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RESEARCH PAPER

EXPENDITURE INEQUALITY IN VIETNAM BETWEEN 1997-98 AND
2008 AND ITS POLICY IMPLICATIONS

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ABSTRACT

The Vietnam economic reform launched in 1986 has brought about encouraging results. However the economic growth also leads to increased inequality. This may mitigate the efficiency of poverty reduction policies of the Government of Vietnam. There have been a number of studies on different aspects of poverty and expenditure inequality as well as its increasing trend in Vietnam. Much less is known, however, about the driving forces of this trend and their quantitative contributions. Conventional decompositions, by factor components or by population subgroups, only provide limited information on the determinants of income inequality. Besides, there is a lack of quantitative studies on poverty in recent years in Vietnam. This paper represents an attempt to apply the regression-based decomposition framework to the study of inequality in identifying its trends through years using the Vietnam Living Standard Surveys data in 1998, 2002, 2004, 2006 and 2008. It found out that principal factors increasing expenditure per capita are the larger proportion of household member at working age, the smaller household size, higher education level, rural and urban location and regions. After reviewing policies which have been implemented so far, it can be concluded that some policies seemingly have been properly targeted the poor as expected.

Key words: expenditure inequality; decomposition; poverty; Vietnam.

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1. INTRODUCTION

1.1. Background

The reform process in Vietnam implemented since 1986 has had encouraging results. The average annual GDP growth rate in recent years was over 7%[1]. As the second fastest growing economy in Asia (World Bank, 2002), Vietnam is able to lift more and more households from poverty. The poverty rate reduced from more than 70% in the middle of 1980s to 22% in 2004 under new poverty line. Such achievement in poverty reduction was acknowledged by the World Bank (2000). However the higher the economic growth, the bigger the gap between poor and non-poor households, which has been unavoidably accumulated over years due to the law of economic growth. When Vietnam followed the centrally planned mechanism in which people were guaranteed to receive equal welfare (wage, healthcare, food and education) regardless of their productivity, the inequality did not increase for nearly 20 years after the reunification day. When the country started its reform policy in 1986, the overall living standard increased gradually. Citizens have enjoyed better material and spiritual life. However, like almost all countries, in Vietnam the economic growth has gone together with increased inequality. This may mitigate the efficiency of poverty reduction policies of the Government of Vietnam. Therefore it is necessary to identify areas of inequality so as to look back current related policies and make essential policy revision. This study aims at (i) identifying key determinants to household inequality in Vietnam between 1998 and 2008; (ii) reviewing policies which are closely related to inequality reduction to find out areas of weaknesses; and (iii) making policy recommendations.

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[1] According to the five year 2006 – 2010 socio – economic development plan prepared by the Ministry of Planning and Investment, the average annual GDP growth rate in the 1996 – 2000 and 2001 – 2005 periods were 6.9% and 7.5%, respectively.

1.2. Literature review

1.2.1. Inequality findings in other countries

It is widely recognized that inequality has been an unavoidable problem going alongside the globalization process, economic integration and economic growth (Dollar, 2004). A number of factors leading to inequality have been identified in both developing and developed countries. Wage inequality has been found significantly increased in China (Morduch and Sicular, 2002), Czech Republic, Poland (Transitional Report, 2000), Bangladesh (Wodon, 2000) and Peru (Glewwe and Hall, 1999). The developed countries also experienced similar problem such as in the USA (Fields, 2002) and part of Europe (Daron, 2003). Education and occupation are commonly proved to contribute significant part towards inequality in most studies spreading from Asia to America. In China, Morduch and Sicular (2002) used Theil-T and Gini decomposition and unveiled that the contributions of political variables to total inequality are small while those of spatial characteristics are relatively large. Having observed the falling labour income inequality in Korea, Fields and Yoo (2000) found out that the variables of greatest importance in explaining the fall were, for the 1986-93 period, years of education, potential experience, industry and occupation; for the 1981-86 period, education, marital status and gender; for the 1976-81 period, occupation followed by education. In other transition economies, Gini coefficient increased from 21.2 to 25.9 in the Czech Republic, 23.9 to 30 in Poland between 1991 and 1997 (Transitional Report, 2000), and 25.7 to 32.7 in Kazakhstan between 1988 and 1995 (Institute for Volkswirtschaftslehre, 2003). Further West, researchers found out that inequality increased in the U.S and U.K but not in the continental Europe (Italy, Germany and France; Gosling, 2001), mainly due to relative supply of skills increased faster in Europe and European labour market institutions prevented inequality from increasing (Daron, 2003). Fields (2002) used regression-based decomposition method to investigate the earnings inequality in United States in 1979 and 1999. The author found that

level of education exhibited the largest explanatory power in explaining the levels of inequality followed by occupation, experience and gender (the other three variables including region, gender and industry had no appreciable effect).

1.2.2. Inequality findings in Vietnam

Despite a number of studies on inequality around the world, there have been few academic studies that clearly and adequately examining inequality in Vietnam. The Government of Vietnam issued the Comprehensive Poverty Reduction and Growth Strategy (CPRGS) (GOV, 2002) which clearly stated targets and policies on poverty reduction. A number of national programs have been implemented to realize this strategy. Obviously there are progress reports for individual programs on poverty reduction. However such reports may not provide the overall picture highlighting which policies, how and how much such policies contributed to poverty reduction in Vietnam. Clearly, it is difficult to answer such questions due to the interdependence and interaction among poverty reduction policies. Therefore, researchers have attempted to use quantitative methods to quantify the inequality in Vietnam. The main source of data for their analysis was the Vietnam Living Standard Survey (VLSS). Harigay and College (2004) computed Gini coefficient and found that inequality increases in Vietnam are "strikingly small" from 31.5 to 33.9 at the national level, 26.9 to 28.0 in rural and 33.1 to 34.4 in urban areas. Furthermore, urban – rural inequality slightly increased from 3.5 to 5.3 between 1992 and 1997. Nevertheless, this does not mean that the inequality of Vietnam can be neglected. It is still important to identify determinants to inequality in Vietnam for further policy improvements.

Previously the General Statistics Office (GSO) calculated Gini coefficients for all 61 provinces, using multi-purpose household surveys (MPHS). The calculated Gini coefficient seems to have risen significantly from 0.356 in 1995 to 0.407 in late 90s. This implies that given the same level of inequality as

China, it seems that Vietnam has the inequality level rising faster and at a much lower level of average income per capita than China.

Income inequality in Vietnam was first measured by Dollar and Glewwe (1998), using Theil L and T indexes for household consumption data in 1992 – 93. The authors discovered that the largest source in inequality came from within-group inequality rather than between-group inequality. Pham Lan Huong (2000)[2] used a decomposition approach toward household income and a computable general equilibrium (CGE) framework to measure distributional impact. She found that the rural – urban income gap and income disparities were mainly caused by government adopted trade and investment policies.

CGE framework was again used by Pham Lan Huong and Le Dang Doanh et al (2002)[3] to measure impact of trade barriers removal on size and functional distribution of household income. The studies discovered that import-substitution policy resulted in unbalanced and unsustainable pattern of growth and increasing income inequality. Meanwhile trade liberalization promoted rural development, created demand for low-skilled workers in the cities, generated income for lower-income earners and improved income inequality.

Pham Lan Huong and Pham Thi Vinh[4] (2008) analyze the VLSS 1992-93 and VHLSS 1997-98 and investment policies to discover the major sources of income inequality in the 90s. They discover that although the largest inequality results from within-group inequality, the major source of increases in income inequality over the period 1993-1998 comes from between-group inequality. To measure the investment impacts over incomes of different household groups in rural and urban areas, the team uses a CGE framework called Income Distribution Model. The simulation reveals an under-funding of investment in many labor –intensive and export-oriented industries and over-funding funding of investment in capital-intensive ones. This situation leads to decreasing

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[2] Pham Lan Huong, "The Impact of Vietnam's Accession to the WTO on Income Distribution Using a General Equilibrium Framework", Working paper 03-7, Asia Pacific School of Economics and Government, the Australian National University , Asia Pacific Press, 2000

[3] Pham Lan Huong, Le Dang Doanh et al, "Explaining Growth in Vietnam", 2002

[4] Pham Lan Huong, Pham Thi Vinh, "Income Distribution in Vietnam" in "Income Distribution and Sustainable Economic Development in East Asia" published by University Kebangsaan Malaysia, 2008

agricultural income and increasing inequality between rural and urban population. The results, however, are quite different from the actual data due to the changes in accounting methodology between 1989 and 1996 input-output tables and the assumption that Vietnam still receives the same total amount of capital in the counterfactual experiment

Since the data on income seem to be less reliable due to the fact that households tend to under-declare their income, researchers have focused on the expenditure inequality and looked for its determinants. The clearest picture of inequality's determinants in Vietnam is given by Guanghua Wan and Molini (2004). The paper attempted to explore contributions of various determinants to total inequality in rural areas of Vietnam by using regression-based decomposition technique initiated by Oaxaca (1973), further improved by Shorrocks (1999) and Wan (2004). The use of this combined-methodology assisted the authors to handle any inequality indicator and impose little restriction on the parametric consumption function. Based on expenditure model, the results for both years were quite encouraging as they show good R-square of 0.50 - 0.55. All parameters possessed the expected signs and most of them were significantly different from zero at the 5% level of significance. Although the magnitudes of some estimates changed from 1993 to 1998, they maintained the same signs when non-significant estimates were ignored. Physical capital and human capital variables contributed positively to consumption while household size and proportions of dependents held negative coefficients. Dollar and Glewwe (1998) also used VLSS to identify inter-region inequality in Vietnam. They discovered that this variable only accounted for 14-15% of overall inequality at the time. They argued that this was due to each region had economic advantages and disadvantages that offset each other (i.e. the Red River Delta has little land per capita but good education). In addition Van de Walle and Gunewardena (2000) proved that ethnic minority found it more difficult to be lifted out of poverty than the majority groups which were King or Chinese ethnics.

In terms of rural-urban inequality, Nguyen et al (2003) employed the quintile regression decomposition technique. Particularly, the study decomposed the urban-rural difference in consumption into two components: one due to differences in households' characteristics and one due to difference in returns to those characteristics. Apart from these factors, Nguyen also reckoned the household characteristics and by location-specific factors would have impact on the disparities as well. The findings of this paper were very much alike other studies (such as van de Walle et al, 2001) which claimed that household characteristics (education, profession etc,) were the main sources led to the disparities. Furthermore, for high welfare households, the difference was due primarily to the difference between urban and rural rewards for their characteristics. The second conclusion of the authors was that effects of education appear to be "particularly important" and "significantly positive". Despite the encouraging findings of this paper, the authors failed to capture the regional or provincial effects, which could well affect the household characteristics and eventually consumption.

Another method of measuring poverty in Vietnam is the drawing of provincial poverty map (Minot and Baulch, 2002), using the VLSS 1997-98 and Population and Housing census dataset in 1999. The paper pointed out that, poverty was concentrated in Vietnam's Northern Uplands, in particular in the six provinces that border China and Laos. In comparison with 0.9% poverty head count in Hanoi and Ho Chi Minh City, Northern Uplands had the figure of 65.2%. Among rural areas, Central Highlands, North Central Coast and South Central Coast were the next poorest regions in order. The study attempted to explain the imbalance in poverty alleviation by examining households' characteristics, which the results revealed that education, occupation of the head of household, housing appear to be good predictors. However, the use of two surveys forced the authors to choose factors which appear in both dataset in order to construct

their computation and analysis. This led to the fact that some determinants were found out to be insignificant contributing towards poverty gap among provinces (ownership of television, water provision), which in turn reduced the significance of other factors. For instance, ethnicity, which was supposed to be a significant determinant, turned out to be "a surprisingly weak one".

Another factor which is deemed important to inequality explanation is the ethnicity. With 54 ethnic minorities, it is highly possible that ethnicity plays an important role in inequality in Vietnam. A number of studies have proved that groups of ethnic minorities tend to have remarkably higher concentration of poverty than the country's Kinh majority, for example Haughton (1997). Especially when studying ethnic poverty, Bob Baulch (2010) concluded the widening over time of expenditure gap between the ethnic minorities and Kinh/Chinese. Researchers have argued that minorities have their particular patterns of behaviors or survival strategies which curbed themselves from being lifted out of poverty (for example, culture of cultivating non-traditional or illegal crops). The minority groups also tend to be more concentrated in upland and mountainous areas, often with worse access to public services, lacking basic infrastructure and sometimes use different languages from national Vietnamese. Those characteristics drag minorities backwards to poverty, regardless the government's efforts on bridging the gap among minorities. Van de Walle and Gunewardena (2000) addressed this issue by studying the impact of different determinants on living standards between majority and minority groups. In order to achieve its objectives, the study divided the VLSS 1992-93 survey into two subgroups of ethnics which are majority (Kinh, Chinese ethnics) and minority group (other ethnics). By employing the standard technique in the labor economics literature, known as Blinder-Oaxaca approach (1973), the research found out that the disparities in levels of living standard between the minority and majority are found to be attributable to location as proved by many scholars before. Even when the household characteristics were controlled, the disparities

within geographical areas tended to be persistent. Also, by allowing for geographic effects, the results gave a very different picture of the structure of returns to given household characteristics - notably education and land. Overall, the significance of regression was relatively good as after controlling the commune fixed effects on living standards, the model's R-square equaled 0.61 and 0.48 for majority and minority group, respectively. Despite the authors' efforts, the study was not free from weaknesses when it did not include the occupation and financial/housing assets variables which also contributed to the overall inequality. Moreover, the paper did not cover the seasonal migration determinants which might result in various ethnic in one household and eventually misled the conclusion.

The increase in living standards has not been uniform across or within regions as Benjamin and Brandt (2001) showed average income level in rural areas were roughly half of those in urban areas. Therefore, one could expect that as the rural-urban income gap widens, the migration phenomenon would be triggered because migrant-households might decide to seek for higher wage and living standards in urban areas until wage-unemployment equilibrium was reached. This issue has not been paid deserved attention until Alan de Brauw and Harigaya (2004) published their paper. The study was considered to be the first research on the effects of seasonal migration on household expenditure in rural Vietnam employing the VLSS 1992-93 and 1997-98. According to this paper, seasonal migration has increased nearly six times between 1992 and 1997 with the main flows towards richer, better-developed regions, in which Hanoi and Ho Chi Minh City accounted for over one third of the migrants all over the country. Each additional migrant would increase their expenditure growth by between 4.8% and 7.5% when they came back to their home communes, which indirectly implying that their living standards were less likely to be stagnate over the period. However, seasonal migration was proved to have insignificant impact on inequality since the actual expenditure inequality Gini was 28.0, had migration

not occurred it would have been 27.5. Moreover, the migration improved the welfare for the non-poor households rather than for the poor. This result may be partly explained by the lower education level, indicating a lack of skills among the poor migrants. Alternatively, the regional and geographic coefficients suggested that migrants from poor households in poor regions such as the Northern Uplands and the Central Highlands were unsuccessful due to geographical constraints. Other study of Le Thu Huong and Alison L. Booth (2010) also used data from the VHLSS undertaken in 1992/1993, 1997/1998, 2002, 2004 and 2006, to analyze and give the results of significant urban-rural expenditure inequality in Vietnam from 1993 to 2006. Besides, the paper of Haughton (2010) investigated inequality in Vietnam by analyzing data from VHLSS, especially by means of a multilevel model to answer the question of inequality in Vietnam increasing or not over time, and how it might vary geographically across the country. This topic was very interesting, in part because it fitted the China's experience of fast growth accompanied by increasing inequality. Nguyen Viet Cuong (2009) provided some new empirical evidences on the impact of migration on migrant-sending household in Vietnam by using data VHLSSs04 and VHLSSs06. This paper estimated the impact of work migration and non-work migration not only on expenditures and inequality, but also on remittances, work effort, income and poverty.

Such papers showed that Vietnamese government has managed to keep inequality not to increase significantly in the 1990s and certain determinants are important to interpret the inequality situation in Vietnam. However there is a lack of findings on the issue from 1998 onwards. Meanwhile, in the last decade, Vietnam conducted more and more reforms which may result in remarkable economic achievements and new facts on inequality. Hence there should be a review of how the inequality picture has changed and which policies contributed to this.

1.3. Statement of problem

With the economic reform and integration process, a number of poverty reduction policies have been implemented in Vietnam. The above – mentioned studies focused on poverty and inequality situation in Vietnam until 1998 or inequality of certain vulnerable groups, for example migrants. Another ten years have passed. And perhaps the poverty picture of Vietnam has changed. Vietnam has been recognized as a successful example of poverty reduction. This may lead to the questions whether determinants to poverty and inequality of Vietnam have changed and, if yes, how much.

The Communist Party Committee IX in 2002 assessed that economic reform "has raised the households' living standard but simultaneously caused inequality among groups and sub-groups". The Vietnamese leaders defined their priorities in the 10 year development strategy are to continue reforming, integrating to the world economy and also providing more equal income distribution by various fiscal policies. Given the political aims of a socialist country and overlapping dimensions of inequality, understanding of the expenditure inequality's determinants as well as its changes over times is a must for Vietnam. It is crucial for the country that it keeps up with economic performance and simultaneously, recognizes and overhauls the causes of growing inequality in its development process. This study aims at exploring determinants of Vietnamese inequality, which ultimately expects to suggest the government some fiscal policies to base on empirical works. Moreover, since inequality in Vietnam is "strikingly small", the study of its determinants would leave meaningful lessons for other transition economies in stabilizing and/or decreasing their inequality. Hence, the study aims to focus on unfilled research period of 1998 – 2008 to identify expenditure inequality in Vietnam and observe the changes of determinants over time.

2. RESEARCH METHODOLOGY

With the aim at bridging the gap in academic findings on the elusive issue of inequality in Vietnam, this paper employs Shorrocks's regression-based decomposition method which has been widely used in various studies. Based on previous literature findings, this section will present (i) research questions and hypotheses, (ii) research methodology, (iii) data source and the choice of regressors, and (iv) some limitations of this study.

2.1. Research questions and hypotheses

Since there is a lack of academic findings about the trend in expenditure inequality in Vietnam in more recent years[5], the research aims at answering the following questions.

- How much do various determinants contribute to overall inequality in Vietnam between 1998 and 2008?
- How much does each determinant contribute to the changes in inequality in Vietnam over 1998 and 2008 period?
- Which key policies relate to such inequality situation and how have they been implemented so far?
- What are the policy recommendations for the Vietnamese government in order to achieve sustainable economic growth and minimizing the inequality?

The law of growth proves that inequality may increase as an economy experiences economic growth. Even in developed countries with more democracy, less corruption and better welfare system (i.e. US, UK, Europe), the governments failed to lessen the inequality. Hence it can be predicted that inequality may also increase in Vietnam together with impressive economic growth results in recent years. In terms of determinant factors, geography, education and possessed assets are expected to have significant explanatory power to the expenditure inequality. Other variables, such as occupations and

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[5] Most of studies focused on findings until 1998. Now it is 2007 and a number of policies have been issued and revised in Vietnam which may lead to significant changes in the inequality picture.

household's demographics are predicted to be less important drivers of inequality.

2.2. Research methodology

The methodology will be a combination of literature review and quantitative analysis. At first the research team will conduct a quantitative analysis on determinants to expenditure inequality in Vietnam between 1998 and 2008. Then, based on the findings, the research team will conduct a desk – study, reviewing current key policies which are related to such inequality situation. Brief comments on the feasibility and efficiency of such policies will be made. Finally policy recommendation will be made based on both computation findings and policy review.

Regarding the quantitative analysis, this paper will use the regression – based decomposition which was developed by Shorrock (1982) and extended by Fields (2002) and Jenkins (1995). According to regression-based decomposition methodology, the process needs to begin with running an expenditure regression function (1) and further computed equation (2) for the proportion of inequality by individual regressor and (3) for that of group of regressors. The paper firstly employs expenditure regression function as following:

$$y_i = \alpha + \beta_1 x_{1i} + \beta_2 x_{2i} + ...+\beta_k x_{ki} + \varepsilon_i \quad (1)$$

where: y_i denotes the per capita expenditure of household i and x_1, x_2,..., x_k are y_i's determinants. This study investigates the demographic variables, land and other assets, level of education, occupation, and location factors.

By regressing (1), the estimation of $\beta_k x_{ki}$ can be viewed as part of household i's expenditure which is explained by its endowment of x_k. In other words, this regression can help us to answer the question that how much each determinant

contributes to expenditure inequality. The error term will show how much of the total inequality that remains unaccounted by the included regressors.

By regressing (1), the estimation of $\beta_k x_{ki}$ can be viewed as part of household i's expenditure which is explained by its endowment of x_k. In other words, this regression can help us to answer the question that how much each determinant contributes to expenditure inequality. The error term will show how much of the total inequality that remains unaccounted by the included regressors. Since equation (1) is not a structural model of household behavior and the income-generating process, it cannot be used to predict household inequality sensitiveness accordingly to changes in the factor components. To handle this weakness, the most general formula for decomposing inequality into its component sources, developed by Shorrocks, is used.

$$s_k = \frac{\text{cov}(y_k, y)}{\sigma^2(y)}$$

where y_k is income from source k, y is total income and its variance $\sigma^2(y)$. From this equation, s_k is often referred to as "factor inequality weights". Combining equation (1) and (2) gives the formulae for calculating s_k:

$$s_k = \frac{\text{cov}(\hat{\beta}_k x_k, y)}{\sigma^2(y)} = \frac{\hat{\beta}_k \text{cov}(x_k, y)}{\sigma^2(y)} = \frac{\hat{\beta}_k \sigma(x_k)\rho(x_k, y)}{\sigma(y)} \qquad (2)$$

in which $\sigma(x_k)$ and $\sigma(y)$ are the standard errors of x_k and y respectively; $\rho(x_k, y)$ is the correlation coefficient between x_k and y. By each determinant, s_k shows the proportion of how much this factor contributes towards total inequality. If $s_k > 0$, it indicates that the determinant x_k causes the increase in inequality; $s_k < 0$ shows the decreased contribution of x_k toward total inequality. The inequality dues to the regression error show how much of total inequality that remains unaccounted for by the included regressors. This depends on the goodness of fit of the regression, which is calculated as:

$$s_\varepsilon = \frac{\text{cov}(\varepsilon, y)}{\sigma^2(y)} = 1 - R^2$$

The s_k adds up to one provided the error term is accounted for $\Sigma s_k + s_\varepsilon = 1$. This methodology enables the evaluation of the combined contribution to inequality of a group of determinants such as demographics, education or occupation. This can be done easily by simply summing the s_k of all the factors within a given group:

$$s_{group} = \sum_{k \in group} s_k = \frac{\text{cov}(\sum_{k \in group} \hat{\beta}_k x_k, y)}{\sigma^2(y)} \qquad (3)$$

By employing regression-based decomposition, which is regarded as "a most general and powerful framework" (Wan, 2002) and "an attempt at bridging hitherto separated statistical and human capital theoretical approach" (Heltberg, 2003), the study is able to deeply decompose exogenous variables. Similar techniques have been accepted and used in various studies in this field including Morduch and Sicular (2002), Fields (2002), Vasco (2003, 2004), etc.

2.3. Data source and choice of regressors

The source of data for regression will be the Vietnam Living Standard Survey 1998, 2002, 2004, 2006 and 2008. The surveys were conducted by World Bank and General Statistic Office (GSO) of Vietnam and recognized as the nationally representative surveys.

To evaluate living standards for policy-making and socio-economic development planning, the General Statistics Office conducts the Vietnam Household Living Standard Surveys (VHLSS). In particular, since 2002, these

surveys have been conducted regularly by GSO every two years in order to systematically monitor and supervise the living standards of different population groups in Vietnam; to monitor and evaluate the implementation of the Comprehensive Poverty Reduction and Growth Strategy; and to contribute to the evaluation of achievement of the Millennium Development Goals (MDGs) and Vietnam's socio-economic development goals. Results of VLHHs are believable data resource for researches. Till now, the 2008 survey is the latest one. The household questionnaire covered various topics, including education, health, employment, migration, housing, fertility, agricultural activities, small household businesses, income, expenditures, assets and household's characteristics. With the huge observations, covered topics and sources, the data set will provide reliable and sufficient dimensions for the analysis. The ideal situation should be a set of households who are interviewed in all surveys can be identified.

The choice of regressors is guided by previous studies including van de Walle and Gunewardena (2001), Ravallion and van de Walle (2001), Glewwe et al (2000) and Molini (2003, 2004). Included regressors are categorized into five main groups of demographics, education, occupation, possessed assets and regions, which are expected to contribute towards household's ability of generating income (which, in turn, affects expenditure). Demographic variables include sexhead, household size, dummy for Kinh and Chinese ethnics, dummy for other ethnics, proportion of male household members at working age, and proportion of female household member at working age. The choice of household members at working age comes from the understanding that the higher the number of household members at working age, the higher the chance the household can generate higher income and have higher expenditures. In terms of education variables, the highest diploma obtained by household members is chosen. The reason for this choice is that Vietnam is a Confucian

country where the elder has the highest respect in the family, although he/she may not have the highest education level and/or be the key income earner.

Variables for occupation are defined as occupations of household head. They fall into five categories: unskilled worker, production worker, farmer/farm worker, service sector worker (eg. in sales) and white collar/professional. The asset category covers house value, agriculture land value and fixed asset and durables value. These values are calculated as per capita value. The location variables are in the dummy forms. They include dummies for urban and rural location as well as dummies for seven main geographic regions in Vietnam.

2.4. Limitations

2.4.1. Limitation due to data issue

Although guided by literature, it is still unable to control occupation, which is usually thought to be associated with each other and people's earnings, for every member of household. It might also be desirable if the occupation of the most influencing person in household in terms of financial contribution can be investigated. Unfortunately, it is not feasible, since the more the variables, the lower the significance level. Consequently, the study takes occupation of households' head into consideration.

Another limitation is that it is rather difficult to select a single dataset of households interviewed in all surveys. There are some reasons for this. First, there was a change in survey methodology between the survey in 1998 and those from 2002 onwards. Second, if this is possible, the dataset will become smaller and smaller through times due to drops of households by households themselves and by the General Statistic Office.

Finally each researcher may have his/her own choice of regressors. This may lead to different regression results for the same database. Besides this may lead

to the omission of certain factors which may have influences on the inequality of the country. Another situation is that the actual factor inequality weights may not be as low or high as the quantitative figures.

2.4.2. Limitation due to differences in country context

Expenditure inequality is emerging and inevitable issue and it is extremely difficult to assess whether a government is more effective than others in minimizing the phenomenon. The problem occurs because international comparison is affected by national's characteristics such as political system, different economic background etc. Therefore, in order to make helpful recommendations for Vietnamese government, it is essential that same data and methodology are employed for similar characteristics' countries, which are impossible. As a result, the recommendation part is hard to avoid biasness.

3. EMPIRICAL FINDINGS

3.1. Expenditure regressions

By applying inequality decomposition method, this section analyses the results of computation, which were estimated on the VHLSS datasets using Stata software, version 11.0. Due to a large number of included independent variables in the regressions[6], the regressors are grouped and interpreted accordingly with education, demographic (including ethnic, gender, member at working age, household size), assets, occupation, and geographic (rural/urban and region) categories.

Table 2 shows the results for the expenditure equations of the year 1998, 2002, 2004, 2006 and 2008. The regressions generated relatively good results, whereby R-squared varies between 0.42, 0.57, 0.46, 0.51 and 0.56 for 1998, 2002, 2004, 2006 and 2008 respectively. Compared with other studies in this field, the explanatory power of these regressions are quite high. By and large, despite some caveats, most of the included regressors are significant and have the expected signs. Additionally, P-value of F-test of all regresstion equations nearly going to zero also provide statistically significant explanatory power for the variation in expenditure per capita.

3.1.1. Education

Similar to other studies, education is a good factor to explain the impact on expenditure at different, the negative or positive coefficient for the variable tell us the lower or higher expenditure compared to the dropped variable. (The dropped variable in 1998 and 2002 is EDUMAX1, and that in 2004, 2006 and 2008 is EDUMAX5)

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[6] See Table 1

Table 2 show that, in 1998, the coefficients of education are positive for all variables and increasing along with school levels of 23.3%, 30.4%, 40.6% 46.6% and 56.6% respectively for households holding primary, secondary, vocational training, bachelor, and post-graduate certificate/degree, indicating that non-education households have the lowest expenditure level. Their expenditure is 23.3%, 30.4%, 40.6% 46.6% and 56.6% lower than that of households holding primary, secondary, vocational training, bachelor, and post-graduate certificate/degree. Clearly, education helps enhancing living standard, expressed by the fact that the higher expenditure level is,the higher education level achieved. This argument also is accurate for households in 2002. In 2004, 2006 and 2008 the dropped variable is EDUMAX5. Variable coefficient of non education is negative in 2006 and positive in 2008 implying that in 2006 households with vocational training have expenditure higher than that of non education household but in 2008 they have lower expenditure[7].

In Vietnam, vocational training only started to be paid attention since 2002, the government find that the quality of the labor force need to be enhanced, thereby it is urgent to strengthen vocational training schools, increase numbers of enrolment, invest in material facilities and equipments, reform training programs and build new the vocational training schools in provinces and industrial zones where there are not the vocational training schools. Because when a person drops out of school he/she will take part in the workforce but he/she cannot find a not good job due to lack of skill. Over the past time, proportion of the unskilled labor in Vietnam was very high because the vocational training was not paid attention for a long time[8].

Over the observed period, expenditure has a distinct gap between the high and low education groups. This gap is more than 50% higher expenditure per capita

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[7] Not statistically significant in 2004
[8] In accordance with the Survey on Labor and Job of Ministry of Labour, Invalid and Social Affairs in 2004, unskilled labour in rural area account for 85%, decreasing 7 percentage point compared to that of 1996 (92.6%)

of two highest education groups including bachelor degree and post-graduate education level than that of vocational training level for year of 2004, 2006 and 2008. The increasing coefficient value along with higher education levels might imply that higher education generate better welfare for the household. This argument again reconfirms that education is the key for a prosperous future for individuals, households and the country.

3.1.2. Ethnic groups

The dummy ETHNIC2 for Kinh and Chinese ethnics[9] have higher expenditure level in all observed years. The expenditure inequality tends to increase, in 1998 the expenditure of Kinh and Chinese ethnic group is 12.6% higher than that of other minorities, meanwhile this figure surges up to 26.7% in 2008. This reveals that inequality between these groups has a year-on-year increasing tendency. This result is similar to a research of Bob Baulch (2010) that the expenditure gap between the Kinh/Chinese ethnic and other minorities ethnic is becoming more widely since 1998. Their research concluded that the remarkable inequality between urban and rural was dug deeply, changing to inequality between the remote mountain and the flat areas. That the issue becoming an urgent matter has induced the government to take drastic measures. The program of poverty-alleviation 135 phase II (2006-2010) focuses on the development of specially difficult commune of minority ethnics and mountainous area in order to narrow the gap between the majority ethnic and other minority ethnics as well as between the mountainous and the flat areas.

3.1.3. Gender

The coefficients for SEXHEAD in five survey periods have different signs, the negative values for 2002 and 2004 reveal that woman household heads have a higher expenditure level than that of man household heads, the positive sign for

[9] Kinh and Chinese ethnic is majority in Vietnam with approximately 85% of population

two other years of 1998 and 2006 indicates the inverse. The coefficient of 2008 is not statistically significant. When the research team selects this variable, we hypothesize that if the household head is male then his household will have a higher expenditure level. However, the results give us various signs. Normally, it is said that household head is a member who have the highest earning compared to other family members, but in accordance with experts' opinions, many household heads have been registered just to complete an administrative procedure rather than to create a decision-making position. Many families let a female register as a household head in order to fill out administrative forms on behalf of other members. Or this may be explained by the Confucian society characteristics in Vietnam, a number of household heads are at retirement age, but they are respected by other members, even though they are not income earners. Therefore, either male or female household head basically has little economic meaning. In Vietnam, male/female household head is not one of criteria to determine poor households.

3.1.4. Members at working age

Household members at working age are a factor which is studied in expenditure inequality. Positive estimated coefficients reveal that if a member at working age is added to a household then it will make an increase in expenditure per capita. For example, in 2008, an additional working-aged man increases household expenditure by 22.3%, while an additional working-age woman increases house hold expenditure only by 13.5%. These findings suggest that there is an inequality in earnings between man and woman, resulting in an expenditure inequality. The trend experiences over ten years (1998-2008). This point is quite suitable to reality. Most Vietnamese households expect to have boys because boys will make much more earning contribution to the family. And if a family have boy(s) and girl(s) then the boy enjoys better condition for education (especially in poor families), and obviously relying on that, the boy

will have more opportunities to find a good job and have higher earnings. The male-female earning gap, in addition to the boy preference in tradition, leads to the gender selection of parents[10]. If the government does not have concrete measures on this problem immediately, then the gender imbalance will cause social disorder in the future. One of practical measures is gender equality propagation, school attendance encourage for girls. Improving female status will help to break a vicious circle of poor in developing country like Vietnam.

3.1.5. Household size

The negative coefficients of household size for all observed years point out the larger household the lower expenditure level. An additional member reduces expenditure respectively 6.6%, 7.8%, 6.5%, 8.3% and 10.5% for 1998, 2002, 2004, 2006 and 2008. The relationship between poverty and household size is relative robust. It is not a surprising finding as the government has used various fiscal policies to encourage households to have no more than two children (i.e., better credit access or production subsidies). A small family scale is accepted widely, in addition to the nuclear family including parents and children is presently popular in Vietnam, therefore the service for the elderly need to be developed in order to sustain the policy on delivery control encouragement especially in poor and/or rural household towards more successful poverty alleviate program.

3.1.6. Rural and urban areas

Dummy RURAL variables express the expenditure inequality between rural and urban areas. In 1998, expenditure per capita of rural is 9.6% lower than that of urban, this figure surge to 38.8% in 2002 and fall to respectively 15.9% and

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[10] In accordance with Population and House Census 2009, the sex ratio at birth (SRB) in Vietnam is 110.5 boys to 100 girls, while the normal ratio is 105 boys to 100 girls

11.5% for 2004 and 2006, and again escalate to 24% for 2008. This reveals that inequality reaches the highest level in 2002 and decreases in the following years but has signs of revival in 2008. The findings fit with the conclusion of Le Thu Hong and Alison L.Booth (2010) that inequality between rural and urban areas continually increases since the beginning of Doimoi and reaches the peak in 2002 and gradually decreases in the following years of 2004 and 2006. The wider gap in 2008 can be attributed to the present economic crisis, because the poor in rural area is the most vulnerable group in case of crisis.

3.1.7. Assets

Possessed assets including value of house per capita, value of agriculture land per capita, value of fixed assets and durables of household per capita are positively contributed to overall expenditure throughout the observed periods. All coefficients of variables are highly statistically significant but some of them have very low values (nearly go to zero) like PASSET for years of 2008 and PHOUSE for year of 2004. It needs to say that, the number of households answering the questions of value of their assets is not as many as that for other variables (i.e. many mising value), but, generally positive coefficients and highly statistical significance of all asset variables during the period of 1998-2008 indicate that the bigger assets value, the higher household expenditure level. However, assets with not much impact on expenditure can be explained by the saving characteristic of Vietnamese. They save much more than daily spending.

3.1.8. Occupation

When answering the question on how occupation impacts on expenditure inequality, the study team drops OCCU5-the group of household heads who are white collar/professional- in order to make comparison with other groups. Unfortunately, some coefficients do not have statistical significance. The

remaining statistically significant coefficient of the period 1998-2008 shows that unskilled households have lower expenditure level than skilled households. The expenditure level rises with skilled occupation of householdheads. The sign of the variable of unskilled work negative in five regressions indicates that unskilled jobs contribute to the inequality of households. Expenditure of unskilled household is respectively 16.6%, 13.8%, 5.8%, 9.6% and 11.6% lower than that of white collar/professional households of 1998, 2002, 2004, 2006 and 2008. Therefore, to narrow the gap between skilled and unskilled household groups, it is needed to take measures to apprentice unskilled labors. The vocational training policy combined in poor alleviation program is a judicious policy of the government.

With the purpose of making the comparison of variation of five occupation groups, we observe all coefficients in 2002 to outline a picture of expenditure inequality among five types of occupation. In the year of 2002, the household groups respectively for unskilled job, production worker, farmer/farm worker and service sector worker have lower expenditure level of 13.8%, 4%, 6.5% and 3.7% in comparison with the highest qualification of the household-white collar/professional group. Farmer/farming worker only gets better expenditure level than unskilled job, suggesting that a person who works in agriculture sector gets worse earnings than in production and service sector. Unfortunately, these coefficients are not statistically significant in 2004, 2006 and 2008 to make a comparison throughout the studied periods.

3.1.9. Region

Households in Mekong River Delta (Region7) is dropped variable, other estimated coefficients will reflect the living standard of different regions. Only South East ones have positive coefficient, indicating that its living standard is higher than that of Mekong River Delta and South East have the highest living

standard nationwide. This result is the same for all observed periods (however, this figure is not statistically significant in 2006). North Central Coast region has the lowest expenditure level in 2002, 2004, 2006 and 2008 (the lowest expenditure in 1998 is North Mountain and Midland) suggesting that North Central Coast and North Mountain and Midland are two poorest regions in the country. Their coefficients are the smallest compared with those of other regions, showing that the social economic situation may be improved but slower than in other regions. The gap between the richest and poorest regions is quite wide because we have a clear evidence of disparity between the North and the South when North Mountain and Midland, Red River Delta, North Central Coast persistently have lower expenditure level than that of South Central Coast, Central Highlands, South East, Mekong River Delta for all studied years. The high living standard in Mekong River Delta may be explained that this region has enjoyed a spill-over effect from rapid development of Ho Chi Minh City which is located in the South East region. Additionally, because the integration into the world market has been more active in the South, the Vietnamese government may need to continue to favor the North in its policies in order to help poor regions from falling further behind.

In brief determinants to inequality in Vietnam remain the same as in other countries. They include education, ethnic, member at working age, rural and urban, asset, occupation, and region characteristics. However the level of which each determinant contributes to inequality may vary. Therefore it is necessary to review government policy priorities to find out whether policies have properly addressed poverty problems.

3.2. Decomposing the level of inequality

The factor inequality weights S_k is computed from the regression parameter estimates. Then the contribution of each group of determinants to inequality is calculated. (See Tables 3 and 4 for details).

In terms of group determinants that contribute to inequality, the residual "accounts for" 21%, 42.7%, 45%, 42.9% and 43.1% respectively for 1998, 2002, 2004, 2006 and 2008. This reflects unobserved and omitted variables, idiosyncratic variation and measurement errors. Important sources of inequality are demographics, education, assets, and rural area. Other variables play a modest role like job and region.

3.2.1. Demographics

Demographics have quite large contribution compared to other groups, persistently around 10% during ten years, especially surging to 16.8% in 2008. The inequality's contribution is mainly caused by household size, ethnics, and member at working age. In other words, factors leading to poverty are a large family, ethnics living in remote and difficult mountainous area and the lack of member at working age.

Children living in a poor family which normally is a large family, especially in rural area[11] do not have opportunity to complete their learning => become unskilled workers => find low earnings job => cannot access basic social service => poverty. This is a vicious circle of poverty. With the development of the economy where labor-intensive jobs become more poorly paid than intellectual jobs, a household with many members becomes less advantageous than that with fewer members. Especially if that household has many members who are

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[11] The poorest household group (20%) has the number of members of 4.4, the richest household group (20%) has the number of members of 3.6 (VHLSS 2008)

unskilled, the situation may be worse. That's why the family planning policy[12] should concentrate more strongly on large poor families.

The number of members at working age contributes a large proportion to inequality. The findings are especially correct with households in rural areas. In fact, rural household income depends on physical strength of members. Moreover, in rural areas, it is common that there are many families with more than five members and contains three or four generations living together. Under this circumstance, only two members in the family are in employment (husband and wife); others are over- or under-age of work. Meanwhile in urban regions, households often have four members with two generations in which husband and wife are working at the same time. Similar to the study of Nicholas Minot (2003), the higher proportion of the elderly, children and female in rural households, the poorer the households. In urban areas, poverty has close relationship with the high rate of children but not with the high rate of females. This suggests that urban laborers get earnings less depending on physical characteristics than rural laborers. This context implies that there exist migration waves and poverty problems in urban areas. Urban poverty is basically different from rural poverty, since urban poverty is represented by homelessness, poor accommodation, lack of clean water, insanitation and pollution. So, policies on urban poverty need to be specified[13].

Almost all ethnic minority people live in remote and difficult mountainous areas with bad infrastructure conditions. They often lack production materials (like cultivated land, capital, and technology), knowledge, Vietnamese language proficiency, business experience, and rice cultivation skills[14]. Thus, poverty alleviation policies for ethnic minority people need to be implemented

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[12] Encouraging couples to have no more than two children
[13] UNDP (2008), "Inequality Vietnamese urban-rural living standard"
[14] Minority ethnics account for 14% population but account for 29% number of the poor (Fighting poverty is a factor to strengthen human rights)

comprehensively from building infrastructure, teaching Vietnamese, transferring science and technology and so on

3.2.2. Education

Generally, education plays a significant part of the cause of inequality. Its proportion in 2008 is 14.6%. However its proportion in 1998 is quite small (6.8%). This may be explained by the economic situation in Vietnam during the end of 90s. At this time the FDI influx raised the demand for huge number of workforce. People could easily find a job with less strict requirements for education level. Gradually the labor market becomes more competitive. People have to equip themselves with higher and higher level of education. That's why the education becomes a more significant cause of inequality.

The share of inequality normally increases with the increasing level of education. While the primary and secondary schooling level seems to be less important, the bachelor degree and post-graduate level play an important role in inequality. The university education, which comprises people who hold bachelor, master or PhD degrees, holds 6.8%, 3.7%, 11.9%, 8.5% and 12.1% explanatory power for inequality in 1998, 2002, 2004, 2006 and 2008 respectively. By individual determinants, this regressor appears to be the highest contributor, which reflects the long historical culture of appreciating high-educated people and their better-off in terms of finding better jobs, getting higher earnings.

In Vietnam people with high education level always get high respect. That's why people try to obtain university degrees. If the parents of a household get university degrees, it is quite obvious that they will guide their children to get at least a similar education level. Meanwhile good universities are normally located in either Hanoi or Ho Chi Minh City with high tuition fees and living

expenses. This can be unaffordable to rural households with relatively low income. Moreover, students have to take an entrance examination to get to higher education, which is so difficult that mainly relatively richer students with good education from secondary and high school could find themselves in. Therefore the gate of universities is not widely open to rural and poor households with low income and worse access to good secondary and high school education. This may lead to the high contribution of university education towards total inequality. This finding is coincided with revealed information from occupation category.

3.2.3. Occupation

Generally occupation has a small proportion in total inequality, which may be explained by the under-development of the labor market. It seems that there are no clear bands of income level among occupations. A bachelor may still have to take a job that only needs vocational training level due to unbalanced training structure in Vietnam. However, among types of jobs, white collar and service workers seem to be the highest income earners.

3.2.4. Assets

Another important factor contributing to inequality is the total value of assets. This category contributes 48.5% to total inequality in 1998, declines to 13.3% in 2004, sharply increases to 35.8% in 2006 and decreases to 11.1% in 2008. Like in most of Asian countries, house ownership is considered as the image of wealth. Moreover other financial markets like stock market are not well-developed, which makes people tend to put huge investment in houses. Undeniably, the urbanization has also contributed on the increasing value of houses. This makes quite high contribution of house value to the total inequality. Meanwhile the value of durables and fixed assets seems to play significant role. The main reason for this is that the variables include all fixed assets, including

workshops and premises for production, while the variable of house value only includes residential houses. It is noted that due to the under – development of the financial market, the declared value of houses may be much less than their actual values. Regarding to agricultural land, there is no apparent impact on inequality in all five decomposition results. This may be due to low government-stipulated price quotation on agriculture land as well as low productivity of agriculture cultivation in Vietnam. Besides people can get contracted pieces of land without officially owning them. Therefore such value is not calculated as household's assets. Therefore whether having possession of agriculture land may not make huge difference among households.

3.2.5. Rural vs. urban areas

"Whether you live in rural or urban area" is a strong determinant on inequality. This figure is 3.8% in 1998, sharply increases to 13.8% in 2002, falls down to 5.6% and 3.9% respectively for 2004 and 2006, and finally surges again to 7.7% in 2008. This is consistent with a World Bank (2006) report that urban poverty rate falls for ten consecutive years (1998-2008) from 9.2% (1998) down to 3.3% (2008). Meanwhile the decline of rural poverty rate is not as fast as that of rural area, i.e, from 45.5% (1998) to 18.7%. Therefore the gap between rural and urban poverty rate has a wider trend from 4.95 times (1998) up to 6.95 times (2004), decreasing to 5.25 times (2006) and increasing to 5.67 times (2008). Rural areas tend to be poorer than urban ones.[15]

3.2.6. Geographic regions

Regarding to geographic category, it is obvious that findings of this study coincide with literature, as it finds out that "where you live" remains a strong determinant on inequality. The share of inequality due to spatial factor slips to

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[15] See Table 5 for detail

4.7% in 2002 from 9.7% and increases again to 5.2% in 2004 and gradually to 3.9% (2008). Households stay in the Mekong Delta and South West regions, including Ho Chi Minh City, have notably higher living standard and play a significant part on inequality. On the contrary, with the lack of natural resources, favorable weather and geographical advantages, especially in North Central Coast and North Mountain and Midland, households are relatively poorer, which ultimately results in higher contribution towards inequality. Besides, literature has suggested that the richer are mainly living in South West and Mekong Delta while the poor are gathering in other regions. Therefore, this fact indirectly indicates that Vietnam has experienced a decreasing inequality in areas with geographical advantages (South West, Mekong Delta) and increasing in inequality in other regions.

In brief, among those categories accounting for inequality, geographic and asset categories hold considerable contribution, followed by education and demography. Occupation of household head seems to be negligible, but it is noteworthy that those factors are normally associated with geographical effects, which cannot be investigated in this study.

4. POLICY REVIEW

4.1. Consequences of increased inequality

Inequality has become a crucial issue in developing countries where the inequality in access to opportunities is obvious.

4.1.1. Inequality badly influences growth and poverty reduction

In developing countries, inequality always causes economic losses for the poor, since it links with market deficiencies and weak state governance which then result in slow growth and decreased opportunity for poverty reduction. Those

who have low or lower middle income are unable to access credit in order to make investment for higher profit opportunities. Income and asset inequality of one generation may ruin all government efforts in creating a more equal society for future generations.

Le Thanh Truc (2009) recently noted that free trade has helped reduce the rich-poor gap at the global level. However the unlimited global capital flow has resulted in the increased rich – poor inequality, since it creates more chances for individual investors in international markets, and speeds up the technology change pace at the cost of lowered wage rate. For instance, in the last over decade, the China and India integration into the world trade system has added another two billion workers to the world labor force, which creates pressure on reduced real wage of employees.

In a number of nations, the equitzation/privatization endorsed by governments has, in many times, quickly transferred valuable state assets to individuals who have "good relationship" with government authorities, quickly providing them with enormous asset ownership. Meanwhile those in the lower classes may forever have to wait for "a drizzling rain" for their barren land, simply because they are in disadvantageous areas for investment. In addition economic crises even make the poor become poorer and poorer. Export turnover and foreign direct investment inflow reduce. Economies may have to suffer prolonged low growth.

4.1.2. Inequality leads to unsecured basic living conditions for the poor

Most of children of poor households do not benefit from training and education opportunities which help them maximize their future income or make use of the economic growth of their nations. In countries with high level of inequality like Brazil or Nigeria, despite recent remarkable progress, the education opportunity

calculated as the number of schooling years of poor children was just 3-5 years, while that of children in wealthy households was over 10 years (Nguyen Khang (2009)).

According to the World Bank (2006), while rich countries have less than 5% of malnourished children, poor countries have 50%. While less than 0.5% of newborns in Sweden died before one year of age, nearly 15% of children less than one in Mozambique could not pass this threshold. Even in El Salvador the death rate of newborns of educated mothers was just 2%, while that of uneducated mothers was 10%. In Eritoria the vaccination rate of children in the richest population quintile was nearly 100%, while that in the poorest quintile was just 50%.

According to UNICEF, the poverty gap is on the increase in booming Asia – Pacific economies like India and China, which has made a number of mothers and children pulled back with riskier lives. For example the booming private healthcare system for the middle income class has negatively affected the public healthcare system. The "brain drain" of skillful staff from public hospitals to private or overseas ones is quite popular. Obviously the big income gap among geographical locations, gender and races is impeding the survival and development of children. The expansion of health services down to the poorest is the key for the achievement of the UN global goal that the number of children died at less than five years of age will reduce by 2/3 by 2015 (Le Thanh Truc (2009)).

4.1.3. Inequality leads to the waste of human potentials and the establishment of "inequality trap" in future generations

Although children in poor countries should not be responsible for their living context, such context will largely determine their future lives. Hence this will influence their ability to contribute to their country's development. In other

words, differences in opportunity accessibility will lead to different levels of contribution to the nation's development. This also results in potential waste of human capacity and later missed development opportunities.

Children in poor households may not have equal access to quality education opportunities like those in rich households. Consequently children in poor households may earn lesser income when they are grown up. This means that they again fall back to the poverty plight of their parent's generation. This is also called "inequality trap". This trap is persistent, hard-to-break and existing through many generations (World Bank (2006)).

The consequence of poverty gap is that the poor fall into the bottom of social class, while the rich rise up, holding most of power, privileges and assets of the society. In this process it is possible that some people who lose assets may become poor, but unnecessarily fall to the bottom of the society, since this situation may be temporary. Persistent poor may be lucky enough to possess some assets, for example thanks to lottery winning, but still be poor due to the lack of skill on how to use that one-time earning efficiently. Reputated and/or powerful people can become rich, while the already rich one may not have high reputation and/or power in the social stratification. This shows the complication and dynamics of the social stratification.

4.1.4. Inequality at the extreme level may lead to a series of social conflicts.

This is a rule. Whenever inequality increases, it will weaken social linkages and imply "inherent" social conflicts, causing crimes and violence.

Only in 2009, China had to confront with a series of manifestations with different sizes, all were resulted from the high dudgeon of the poor whose land was confiscated dubiously and the discontent against the irresponsibility of industrial enterprises over environment protection. In the USA, the movement against the free trade is on the increase. Disputes on land, compensation and pollution are also on the rise.

The country group which is considered as having the most equal level of civilization and development – EU- is not an outsider. The financial crisis unearthed its weaknesses and imperceptibly disaggregated EU into a multi-level, multi-grade group where subgroups of member countries are forming with various relations and interests. The internal polarization started with level of contribution and level of actual benefits. It has been said that in the near future the consensus praised by EU remained a deep and persistent inherent polarization (Le Thanh Truc (2009)).

Inequality, including gender inequality, has negative impacts on the life of women and female children. Gender inequality has deepened the poverty situation in every aspect. In Vietnam females account for 50% of total agriculture workers and a high proportion of the annual additional labor force in agriculture. However women only participated in 25% of agriculture extension courses on husbandry and 10% of courses on cultivation. Women had fewer chances to access to technology, credit and training, faced with more constraints due to housework burden, the lack of decision-making power in the family and lower wage than that of men doing the same job. Since mothers have low education, the death rates of newborns and mothers are high, family health quality is low and fewer children go to school. Gender inequality is also a cause of the increased birth rate, HIV transmission rate and woman domestic violence due to weak female's voice and self-protection in sexual relationship and family[16]

4.1.5. The difference in living standards between rural and urban areas will make it unable to control the migration flows, badly influencing the urban life and causing social evils.

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[16] Comprehensive Poverty Reduction and Growth Strategy 21/5/2002

Laborers will move from low-income areas to higher-income ones, from rural to urban areas, from low productivity areas to higher productivity ones. On one hand this will partly reduce national inequality and enhance growth through the increased income of migrants. On the other hand, concentrated economic activities and uncontrollable urban population increase due to migration will badly influence regional growth, urban transport congestion, and environment quality, which then directly affect the living quality in urban areas.

According to Dr. Le Quoc Hoi[17], in Vietnam the industrialization and urbanization have led to farmer's landlessness. In the Mekong River Delta 1/3 of rural poor are landless and the rate of landless farmers has doubled. Consequently their main source of income significantly reduced, widening the rural – urban gap. The transformation from centrally planning mechanism to market one also created shocks and vulnerabilities to the working class and the poor in Vietnam. In other words, the constraint in access to social security system also contributes to the increased inequality.

4.2. Policies on poverty reduction

Poverty reduction is the major and consistent direction of the Party and the State of Vietnam. It has not only met the demand and expectation of Vietnamese people, but also gone in line with the contemporary trend and the UN Millennium Development Goals. The "Comprehensive Poverty Reduction and Growth Strategy" issued by the Government in May 2002 stated that "Poverty reduction is not only one of basic social policies particularly concerned by the Government of Vietnam, but also a crucial part of the development objectives."

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[17] In the document "The Linkages between Growth, Poverty and Inequality in Vietnam: An Empirical Analysis" (December, 2008) , Dr. Le Quoc Hoi has studied the relationship between inequality and poverty rate and this related to subsequent economic growth in the provincial level of Vietnam. This research used data from VHLSS from 1993 to 2004

4.2.1. Poverty reduction in 2001-2005

There are three key poverty reduction program including:

- Program on socio – economic development for communes with special difficulties was approved by the Government in July 1998[18]. Its goal as below: (i) Supporting 1,715 poor communes, including 1,568 mountainous poor communes and 147 low-land poor communes). (ii) Reducing the percentage of poor households in communes with special difficulties to less than 25% by 2005. (iii) Supplying clean water. (iv) Increase in the schooling rate of children at schooling ages to 70%. (v) Training on production methods for the poor. (vi) Controlling social and dangerous diseases. (vii) Construction of roads connecting with inter-commune centers, and rural market development.

- Comprehensive Poverty Reduction and Growth Strategy" approved on 21 May 2002. This is a comprehensive strategy matching the UN Millennium Development Goals (MDGs). The Strategy consists of six sections entitled: i) Poverty situation, achievements and challenges; ii) Objectives and tasks of socio – economic development and poverty reduction by 2005 and 2010; iii) Creating environment for rapid and sustainable growth and poverty reduction; iv) Major policies and solutions to sectoral development to ensure sustainable growth and poverty reduction; v) Resource mobilization for growth and poverty reduction; and vi) Implementation, monitoring and evaluation of the Comprehensive Poverty Reduction and Growth Strategy.

- On 20 July 2004 Program 134 was issued under Decision 134/2004/QD-TTg of the Prime Minister regarding "Program to provide production land, residential land, residential houses and clean water for poor ethnic minority people". The program will support 476,000 households in 53 provinces including houses for 337,592 households; production land for 237,715 households with the total area of 81,656 ha; residential land for 87,822 households with 1,897 ha; scattered

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[18] This is a part of a National targeted program, this is called Program 135 phase I

clean water supply for 280,353 households and concentrated water supply for 6,040 projects.

The above poverty reduction program period 2000-2005 are implemented via the following main measures.

First, support for income generation activities of the poor implemented by following policies: (i) basic infrastructure development for remote, coastal, mountainous and/or ethnic minority communes with special difficulties. (ii) preferential credit program. (iii) business startup. (iv) vocational training. (v) production land provision. The result estimated that 75% of poor households had access to loans, accounting for 15.8% of all households nationwide. Provincial agencies provided production land for ethnic minority and/or poor households who lacked land for terraced fields to ensure local food security in North East provinces; and provided 5,139 ha for 10,455 households in the Central Highlands. And Provincial authorities directed the development of models to transfer technologies on seedling, husbandry and cultivation. Over 50,000 courses on technology transfer and over 6,000 demonstration models of high yield plants and animals were delivered to 2 million poor people.

Second, help the poor access to basic social services, implemented via the following policies: (i) free health care cards providing; (ii) tuition fee exemption or reduction; (iii) temporary house removal(iv) clean water supply. The result are as below: Establishment of Health care fund for the poor, in 2005 there were 3.6 million of poor people were granted health insurance cards and 4.1 million were granted free health care certificates with the total fund of VND 246 billion; Reducing learning costs by 25% for poor children in comparison with non-poor ones; Residential housing support for the poor was regarded as a breakthrough to ensure security for the people. As of 2004, 293,137 poor households were provided with residential houses with the total fund of over VND 1,198 billion.; Thanks to funds from various programs, projects, local

budget, and community contribution, over 1,000 basic infrastructure projects were constructed (small irrigation systems, village pathways, clean water supply, power stations, schools and village markets) in 997 poor communes with the total fund of VND 776 billion, including nearly VND 200 billion mobilized from communities. Compared with the five year plan target, only 40% of demands for basic infrastructure of poor communes were met.

4.2.2. Poverty reduction in 2006-2010

There are three key poverty reduction programs including:
- The Program on Socio – economic development for ethnic minority and mountainous communes with special difficulties in the 2006–2010 period. (Program 135 phase II). Its objectives were to "create a rapid change in production, enhance the agriculture restructuring toward market-linked production; improve the material and spiritual living standards for ethnic minority people in communes and villages with special difficulties in a sustained manner, reduce the development gap among ethnic groups and among regions nationwide. It was expected that by 2010, there would be no starving households; the poor household rate would reduce to less than 30%; more than 70% of households would have the annual income per capita of over VND 3.5 million by 2010".
- National target program on poverty reduction in the 2006-2010 period. - The specific targets as of 2010 that the poor household rate would reduce from 22% in 2005 to 10 - 11% in 2010 (i.e. in the five year period the poor household rate to reduce by 50%).
- Program on rapid and sustainable poverty reduction for 61 poor rural districts (now 62 districts). Its objectives to create a strong socio – economic movement, improving the living standard for people in the poorest districts of the country, narrowing the living gap among regions, and continuing the sustainable poverty reduction cause

The above poverty reduction program are implemented via the main following measures

- *Preferential credit for poor households*. Within four years (2006-2009), about 5 million poor households were provided with preferential credit with the average amount of VND 6-7 million/household. It is estimated that in five years, about 6.2 million poor households will get an average credit amount of VND 7-8 million/household, or 103.3% compared with the five-year plan target. Generally poor households have used their credit correctly and efficiently, which helps the poor get credit more easily and reduce their poverty. Shortcomings: over 30% of poor households had demands but could not access to preferential credit; the lending was not linked with knowledge and vocational training for the poor, which limited the loan efficiency.

- *Measures on agriculture – forestation – aquatics extension, technology transfer and business startup training for the poor*. Results: within four years local authorities organized 30,000 courses on technology transfer; developed 8,500 demonstration models and on-the-field workshops with 3 million participants; it is estimated that in five years there will be 3.7 million poor people will be instructed on how to do business, or 88% of the five-year plan target. Shortcomings: budget for business startup training for the poor was low, only equal to 80.6% of the five year plan target, while the additional amount mobilized by local authorities was limited; the business startup training for the poor was not linked with preferential credit, which limited the efficiency.

- *Vocational training for the poor*. Achievements: in three years (2007-2009) 100,000 poor people got free vocational training (it was estimated that in four years period 150,000 people would get free vocational training, or 100% of the five year plan target), over 60% of them found jobs, or self-employed, helping them to increase income. The project on vocational training for the poor was highly appreciated by local authorities in terms of implementing sustainable poverty reduction objectives. Shortcomings: several local authorities were not active in organizing vocational training courses for the poor, communication

activity was also limited; low support amount in the context of high inflation limited the number of trained people.

- *Multiplication of poverty reduction model.* Achievements: within four years (2006- 2009), the project on multiplication of poverty reduction models was expanded to 218 communes of 35 provinces. Shortcomings: budget for this program was limited; the level of support was too low to ensure the most efficiency of the model. Some provincial authorities were not really interested in mobilizing local resources to multiply the model, for example Son La province.

- *Support for infrastructure development for coastal or islands communes with special difficulties.* Achievements: in four years about 2,000 infrastructure projects were implemented in 273 communes (it is estimated that in five years about 2,5000 projects will be invested, or 9.15 projects/commune). In addition to the fund from the central budget covering 46% investment capital demand as set in the five year plan (on average VND 0.7 billion/year), the investment mobilized by local authorities accounted for 20-30% of total investment; it is estimated that about 50% of coastal communes may escape from special difficulties, achieving 100% of the five-year plan target. Shortcomings: low investment level, unsuitable with the infrastructure investment for coastal and islands communes; some basic infrastructure like schools or hospital was not under the investment list.

- *Policy on health examination and treatment for the poor.* Achievements: within four years about 52 million poor and/or ethnic minority people were granted free health insurance cards (it is estimated that within five years, 62 million people will be covered), in which over 90% of poor people who were granted free health insurance cards to use cards for free health examination and treatment. Shortcomings: card duration is short (one year), slow in card issuance; low insured value of health insurance card; the poor who go to

hospitals did not have money for traveling, food and accommodation costs; insufficient health equipment in hospitals, which limited the efficiency of policy implementation.

- *Policy on free tuition fee for poor pupils*. Achievements: together with the policy supporting ethnic minority and poor pupils, in the last four years, about 8 million poor pupils were free from tuition fee and 2.8 million of ethnic and poor pupils got free textbooks (it is estimated that in five years about 10 million poor pupils will be free from tuition fee, achieving 100% of the five year plan target). Shortcomings: the tuition fee exemption for poor pupils created a burden for training providers; the tuition fee exemption is not sufficient as it does not cover all essential costs for poor pupils to go to school (such as other contributions, food and accommodation costs). Consequently the drop-out rate remained high in some regions like Mekong River Delta and Central Highlands.

- *Housing support for the poor*. Achievements: thanks to the fund mobilized from the Day for the Poor, Program 134 and local budget, within four years, about 350,000 poor households got housing support (it is estimated that in five years, about 500,000 poor households will get housing support, meeting 100% plan). Shortcomings: the statistics of housing demands of the poor were inaccurate, which led to high request for support (about 0.8-1 million households); low level of support (VND 3-5 million/house) reduced the quality of built houses; natural disasters made a number of families have their houses lost or ruined, increasing the request for additional support; the policy on housing support for the poor was issued late (at the end of 2008), limiting the implementation.

- *Policy on labor exporting*. The policy was piloted in ten provinces (28 districts). After nearly eight months, over 2,900 laborers in poorest districts registered for working overseas, and 2,500 of them passed the initial selection stage (sufficient

working health and education level). Enterprises, in cooperation with local authorities and training providers, conducted training on vocational skills, foreign languages and necessary knowledge for 2,300 people. Over 140 laborers were taught Korean language to go to work in South Korea, about 30 laborers in Quang Tri, Dien Bien, Yen Bai and Thanh Hoa were selected by Japanese companies to receive further training to work in Japan and nearly 1,000 laborers[19] went to work in Lybia, Malaysia, UAE, etc. After two or three months working abroad, laborers in poorest districts were able to send remittances to their families. Generally laborers in poorest districts participating in this program had jobs with stable income, on average VND 5.5 – 6.5 million/month if working in Lybia and UAE; and VND 4 – 4.5 million/month if working in Malaysia.

- *Policy on infrastructure investment in villages, communes and districts.* In addition to budget from current programs and projects, based on approved poverty reduction proposals, district authorities allocated budget to conduct local infrastructure projects, specifically:

    - At district level: new invested projects included three district upper secondary schools, four district ethnic minority boarding schools; nine general vocational training centers; four district hospitals or regional general practice hospitals; 26 district and inter-commune irrigation systems; 102 inter-commune road projects; 19 commune cluster centers; some upgraded district centers.

    - At commune and lower levels: new invested projects included 66 schools and classrooms; 38 commune medical stations; 155 inter-village road projects; 152 small irrigation systems; 28 power stations; 55 water supply systems; three central commune markets; 14 commune cultural houses; five waste treatment facilities and some other infrastructure projects.

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[19] Including labor exporting results in poor districts of other provinces outside the pilot area such as Kon Tum and Lam Dong.

4.2.3. Assessment of poverty reduction policies and programs in 2000 – 2010

When discussing poverty reduction achievements, international organization always cited Vietnam, a poor and low income per capita country with the highest achievements in removing extreme poverty. The poverty rate significantly reduced from 58% in 1993 to 11% in 2009 and estimated 9.45% in 2010.

According to many domestic and international experts, achievements in poverty reduction in Vietnam were resulted from preferential policies for agriculture and rural development. People have been encouraged to make legal profit based on the strong liberalization of production forces, the mobilization of existing resources and suitable government support. The reform process has opened favorable opportunities for organizations, communities and individuals, including the poor ones, to directly participate in the overall economic development process and to benefit from economic growth. Policies targeting the poor have been legalized in the Comprehensive Poverty Reduction and Growth Strategy. Accordingly programs, projects, policy mechanisms and measures have been developed and implemented from the central to local levels to create the most favorable conditions for poor people and communities to participate in the policy implementation process.

Achievements

One, Vietnam *recognize the gap between the minority and Kinh/Chinese is wider year on year*, since 2004 Vietnam pay much attention to take measures to narrow the development between two groups, evident that on 20 July 2004 Vietnam issued Program to provide production land, residential land, residential houses and clean water for poor ethnic minority people" to further speed up the poverty reduction progress for ethnic minority households. And Program 135 phase II was implemented under the approval of the Program on Socio – economic development for ethnic minority and mountainous communes with special difficulties in the 2006–2010 period. Its objectives were to "create a rapid change in production, enhance the agriculture restructuring toward market-linked production; improve

the material and spiritual living standards for ethnic minority people in communes and villages with special difficulties in a sustained manner, reduce the development gap among ethnic groups and among regions nationwide. It was expected that by 2010, there would be no starving households; the poor household rate would reduce to less than 30%; more than 70% of households would have the annual income per capita of over VND 3.5 million by 2010".

These poverty reduction program was implemented synchronously with a number of efficient measures, especially policies related to infrastructure investment, production credit, vocational training for the poor, access to basic social services like healthcare, culture, education, housing, clean water, etc, creating basic foundation for the improved living standards of the minority ethnic communities .

Two, awareness of, competency of and accountability to poverty reduction of all people improved. Thanks to the implementation of the Program, the accountability of government agencies and the poor was improved. Poverty reduction is an important content of the Comprehensive Poverty Reduction and Growth Strategy. Vietnam strongly committed to meet millennium development goals, in which poverty reduction targets would help stabilize society, create economic development environment. The awareness on poverty reduction and money-making will were more and more absorbed by government staff and people. Many examples of escaping poverty and becoming rich can be seen in most of provinces, typically Dak Lak, Gia Lai, Kon Tum, and Binh Phuoc.

Three, create an important breakthrough, removing difficulties in poverty reduction. In the difficult socio – economic context, especially in poorest districts, the removal of temporary houses and health examination and treatment for the poor had not been implemented in many years. However with the strong determination of the Party, the State, the Fatherland Front and local authorities, in five years 2000 – 2005, a Fund for health examination and treatment for the poor was formed, the "Day for the poor" Fund was established, creating a

breakthrough in temporary house removal and health examination and treatment for the poor, and helping improve the living standard of the people.

Four, poverty reduction is one of great achievements in the reform cause of Vietnam. In the Vietnam Development Report 2004, international organizations assessed that "poverty reduction achievements of Vietnam are one of the most successful stories in economic development", creating a high social consensus, contributing to political stability, attracting foreign investment, developing the economy, meeting millennium development commitments and enhancing the reputation of Vietnam in the international arena.

 Shortcomings

First, the key measures of poverty reduction programs are taken including (i) Preferential credit, (ii) Agricultural, forestry and forestry extension, (iii) free health care, (iv) Tuition fee exemption and reduction for students, (v) Vocational training support, (vi) Production land support for minority ethnics, (vii) Housing subsidy and clean water supply, and (viii) Investment in building infrastructure in villages/hamlets. These measures are taken at the same time, therefore, government's support seem to distribute "candy". In accordance to study team, at present Vietnam is at the beginning of the industrialization phase with the high poor rate and the limited resources, Vietnam should choose the education and vocational training measures like priority measure for the poor in order to enhance the efficiency of poverty reduction.

Second, gender inequality and household size has important contribution to poverty like the findings in section 3. However, these matters seem not to be put in anti poverty measures. The measure of encouraging married couples to have no more than two children is applied for all families, but there is no special

measure for the poor. Additionally, female status improvement will help break a vicious circle of poverty but this issue has not yet be paid attention.

Third, poverty reduction achievements were not sustained. Vietnam remains a poor country with much lower living standard than that of other regional countries. By 2008, the population was 86.16 million and the income per capita was for the first time USD 1,024 USD, but Vietnam was still a poor nation. The number of households with the average income per capita just above the poverty line was high and these households were much vulnerable to sudden changes, easily falling back to poverty, slowly improving their living standard. The number of households nearly the poverty line was high and they easily fell back to poverty due to natural disasters, floods, diseases, sickness, etc. The poverty reduction rates among regions much varied; that in remote, mountainous and ethnic minority areas was high, and the proportion of ethnic minority poor households tended to increase.

Fourth, the program never covered all real poor households: Due to low poverty line in the 2001-2005 period, state budget shortage, and incorrect identification of the poor in some provinces, a part of the poor could not access to the program, while the non-poor could benefit.

Since the poverty line was not timely adjusted, poverty reduction results were not correctly reflected.

- The poverty line was issued based on the basic spending demand of a household, while the spending demand was much dependant on price factor; when the consumer's price index (CPI) increased (in which the price index of food increased faster), it would reduce the real value of the poverty line (so far the CPI has increased by 40% compared with that figure when the poverty line was issued); every year when reviewing poor households, a part of the poor must leave the local poor household list and were not allowed to entitle to state assistance, while they were still poor.

- In reality some localities applied poverty lines higher than the national one and actively adjusted their poverty lines when the CPI increased, such as Ho Chi Minh City, Ha Noi, Binh Duong, Da Nang, Dong Nai, Khanh Hoa, Ba Ria – Vung Tau; other provinces have not used higher poverty lines, but requested the Government to adjust the national one to suit current contexts. This issue was raised by National Assembly deputies in sessions 4th and 5th of the XIIth National Assembly.
- The survey in localities showed that as of the end 2008, the total number of near-poor households was about 1 million with 3.8 million people. In reality these were poor households. However since the poverty line was not adjusted when the CPI increased, they were not entitled to full poverty reduction policies of the Party and the State.

Fifth, the monitoring and evaluation have not been organized in a systematic and synchronous manner. The monitoring and evaluation indicator system was not consistent. The program evaluation was mainly relied on reports submitted by agencies and local authorities, while it was common that reports were not sent or lack of comprehensive information. Moreover reports usually listed data without comprehensive analysis. Program standing agencies lacked the authority to coordinate and monitor components conducted by other agencies, which made them unable to provide timely and suitable adjustment advice. There was a lack of initial database due to the lack of in-depth surveys to assess program efficiency. This troubled the monitoring and evaluation of the whole program at all levels.

Sixth, the overlapping in the design of policies and programs on poverty reduction. The overlapping demonstrated in components of the National Target program (NTP) on Poverty Reduction coordinated by MOLISA, the Program 135 coordinated by the Ethnic Council and Resolution 30a/2008/NQ-CP just issued to support the 62 poorest districts nationwide. Each ministry or agency

managed many programs, projects or components of individual NTPs. Policies were designed for different types of support and for different target groups (infrastructure, education, health, and housing were designed in various programs and for individual target groups). This overlap created huge transaction costs, different management directions and reporting requirements, bringing lower efficiency than expected due to scattering and infeasibility in coordinated budget allocation.

5. RECOMMENDATIONS

First, in the coming period it is essential to have a single poverty reduction framework. Accordingly all current poverty reduction programs should be integrated into a single comprehensive program to remove overlaps and to enhance coordination and efficiency. At the same time poverty reduction planning should link with socio – economic development planning having strengthened at local level; local governments should be accountable for results with freedom of taking suitable tailor-made measures. The future poverty reduction program should be an organic part of the Socio – Economic Development Strategy 2011-2020, covering all poverty reduction components. Accordingly, it will be a united national poverty reduction program with the overall objective of sustainable poverty reduction, consistent with the Socio – economic development strategy. Human and human rights are the core of the program.

Second, it is essential to issue policies and to take measures for sustainable poverty reduction for poorest district, with special focus on ethnic minority and remote and mountainous people.
Inequality due to geographic residence remains persistent problem in Vietnam. The disadvantages of living in the Central Coast and North East due to its geographical characteristics appear to severely hurt the local residents, indicating in lower living standards, on average. Although the whole living

standard is uplifted, the North is still the poor region of the country. With more rapid development of the South, the inequality between the North and the South seems widening. Hence the Government of Vietnam may need to put further efforts in narrowing the gap among geographic regions.

On the other side, it is also necessary to think of minorities groups. Given the fact that ethnicity accounts for a significant part of inequality and minorities often live in remote rural areas, policies for lifting up their living standards that assume the Kinh model will continue to be ineffective. The minorities have developed a comparative advantage in location but it is also location that makes them more remote, more difficult to integrate and costlier to reach with social services and physical infrastructure. In helping redress current inequalities, it will be necessary to open up options for minority groups both by assuring that they are not disadvantaged, and by breaking the conditions that have caused their isolation and social exclusion.

It is, hence, essential to review and increase norms to implement direct support policies for poor households in remote areas, including: fee support, price support, preferential credit, production support, agriculture – forestation – aquatics extension, vocational training, production land grant, residential houses, residential land, clean water, environment sanitation, education, healthcare, legal counseling, social protection policy and policy on ethnic minority people. At the same time new policies should be issues, especially for the poorest districts, such as forest development policy, income generation for forest protectors, contracting to individual areas of protective forest, transformation of exhausted forest into arable land to support the poor who have no or little production land.

Third, the focus of future poverty reduction should be:
- Poverty reduction linked with agriculture and rural development. Poverty appears everywhere. However in Vietnam over 70% of population live in rural

area and the agriculture product accounts for 50% GDP, which makes it essential to remove poverty in agriculture and rural area. Clearly, compared to other industries, productivity in agriculture cultivation is lower, the ownership of agriculture land may generate quite low income for other households. Thus, policy on encouraging application of science and technology for agricultural sector should be implemented with further effort. As convincingly shown by regression, there is an obvious imbalance of industrial structure impact on inequality, which reflected on occupation. Households involved in service industry tend to have higher expenditure level than any other industry, while farm and production industry make its workers worse-off. Hence, it is crucial that the government addresses and tackles the issue before wider imbalance would appear. One possible policy is to effectively improve the use of agricultural land via providing machinery, tools and market information. Besides, regarding to production industry, the government should find its ways to enhance the technology expertise proportion in industrial products, make it exportable through which higher price might be obtained and workers get higher earnings

- Poverty with education, vocational training and employment. The nature of current poverty in Vietnam is low income due to employment shortage and low working skills. Occupation and educational level may link with each other. The higher the level of education, the higher chance of finding better paid jobs. This also reflects the society of diploma appreciation in Vietnam.. Hence in order to ensure sustainable poverty reduction it is required to provide education and vocational training for poor laborers. Hence the poverty reduction program in the 2011-2015 period should link with the Proposal on vocational training for rural workers by 2020.

- Controlling household size especially in poor family. The above analysis indicate that household size is a factor which has significant impact on inequality and that large family seem to have lower living standard. The findings suggest that the family planning program should focus on encouraging the married couple to control their numbers of children.

The above analysis has demonstrated that the nature of the demography, education, occupation, assets and location provides an important part of the explanation of the observed expenditure inequality for the period 1998 throughout 2008. The findings show that there is a clear evidence of earnings gap between male and female in addition to boy preference in each family, leading to the imbalance gender ratio at birth in recent years, posing population quality and social order in the near future. The ethnic minorities have disadvantages and lower living conditions compared to Kinh and Chinese ethnics and the gap between two communities is increasing year on year, the ethnic minorities mainly live in difficult areas such as mountainous, remote and border areas with very poor conditions of infrastructure. Enhancing the living standard of ethnic minorities is a priority task of the government simply because they are in disadvantageous areas for investment and inequality of one generation may ruin all government efforts in creating a more equal society for future generations. Education and vocational training are recognized to have important influence on inequality. Most of children of poor households do not benefit from training and education opportunities which help them maximize their future income or make use of the economic growth of their nations. If Vietnam is not successful to create equal education opportunities for children regardless of their family situation then cannot break "inequality trap" mentioned in Section 4. The above analysis also further indicate that the larger household size is the lower expenditure level is, suggesting that the family planning program is important factor in term of poverty reduction, the married couple controlling their numbers of children will help them to take care their children better and improve further their life as well as their children future, especially in the poor family.

It is said that inequality in Vietnam is not too serious like other developing countries. However, this is a rule that inequality at the extreme level may lead to a series of social conflicts. Therefore, Vietnam is not able to neglect the matter but have much more effort to implement poverty reduction measures. The more the successful of poverty reduction, the narrower the inequality.

APPENDIXES

Table 1. Data table

	Variable	Description
	Variable	Description
1	Lpcexp	Log of per capita expenditure
2	Sexhead	Gender of household head
3	Hhsize	Number of household members
4	Mwork	Proportion of male household members at working age (18-60)
5	Fwork	Proportion of female household members at working age (18-55)
6	Ethnic1	1 for other minority, 0 for others
7	Ethnic2	1 for Kinh and Chinese ethnics, 0 for others
8	Edumax1	1 for none of household members have any diploma, 0 for others
9	Edumax2	1 for highest education level is primary schooling, 0 for others
10	Edumax3	1 for highest education level is lower secondary schooling, 0 for others
11	Edumax4	1 for highest education level is upper secondary schooling, 0 for others
12	Edumax5	1 for highest education level is vocational training, 0 for others
13	Edumax6	1 for highest education level is bachelor degree, 0 for others
14	Edumax7	1 for highest education level is post-graduate, for others
15	Phouse	House value per capita
16	Pagri	Value of agriculture land per capita
17	Passet	Per capita value of fixed assets and durables of household
18	Occu1	1 for household head who has unskilled job, 0 for others
19	Occu2	1 for household head is production worker, 0 for others

20	Occu3	1 for household head is farmer/farm worker, 0 for others
21	Occu4	1 for household head is service sector worker, 0 for others
22	Occu5	1 for household head is white collar/professional, 0 for others
23	Rural	1 for household lives in rural area, 0 for other
24	Urban	1 for household lives in urban area, 0 for other
25	Region1	1 for North Mountain and Midland, 0 for others
26	Region2	1 for Red River Delta, 0 for others
27	Region3	1 for North Central Coast, 0 for others
28	Region4	1 for South Central Coast, 0 for others
29	Region5	1 for Central Highlands, 0 for others
30	Region6	1 for Southeast, 0 for others
31	Region7	1 for Mekong River Delta, 0 for others

Table 2. Regression results

Variable	1998	2002	2004	2006	2008
Variables	1998	2002	2004	2006	2008
EDUMAX1	Drop	drop	0.526 (0.348)	-0.152* (0.08)	0.122* (0.073)
EDUMAX2	0.233*** (0.039)	0.080*** (0.013)	0.106 (0.082)	0.074*** (0.025)	0.076*** (0.018)
EDUMAX3	0.304*** (0.039)	0.177*** (0.012)	0.253*** (0.080)	0.186*** (0.024)	0.212*** (0.018)
EDUMAX4	0.406*** (0.040)	0.307*** (0.014)	0.416*** (0.084)	0.361*** (0.026)	0.407*** (0.019)
EDUMAX5	0.466*** (0.044)	0.386*** (0.015)	Drop	drop	drop
EDUMAX6	0.566*** (0.057)	0.575*** (0.016)	0.557** (0.174)	0.532*** (0.035)	0.664*** (0.023)
EDUMAX7	-0.034 (0.251)	1.070*** (0.064)	0.763*** (0.123)	-0.068 (0.360)	0.973*** (0.073)
ETHNIC2	0.127***	0.134***	0.105**	0.187***	0.267***

	(0.020)	(0.011)	(0.053)	(0.016)	(0.015)
MWORK	0.316***	0.342***	0.688***	0.295***	0.223***
	(0.042)	(0.020)	(0.098)	(0.031)	(0.024)
FWORK	0.104**	0.195***	0.433***	0.157***	0.135***
	(0.043)	(0.022)	(0.118)	(0.035)	(0.025)
SEXHEAD	0.034**	-0.023***	-0.088**	0.027*	0.012
	(0.016)	(0.008)	(0.037)	(0.014)	(0.01)
HHSIZE	-0.066***	-0.079***	-0.066***	-0.083***	-0.106***
	(0.003)	(0.001)	(0.011)	(0.003)	(0.003)
RURAL	-0.097***	-0.388***	-0.159***	-0.116***	-0.247***
	(0.026)	(0.008)	(0.050)	(0.018)	(0.01)
PHOUSE	0.016***	0.002***	0.001***	0.003***	0.002***
	(0.755)	(0.00005)	(0.0002)	(0.0001)	(0.00002)
PAGRI	0.012***	0.008*	0.064**	0.073***	0.007**
	(0.003)	(0.004)	(0.023)	(0.022)	(0.0024)
PASSET	0.068***	0.009***	0.001	0.002***	0.0005***
	(0.015)	(0.0003)	(0.0007)	(0.0002)	(0.0001)
OCCU1	-0.166*	-0.138***	-0.058*	-0.096***	-0.116***
	(0.088)	(0.008)	(0.030)	(0.016)	(0.012)
OCCU2	-0.089	-0.040***	-0.004	-0.027	-0.022
	(0.145)	(0.012)	(0.069)	(0.022)	(0.016)
OCCU3	-0.205**	-0.065***	-0.233	0.007	-0.024
	(0.091)	(0.015)	(0.197)	(0.026)	(0.022)
OCCU4	0.009	-0.037**	0.014	-0.007	0.034
	(0.196)	(0.017)	(0.059)	(0.039)	(0.024)
OCCU5	Drop	Drop	Drop	Drop	Drop
REGION1	-0.223***	-0.186***	-0.134**	-0.245***	-0.090***
	(0.021)	(0.010)	(0.060)	(0.018)	(0.015)
REGION2	-0.181***	-0.124***	-0.067	-0.253***	-0.046***
	(0.020)	(0.009)	(0.048)	(0.017)	(0.014)
REGION3	-0.204***	-0.225***	-0.199***	-0.353***	-0.169***
	(0.022)	(0.011)	(0.056)	(0.019)	(0.016)
REGION4	-0.080***	-0.101***	-0.020	-0.156***	-0.026*
	(0.023)	(0.01)	(0.057)	(0.02)	(0.016)
REGION5	-0.105***	-0.225***	-0.100	-0.123***	0.029
	(0.029)	(0.015)	(0.070)	(0.022)	(0.019)
REGION6	0.249***	0.146***	0.179**	0.004	0.173***
	(0.027)	(0.012)	(0.073)	(0.025)	(0.016)
REGION7	Drop	Drop	Drop	Drop	Drop

Observation	5998	18448	9106	9185	9181
R^2	0.42	0.57	0.46	0.51	0.56

- The figures are regression coefficients with the standard error in parentheses.
- The significance of each coefficient is noted:*** denote significance at the 99% level,,** at the 95% level and * at 90% level.

Table 3. Group factor proportion of inequality

Variable Group	1998	2002	2004	2006	2008
Demographic	9.3%	12.1%	13.3%	12.9%	16.8%
Education	6.8%	12.6%	16%	11.2%	14.6%
Assets	48.5%	10.8%	13.3%	35.8%	11.1%
Job	0.9%	3.3%	1.6%	2.5%	3.0%
Rural	3.8%	13.8%	5.6%	3.9%	7.7%
Region	9.7%	4.7%	5.2%	4.0%	3.9%
Residual	21.0%	42.7%	45%	29.7%	42.9%

Table 4 Detail factor proportion of inequality

Variable	1998	2002	2004	2006	2008
edumax1	drop	drop	NS*	0.1%	0.0%
edumax2	-2.5%	4.0%	NS	-1.1%	-1.2%
edumax3	-3.7%	2.2%	-2.2%	-1.9%	-2.6%
edumax4	4.4%	-0.5%	6.3%	5.7%	6.3%
edumax5	1.8%	3.2%	drop	drop	drop
edumax6	6.8%	3.1%	1.2%	8.5%	11.0%
edumax7	NS	0.6%	10.7%	NS	1.1%

ethnic1	drop	drop	drop	drop	drop
ethnic2	2.2%	2.3%	2.1%	4.1%	6.0%
mwork	1.3%	1.6%	3.2%	1.6%	1.1%
fwork	0.4%	0.8%	1.7%	0.6%	0.6%
sexhead	-0.3%	0.2%	1.0%	-0.2%	NS
hhsize	5.7%	7.2%	5.3%	6.8%	9.1%
rural	3.8%	13.8%	5.6%	3.9%	7.7%
urban	drop	drop	drop	drop	drop
phouse	45.3%	5.7%	12.1%	31.0%	6.9%
pagri	0.3%	0.0%	1.2%	0.2%	0.0%
passet	2.9%	5.1%	NS	4.6%	4.2%
occu1	0.6%	3.6%	1.6%	2.5%	3.0%
occu2	NS	-0.2%	NS	NS	NS
occu3	0.3%	0.0%	NS	NS	NS
occu4	NS	-0.1%	NS	NS	NS
occu5	drop	drop	drop	drop	drop
region1	2.4%	1.7%	1.5%	3.0%	1.1%
region2	-0.4%	-0.4%	NS	-1.6%	-0.3%
region3	1.2%	1.1%	1.2%	2.4%	0.9%
region4	0.1%	0.0%	NS	-0.1%	0.0%
region5	0.6%	0.7%	NS	0.3%	NS
region6	5.8%	1.6%	2.5%	NS	2.2%
region7	drop	drop	drop	drop	drop

*: Not statistically significant

Table 5. Poverty rate

	_1998_	_2002_	_2004_	_2006_	_2008_
Vietnam	37,4	28,9	19,5	16	14,5
Urban	9,2	6,6	3,6	3,9	3,3

Rural	45,5	35,6	25,0	20,4	18,7
Poverty Rate Gap (times)=rural/urban	4,95	5,4	6,94	5,23	5,67

Source: World Bank and General Statistic Office

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