 : Centre Sud.
(i) Ethnic Minorities control group: Burkina: Mossi, Vietnam: Kinh and Chinese
(j) N/a refers to not-applicable

Table A2: Vietnam: Transition probabilities and percentage change in poverty incidence for movements between agriculture and informal employment. 1993-1998

1993	1998			
Transition probabilities	Industry informal		Services informal wage	
	Wage-employment	Self-employment	Wage-employment	Self-employment
Agriculture	3.2	2.8	2.8	4.2
% change in poverty incidence				
Agriculture	-38.3	-52.5	-54.7	-46.9

Source: VLSS 1993, 98

Table A3. Vietnam: Movements between sectors by employment sector and status, % of employed in panel 1993-1998 *(population over 15 years)*

1993	1998					
Employment type	Agriculture	Industry formal	Services formal	Industry informal	Services informal	Total
Agriculture	59.8	0.4	0.6	4.2	5.0	69.9
Industry formal	0.8	0.6	0.2	1.7	0.9	4.1
Services formal	1.1	0.1	1.5	0.5	5.4	8.5
Industry informal	2.6	0.2	0.3	4.0	1.4	8.5
Services informal	1.9	0.1	0.6	1.2	5.2	9.0
Total	66.1	1.4	3.1	11.6	17.8	100.0

Source: VLSS 1993, 98

Table A4. Vietnam: Transition probabilities by settlement type, % *(population over 15)*

1993	1998		
	Rural	Urban	Total
Rural	96.7	3.3	100
Urban	6.4	93.6	100
Total	85.5	14.5	100

Source: VLSS.

Table A5. Probit Vietnam panel on probability of moving out of poverty, controlling for type of labor market transitions

Dependent variable: poor in 1993 & not poor in 1998 (dummy)	
Female93	0.0303
	(0.0169)*
Age93	0
	(0.003)
Age93	0.0078
	(0.0043)*
Education of individual	
No education	*f*
Primary education	0.1736
	(0.0222)***
Lower secondary	0.2272
	(0.0241)***
Upper secondary	0.2308
	(0.0393)***
Vocational	0.2194
	(0.0484)***
University	0.319
	(0.0433)***
Labor market status of individual	
Stayed in agriculture	*f*
Moved to agriculture	0.0795
	(0.0350)**
Stayed in industry formal	0.0636
	(0.193)
Moved to industry formal	0.3327
	(0.0895)***
Stayed in industry informal	0.0826
	(0.0473)*
Moved to industry informal	0.0541
	(0.0320)*
Stayed in services formal	0.2789
	(0.1240)**
Moved to services formal	0.2717
	(0.0818)***
Stayed in services informal	0.0953
	(0.0522)*
Moved to services informal	0.1643
	(0.0312)***
Household Characteristics	
Lhhsize 93	-0.095
	(0.0226)***
Other household members changed employment status	0.0928
	(0.0196)***
Stayed or moved to urban area	0.1222

	(0.0326)***
Received remittances 93	0.0209
	(0.023)
Region	
Northern Mountains	*f*
Red River Delta	0.1405
	(0.0243)***
North Central	0.0789
	(0.0260)***
Central Coast	0.1672
	(0.0313)***
Central Highlands	0.1138
	(0.0495)**
South East	0.399
	(0.0267)***
Mekong River Delta	0.1251
	(0.0287)***
Observations	4064
LR chi2(27) = 519.98	
Pseudo R2 = 0.0926	

Source VLSS

Notes:

(a) the unit of observation is the individual.
(b) The dependent variable for the model is whether an individual's consumption pc was below the poverty line in 1993 and above it in 1998. (VND1,160 in 1993 and VND1,790 in 1998).
(c) standard errors are in brackets.
(d) *,**,*** denote significance at the 10%, 5% and 1% level using two-tailed tests.
(e) f denotes base category.
(f) the coefficients refer to marginal effects in percentages, computed at the average value of the variables for continuous variables and for a discreet change from 0 to 1 for dummies.
(g) L.R. Chi^2 (K-1) refers to the likelihood ratio used to test the goodness of fit of the model and is compared to a Chi^2 distribution of K-1 degrees of freedom, where K is the number of independent variables in the model.

Table A6. Vietnam: Correlates of an increase in (log) real consumption, Panel data 1993-1998 (OLS regression)

Dependent variable: Change in natural logarithm of consumption per capita	
Female '93	0.0354
	(0.0093)***
Age '93	0.0081
	(0.0019)***
Age^2 '93	-0.0045
	(0.0023)*
Education of Individual	
No education	*f*
Primary education	0.0845
	(0.0126)***
Lower secondary	0.1348
	(0.0139)***
Upper secondary	0.1548
	(0.0215)***
Vocational	0.1638
	(0.0268)***
University	0.2283
	(0.0227)***
Labor market transition of Individual	
Stayed in agriculture	*f*
Moved to agriculture	-0.0019
	(0.019)
Stayed in industry formal	0.1605
	(0.0614)***
Moved to industry formal	0.1817
	(0.0499)***
Stayed in industry informal	0.0848
	(0.0241)***
Moved to industry informal	0.0537
	(0.0180)***
Stayed in services formal	0.2064
	(0.0382)***
Moved to services formal	0.2008
	(0.0363)***
Stayed in services informal	0.0485
	(0.0220)**
Moved to services informal	0.127
	(0.0155)***
Household characteristics	
Ln household size '93	0.0394
	(0.0120)***
Other household members changed employment status	0.0247
	(0.0103)**
Stayed or moved to urban area	0.169

	(0.0138)***
Received remittances '93	0.0253
	(0.0119)**
1st consumption quintile '93	*f*
2nd consumption quintile '93	-0.1692
	(0.0138)***
3rd consumption quintile '93	-0.2713
	(0.0142)***
4th consumption quintile '93	-0.386
	(0.0150)***
5th consumption quintile '93	-0.6137
	(0.0171)***
Region 1993	
Northern Mountains	*f*
Red River Delta	0.0993
	(0.0147)***
North Central	0.0635
	(0.0161)***
Central Coast	0.0864
	(0.0178)***
Central Highlands	0.1481
	(0.0295)***
South East	0.3038
	(0.0192)***
Mekong River Delta	0.0183
	(0.0158)
Constant	0.0312
	(0.0413)
Observations	7077
Adj R-squared	0.2355

Source: VLSS 1993, 1998

Notes:

(a) the unit of observation is the individual.
(b) The dependent variable for the model is change in natural logarithm of consumption per capita.
(c) standard errors are in brackets.
(d) *,**,*** denote significance at the 10%, 5% and 1% level using two-tailed tests.
(e) f denotes base category.

Table A7. Definitions of labor market categories used in the study

	Burkina Faso	Vietnam
Employed	Worked during the last 7 days in the main or additional job.	Worked during the last 7 days in the main or additional job.
Formal employees	Salaried employees with paid social contributions	Employees with written contract and paid social contributions.
Formal self-employed	Own-account workers/employers in a family business outside agriculture with more than 5 employees or paid social contributions	Own-account workers/employers in a family business outside agriculture with fixed location; if hired labor exists, they have a written contract or paid sick leave.
Others (formal)	Others not classified into above categories; 'others' in agriculture reclassified as farmers.	Others not classified into above categories; 'others' in agriculture reclassified as farmers.
Informal employees	Employees with no written contract or no social contributions paid.	Employees with no written contract or no social contributions paid.
Informal self-employed	Own-account workers/employers in a family business outside agriculture with 5 or less employees	Own-account workers/employers in a family business outside agriculture with no fixed location; or, if hired labor exists, they have no written contract or no sick leave paid.
Unpaid family workers (informal)	Worked unpaid for a household enterprise outside agriculture; those in agriculture reclassified as farmers.	Worked unpaid for a household enterprise outside agriculture; those in agriculture reclassified as farmers.
Farmers	Self-employed in agriculture, 'others' and 'unpaid family workers' in agriculture.	Self-employed in agriculture, 'others' and 'unpaid family workers' in agriculture.
Unemployed	Not worked in the main or additional job over the reference period (7 days) and looking for job.	Not worked in the main or additional job over the reference period (7 days) and looking for job.
Inactive	Persons of the working age who were not employed or unemployed.	Persons of the working age who were not employed or unemployed.
Agriculture	All workers working in agriculture	All workers working in agriculture
Industry formal	Formal workers in industry	Formal workers in industry
Industry informal	Informal workers in industry	Informal workers in industry
Services formal	Formal workers in services	Formal workers in services
Services informal	Informal workers in services	Informal workers in services
Working age population	Population over 15 years	Population over 15 years
Welfare indicator	Consumption expenditure	Consumption expenditure
Welfare deflator	Inter-regional and inter-temporal	Regional and monthly price deflator

Absolute poverty line (value in local currency)		
Yr. 1	53,219 CFA F	1,160 VND
Yr. 2	82,672 CFA F	1,790 VND
Equivalence scales	N/A	No Per capita
Earnings	Monthly wages for urban households only. Not clear whether or not it includes payments in kind	Monthly wage received from the main job. Wage employed only. Includes in-kind payment but excludes social contribution payments.

Source: EPM I, III (1994 and 2003) and VLSS.