Markets, Inequality and Poverty in Vietnam

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Using the Vietnam Living Standards Surveys 1992–93 and 1997–98, this paper examines the impact of market reform on inequality and poverty in Vietnam with a focus on the locational aspects. In addition, this paper investigates the effect of market reform by comparing Vietnam with other socialist and developing countries. Comparison between the two surveys indicates that overall inequality in Vietnam has risen slightly with signs of a widening gap between urban and rural sectors. There is evidence of a similar disparity between regions. Within-sector/region accounts for most of the inequality in Vietnam at any one point in time. Nonetheless, between-groups differences (urban-rural and regional) have constituted the major source of the rise in inequality over time. Market reforms have also substantially reduced poverty in Vietnam. Vietnam has become one of the best performers among the developing countries. However the reduction of poverty in rural areas has lagged behind that in urban areas. The reduction of rural poverty is the key to combating poverty in Vietnam.

Keywords: Inequality, poverty, market reform, Vietnam.
JEL classification code: O1.

I. Introduction

In the last decade Vietnam has been undergoing a gradual economic transformation from a centrally planned to a market-oriented economy. Vietnam is still one of the poorest countries in the world. Its GNP is estimated to be US$250–300 per capita.1 Yet it has recorded an impressive performance since the introduction of ‘reformation’, Doi Moi, in 1986. Growth has been strong until the Asian Crisis.2 After ten years of market reform, it is interesting to evaluate its impact on the economy.

The ideal way to analyse the impact of the economic reform is to have two data sets collected in the pre- and post-reform periods. Unfortunately, such comparable data sets are not available. Even if they had been available, the

1. The GDP per capita for Vietnam was estimated at around US $250 in 1996 (World Bank, 1996). However, it is suspected that the figure is an underestimate.
2. Vietnam’s GNP growth rate was at or above 8% before the Asian crisis.
different measurements used under the Socialist system would have made the comparisons with the post-reform period difficult, if not impossible.

Instead, we propose to focus on comparisons between two points in time during the post-reform periods that could provide a basis to evaluate the welfare changes of the economy during the transition. The available data are from the Living Standards Surveys conducted by the World Bank and the General Statistics Office of Vietnam. The first-round survey was conducted in 1992–1993 and was the first large-scale survey of this kind ever carried out in Vietnam. The second-round survey was conducted in 1997–1998. Both surveys collect data at household and individual levels in various areas: health, education, agriculture, fertility, expenditure, migration and saving. The two rounds of Living Standard Surveys provide a basis for comprehensive comparisons in many aspects of the economy during the transition.

The main purpose of the paper is to evaluate the impact of market reform on living standards in the light of the importance of locational aspects, particularly urban-rural disparity, for inequality and poverty in Vietnam. How do differences in inequality between rural and urban areas affect inequality in Vietnam as a whole? How do differences in inequality among different regions contribute to overall inequality in Vietnam? How do inequality and poverty look in relation to other countries? Experience indicates that a high rate of economic growth can reduce poverty substantially within a few years. Does this hold for Vietnam?

This paper extends the existing literature in two dimensions. First, it evaluates the impact of market reform on welfare, which has not been well researched for transition economies except China. Second, it examines inequality and poverty in Vietnam in an international perspective. It investigates and compares the quantitative dimensions of inequality and poverty between 1992–93 and 1997–98 in Vietnam with those in other socialist countries, such as China, and other developing countries to see how Vietnam fared during the market reform. No earlier data were available to evaluate changes in poverty and inequality over time in Vietnam.

In the next section I begin by examining some conceptual issues on markets and inequality. A review of various inequality measures and poverty indices is given in Section III. Section IV presents the data and some stylized facts on consumption levels in Vietnam in 1992–93 and 1997–98. Results on inequality and poverty for Vietnam, its rural and urban parts and different regions are

3. The author thanks the General Statistics Office of Vietnam for permission to use the data from the two surveys.

4. It is very difficult to attribute with any certainty changes in income distribution as reported in the paper to market reform, Doi Moi. Doi Moi is a significant broad-based reform, which encompasses almost all aspects of the policy spectrum. For instance: reallocation of land to individual households from the control of collective farms; liberalization of the private sector which was regarded as ‘evil’ before the reform; the removal of most price controls; and trade liberalization to bring down trade barriers and to encourage foreign direct investment. Studies in Vietnam (Glewwe et al., 2000; Dollar, Glewwe and Litvack, 1998; World Bank, 2000b) have generally associated the spectacular changes in Vietnam since the late 1980s with Doi Moi.
II. Conceptual Issues

Social welfare can be measured in different dimensions such as income, consumption, health, nutrition etc. The ideal would be to combine these measures into one indicator. However there is lack of theoretical underpinning for such an aggregate. Typically, a measure of per capita household real income or expenditure is used to measure living standards. When measuring welfare in developing countries, income itself may not be a good candidate. Evaluation of income is often problematic. Seasonality is an issue for income; in particular, agricultural income can be extremely volatile. Provided that households can smooth their consumption, a better measure will be consumption expenditure. Furthermore, income may not accurately reflect living standards as savings and debts are excluded. For practical purpose, it is harder to get an accurate measure of income than of expenditures especially since most rural households are self-employed. In addition, income is often notoriously under-reported particularly in a transitionary economy such as Vietnam. Illegitimate sources of income such as moonlighting and corruption could not be identified. Further, multiple visits or the use of recall data are often necessary to get a more accurate measure of annual income as an estimate of living standards in developing countries. However, expenditures in the previous few weeks are sufficient for a consumption measure. This paper uses per capita real expenditure as a measure of living standards. The per capita real expenditure variable provided by the Vietnam Living Standards Survey is a highly suitable candidate for measuring social welfare. Various aspects of this variable will be discussed in greater detail along with the data in Section IV.

Traditionally, the household has been used as a unit in evaluating distribution for practical purposes. Most surveys collect expenditure data only at the household, not the individual level. However, when the main focus is on distributional evaluations for the population the household may not be an appropriate unit in measuring welfare. Welfare relates to individuals rather than to households so that a welfare measure based on individuals as a unit of analysis is more appropriate. Consequently, it is a common practice to divide household expenditure among individual members, either equally or in relation to some measure of needs. Neither way is perfect and there are resulting inaccuracies in measuring inequality and poverty. Both fail to recognise that individual members may not receive equal allocations and also that not every member is the same and has the same needs. Constructing ‘equivalent scales’ is a move which attempts to solve the problem of shifting from household to individual welfare. However, there is as yet no consensus concerning the methodologies of construction of scales. Not to mention that inappropriate assumptions are often implicit in the literature. Given that the equivalence scale literature is still far from providing a satisfactory treatment in using individuals...
as a unit of analysis, the use of household per capita expenditure assigned to individual members is still considered to be the best practice. Following the literature (Deaton, 1997), averages of household per capita expenditures are re-computed on an individual basis by assigning the household levels of per capita expenditures to each individual and then averaging over the individuals. While one has to recognize the use of household per capita expenditure assigned to individuals is not ideal, this approach can be justified by the problems related to measuring consumption on an individual basis. Furthermore, intra-household allocation often does not attract much attention in policy-making.

III. Inequality Measurement and Decomposition Methods

Since welfare resides in individuals, not households, the averages of household per capita expenditures are recomputed on an individual basis for all the inequality measures. In the empirical work I will focus on four inequality measures. The first is the well-known Gini coefficient, given by the (household-size weighted) mean absolute deviation between all pairs of a suitable measure of living standards, typically per capita household real incomes or expenditures. The Gini lies between zero and one. When everyone has the same, the Gini coefficient is zero. If one person has everything, and no one else has anything, the Gini is one.

Alternative inequality measures are the coefficient of variation and the Atkinson measures. The coefficient of variation is the standard deviation divided by the mean, while the Atkinson measure could be defined as follows depending on the degree of inequality aversion, \( \varepsilon \), which captures the trade-off between mean living standards and equality of the distribution. If \( \varepsilon \) is zero, there is no aversion to inequality. When \( \varepsilon \) tends to infinity, the weight is heavily geared towards the poorest.

Among all these measures, the Gini coefficient and the members of the Generalized Entropy family can be decomposed. This paper will present the decomposition of the latter to examine the sources of inequality. The parameter

\[
G = \frac{1}{2N^2} \sum \left| x_i - x_j \right| = \nu_U \lambda_U G^U + \nu_R \lambda_R G^R + \left( G^B + O^f \right)
\]

where \( \nu_U = N_U / N \) is the proportion of urban population, \( \lambda_U = \mu_U / \mu \) is the mean urban income relative to that of the whole population, \( \nu_R \) and \( \lambda_R \) are the corresponding rural ratios, and \( G^U \) and \( G^R \) are within-group Gini coefficients. The term \( G^B \) equals to \( \nu_U N_U (\mu_U - \mu_R) / \mu \). It is the between-group Gini and is defined as the one in which the incomes of all individuals are replaced by the mean income of the group to which they belong. \( O^f \) is a residual that depends upon the frequency and magnitude of overlaps between the incomes in different subgroups and it is usually called the ‘interaction effect’. However the interpretation of the overlapping component has made the decomposition of Gini less straightforward than that of Generalised Entropy (Lambert and Aronson, 1993; Mookherjee and Shorrocks, 1982).
\[GE = \frac{1}{N} \frac{1}{c(c-1)} \sum_{i=1}^{N} \left( \frac{x_i}{\mu} \right)^c - 1\]  
where \(c \neq 0\) and 1

\[I_0 = \frac{1}{N} \sum_{i=1}^{N} \ln \left( \frac{\mu}{x_i} \right)\]

\[I_1 = \frac{1}{N} \sum_{i=1}^{N} \frac{x_i}{\mu} \ln \left( \frac{x_i}{\mu} \right)\]  
(1)

where \(\mu\) denotes the mean income. To establish the robustness of the empirical results, I use two indexes of the Generalized Entropy family for the purpose of decomposition:

\[I_0 = v_U I_U^U + v_R I_R^R + \sum_k v_k \ln \left( \frac{1}{\lambda_k} \right)\]

\[I_1 = v_U \lambda_U I_U^U + v_R \lambda_R I_R^R + \sum_k v_k \lambda_k \ln(\lambda_k)\]  
(2)

where \(k = (U, R)\), and \((I_U^U, I_R^R)\) are sector-specific indexes. Similar to the Gini decomposition, the first two terms are within-sector inequality, and the last term is the between-sectors component.

**III.1 Poverty measures**

There are a number of measures of poverty. This paper focuses only on the most important measures, namely, headcount ratio, poverty-gap ratio, Foster, Greer and Thorbecke index for poverty, and Sen’s poverty index.

The headcount ratio, which is commonly used, is the proportion of the population below the poverty line. If \(z\) denotes the poverty line, and \(x\) represents the welfare measure, then the headcount ratio is

\[P_0 = \frac{1}{N} \sum_{i=1}^{N} I(x_i \leq z)\]  
(3)

where \(I\) is an indicator function. It equals to one if its argument is true and zero otherwise. It serves as a counter for the total number of people in poverty. While the headcount ratio is a simple measure, it has a few limitations. In particular, it does not take the degree of poverty into account. That is, it ignores how far below the poverty line an individual falls.
Poverty gap ratio overcomes this deficiency. It is the average gap between the poverty line and the per capita welfare measure, say expenditures, of the poor divided by the poverty line. Mathematically,

\[ P_1 = \frac{1}{N} \sum_{i=1}^{N} \left( 1 - \frac{x_i}{z} \right) I(x_i \leq z) \]  

(4)

By construct, the poverty gap ratio would show an increase in poverty if poor individuals or households become poorer while other nonpoor individuals or households stay nonpoor. However, it does not account for inequality in the gaps. In addition, transfer among the poor would have zero effect on the poverty level. Sen’s poverty index provides a remedy for this deficiency.

\[ P_s = P_0 \left( 1 - (1 - \gamma^p) \frac{\mu^p}{z} \right) \]  

(5)

where \( \mu^p \) is the mean of \( x \) among the poor, and \( \gamma^p \) is the Gini coefficient of the poor population (as the whole population).

The relationship between these three poverty measures can be expressed as

\[ P_s = P_0 \gamma^p + P_1 (1 - \gamma^p) \]  

(6)

The Sen’s poverty index is the weighted average of the headcount and poverty-gap ratios.

The last poverty measure is the Foster, Greer, and Thorbecke index. It can be expressed as

\[ P_a = \frac{1}{N} \sum_{i=1}^{N} \left( 1 - \frac{x_i}{z} \right)^\alpha I(x_i \leq z) \]  

(7)

This paper reports the Foster, Greer and Thorbecke index when \( \alpha = 2 \) which is the value most commonly reported in the literature. Like the Sen’s poverty index, this measure is also sensitive to distribution of income among the poor.

Note that all these poverty indices are sensitive to the poverty line chosen. Since Vietnam does not have any long-standing official poverty line, I adopt the poverty line calculated by Dollar, Glewwe and Litvack (1998). They base their calculation on the approach of Ravallion (1994).8

Although both inequality and poverty measures study the distribution of income or expenditures, they differ in a number of respects. Firstly, inequality measures are with reference to other members in the population, while poverty measures are with reference to a poverty line. Secondly, inequality indicators are concerned with all members of the distribution, whereas poverty indices are concerned only with those below the poverty line. Thirdly, in general, economic growth will reduce poverty. However economic growth may not have any effect

8. Their poverty line is based on the cost of the food basket, adjusted for regional price differences, that can provide 2100 calories per person per day.
on inequality measures if economic growth does not alter the distribution of income or expenditures. This paper will examine both inequality and poverty as both are of interest to the policymaker.

IV. Data and Estimation Results

IV.1 The data

The data used in this study are drawn from the two rounds of the Vietnam Living Standards Survey (VLSS) conducted by the World Bank and the General Statistical Office of Vietnam. The first round of the survey was conducted between 1992 and 1993—the first national survey of this kind ever conducted in Vietnam. It is a self-weighted sample and it surveys 4800 households. It has been widely used for studies on the Vietnamese economy (Desai, 1995; Haughton and Haughton, 1994; McDonald, 1995; Pham Dinh The, 1998; Sloper and Le, 1995; United Nations, 1995; World Bank, 1995; World Bank, 1996). The second round of the Vietnam Living Standards Survey was carried out between 1997 and 1998. The sample for the VLSS 97–98 was primarily taken from the households selected in the original 150 communes/wards of the VLSS 92–93. Because additional funding was available, the sample was increased by 1200 households with these additional households obtained from the sample of the Multi-purpose Household survey (MPHS) which was based on a similar sampling methodology. In order to obtain a large enough sample to disaggregate results into the seven major regions for rural areas and three categories of urban domains, the selection of the additional households was such that the total sample of 6000 households oversampled specific domains. Therefore, the data were weighted in order to correct for the bias due to over-sampling.

This paper uses per capita real expenditures extensively. In the household expenditure file in 1997–98, two types of expenditure variables are provided. One is comparable to that of the VLSS 92–93; the other is an expenditure variable that better reflects the consumption pattern during 1997–98. The latter includes extra expenditure items such as expenditures on health insurance and on computer skills. Since the purpose of this paper is to examine the changes of inequality, the first type of expenditure variable is more suitable. It includes the following components: 1) food expenditures: values of annual market purchases, value of home

9. The Vietnam Living Standards Survey is part of a series of Living Standards surveys conducted in an increasing number of developing countries by the World Bank and the central statistical agencies. The World Bank plans to carry out follow-up surveys on an ongoing basis.

10. The author thanks Mr. Nguyen Phong from the General Statistic Office in Vietnam and Ms Diane Steel in the Living Standards Measurement Study Office at the World Bank for clarifying the sampling procedure of the VLSS92–93.

11. The seven major regions are Northern Uplands, Red River Delta, North Central, Central Coast, Central Highlands, Southeast and Mekong River Delta.

12. The three categories of urban domains are Hanoi and Hochiminh City, other cities and other urban areas.
produce consumed during the year; and 2) nonfood expenditure: frequently pur-
chased nonfood items (such as cigarettes, tobacco, areca nut, cooking fuel, soap
and detergents, parking fees etc.), the use value of consumer durables, utilities
(expenditure on electricity, drinking water, laundry and bathing water etc.), rent,
education, health, in-kind wages.

Studies comparing rural-urban or regional income or consumption are subjected
to several common criticisms (Ravallion and Chen, 1999; Yang and Zhou, 1999).
Firstly, the comparisons are made in monetary, not real terms. Secondly, difference
in the cost of living between urban and rural areas are not taken into account.
Thirdly, the lack of regional commodity prices to adjust for the possible systematic
bias in evaluating consumption in different regions. Fourthly, the definitions of
rural and urban may change over time (Chen and Fleisher, 1995; Goldstein, 1990).
Finally, the value of home produce is often not counted. The per capita expend-
iture used in this paper is immune from these criticisms. It is the expenditure per
capita of the surveyed household readjusted by price indexes of regions and months
(January 1998 as base) which is comparable to that of year 1993. In addition, a
price deflator to capture the price differential between January 1993 and January
1998 is used to deflate the per capita expenditures collected in the VLSS 97–98
in order to compare the first VLSS.13 Also this expenditure measure includes the
imputed rents for housing. Therefore it reflects spatial differences in the cost
of living. Further the value of home produce are included when compiling the
expenditure variable. In addition, an urban-rural dummy comparable to the VLSS
92–93 is provided in the VLSS 97–98. This is the urban-rural dummy that is
used throughout this paper.

IV.2 Changes in the real per capita expenditures in Vietnam

How do the locational aspects affect welfare and living standards? During 1992–
93, the average real per capita expenditures in Vietnam were around 1387 thou-
sand dong. Note that the average real per capita expenditures in urban areas are
twice as high as those in rural areas. It is quite common in developing countries
for urban areas to exhibit much higher per capita expenditures than rural areas,
even after adjusting for the price differences. Sizeable variations in expenditure
levels are also found in different regions. The three poorest regions are North-
ern Uplands, North Central and Central Highlands. The wealthiest region is
the Southeast, followed by Mekong River Delta and the Central Coast. The
Southeast has a real per capita consumption level 1.1 times higher than the
Northern Uplands.

The VLSS 97–98 shows that per capita real expenditures were 1883 thousand
don. The differences in consumption levels in urban areas are more than double
that in rural areas. Central Highlands, Northern Uplands and North Central are

13. The author acknowledges the help of Ms Sarah Bales, the VIE/95/043 Coordinator, in providing
the price deflator necessary for the comparison of consumption levels over time.
Table 1 Changes in Real per Capita Expenditures (’000 dong)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>All</td>
<td>1386.76</td>
<td>2008.46</td>
<td>1883.44</td>
</tr>
<tr>
<td>Urban</td>
<td>2286.14</td>
<td>3356.00</td>
<td>3320.25</td>
</tr>
<tr>
<td>Rural</td>
<td>1161.85</td>
<td>1552.22</td>
<td>1506.49</td>
</tr>
<tr>
<td>Northern Uplands</td>
<td>999.75</td>
<td>1358.99</td>
<td>1315.12</td>
</tr>
<tr>
<td>Red River Delta</td>
<td>1322.99</td>
<td>2180.00</td>
<td>2004.00</td>
</tr>
<tr>
<td>North Central</td>
<td>1027.34</td>
<td>1589.80</td>
<td>1497.44</td>
</tr>
<tr>
<td>Central Coast</td>
<td>1507.12</td>
<td>1883.92</td>
<td>1803.17</td>
</tr>
<tr>
<td>Central Highlands</td>
<td>1094.00</td>
<td>1340.12</td>
<td>1325.18</td>
</tr>
<tr>
<td>Southeast</td>
<td>2076.42</td>
<td>3260.01</td>
<td>3405.38</td>
</tr>
<tr>
<td>Mekong River Delta</td>
<td>1577.13</td>
<td>1798.60</td>
<td>1726.32</td>
</tr>
</tbody>
</table>

still the poorest regions, whereas the Southeast remains the wealthiest – with consumptions from 1.3 to 1.6 times those of the poor regions.

Comparing 1992–93 and 1997–98, per capita real expenditures have increased by approximately 1.4 times in real terms. Note that the per capita real expenditure levels in both urban and rural areas have also risen. With the per capita real expenditure level in urban and rural areas rising by 1.5 and 1.3 times respectively, the inequality gap between the two sectors has widened slightly. In terms of the regional differences, the gap between the wealthiest and the poorest regions has widened. Nonetheless the three poorest regions remain the poorest. The ranking among them has changed. The consumption level of the Northern Uplands residents has increased by 32% since 1992–93 and in 1997–98 it has caught up with the consumption level of the North Central. The Southeast has registered an impressive 64% increase in per capita expenditures in 1997–98 compared with 1992–93. Note that the country had been divided into its northern and southern halves. The northern part has a longer history of operating under the socialist economic system. Note also that the south, especially the area around Hochiminh City, is relatively better off than the north not only in terms of per capita expenditures, but also physical and social infrastructure. Furthermore, with about one-fifth of the country’s population, the Mekong Delta produces nearly half of the rice crop, and generates most of the exportable surplus. Finally, some of the infrastructure left behind by the United States is in pretty good shape. The Southeast is in a better position to benefit from the fruits of market reform.

V. Inequality in Vietnam and the Decomposition

How does Vietnam fare in terms of inequality? Different inequality measures are used to analyse inequality in real per capita expenditures of individuals. Since the VLSS 92–93 is self-weighted sample, it is comparable with the weighted VLSS 97–98. The following discussion will be focused on the weighted results.
Table 2 Inequality Measures: A Summary

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gini coefficient</td>
<td>0.329</td>
<td>0.337</td>
<td>0.278</td>
<td>0.350</td>
<td>0.342</td>
<td>0.277</td>
</tr>
<tr>
<td>Coefficient of variations</td>
<td>0.745</td>
<td>0.705</td>
<td>0.594</td>
<td>0.813</td>
<td>0.710</td>
<td>0.597</td>
</tr>
<tr>
<td>Standard deviation of logs</td>
<td>0.567</td>
<td>0.599</td>
<td>0.494</td>
<td>0.593</td>
<td>0.607</td>
<td>0.487</td>
</tr>
<tr>
<td>Mean log deviation</td>
<td>0.179</td>
<td>0.190</td>
<td>0.128</td>
<td>0.212</td>
<td>0.191</td>
<td>0.136</td>
</tr>
<tr>
<td>Theil coefficient</td>
<td>0.199</td>
<td>0.199</td>
<td>0.137</td>
<td>0.234</td>
<td>0.196</td>
<td>0.145</td>
</tr>
<tr>
<td>Atkinson measure ε = 0.5</td>
<td>0.089</td>
<td>0.091</td>
<td>0.064</td>
<td>0.100</td>
<td>0.093</td>
<td>0.063</td>
</tr>
<tr>
<td>Atkinson measure ε = 1.0</td>
<td>0.162</td>
<td>0.170</td>
<td>0.120</td>
<td>0.181</td>
<td>0.174</td>
<td>0.118</td>
</tr>
<tr>
<td>Atkinson measure ε = 2.0</td>
<td>0.357</td>
<td>0.332</td>
<td>0.261</td>
<td>0.398</td>
<td>0.335</td>
<td>0.262</td>
</tr>
</tbody>
</table>

Table 2 summarizes the results of different inequality measures. During 1992–93, the Gini coefficient, for instance, is 0.329 for Vietnam as a whole, 0.337 and 0.278 for urban and rural areas. Note that inequality is higher in urban Vietnam than in rural Vietnam. The surprising degree of homogeneity in terms of consumption expenditures within rural areas, which is also reported by Dollar, Glewwe and Litvack (1998), may reflect the higher degree of commercialization in urban areas. Also the rural population has limited access to non-agricultural wage employment and hence, the degree of differentiation is probably less in rural areas (Luong and Unger, 1998). Similar findings are evident in other inequality measures. The coefficient of variation for urban Vietnam is 0.705, the one for rural Vietnam is 15.7% lower.

The Gini coefficient for Vietnam is reported to be 0.350 in 1997–98. In line with the finding for 1992–93, more equal distribution in rural areas relative to that in urban areas is evident. For example, the coefficient of variation is 0.710 for urban areas but only 0.597 for rural areas. Irrespective of the degree of aversion to inequality, the same result holds for the Atkinson measure.

Unavailability of data has made a comparison between the pre- and post-reform periods impossible. Nonetheless a comparison of the inequality between the early stage of reform and five years after is still of value in understanding the impact of market reform on disparity of consumption expenditures. Five more years of market reform have seen an increase in inequality in Vietnam. The Gini coefficient rises to 0.350, a 6% increase from 1992–93. The coefficient of variation increases from 0.745 to 0.813 between the two surveys. Other inequality measures also show a more unequal distribution for Vietnam as a whole in the VLSS 97–98.

As shown in Table 1, the average real per capita expenditure in urban areas is twice as high as that in rural areas in both periods. However, a close examination of most of inequality measures suggests that the disparity in urban and rural areas has not greatly changed from 1992–93 to 1997–98. Nonetheless, it is still of importance to know how much of overall inequality is due to the difference in
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Table 3 Decomposition of the Generalized Entropy Measures for Urban and Rural Areas

<table>
<thead>
<tr>
<th>Vietnam</th>
<th>Within group</th>
<th>Between group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean log deviation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1992–93</td>
<td>0.141 (78.78)</td>
<td>0.038 (21.22)</td>
<td>0.179 (100)</td>
</tr>
<tr>
<td>1997–98</td>
<td>0.149 (70.28)</td>
<td>0.063 (29.72)</td>
<td>0.212 (100)</td>
</tr>
<tr>
<td>Theil coefficient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1992–93</td>
<td>0.157 (78.89)</td>
<td>0.042 (21.11)</td>
<td>0.199 (100)</td>
</tr>
<tr>
<td>1997–98</td>
<td>0.166 (70.94)</td>
<td>0.068 (29.06)</td>
<td>0.234 (100)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses are percentages.

The average real per capita expenditures and how much is due to the inequality in the per capita expenditure levels within both urban and rural areas.

Table 3 decomposes the mean log deviation and the Theil coefficient into the within- and between-group components. During 1992–93, both measures suggest that within-group accounts for most of the inequality – for example, the Theil coefficient indicates that about 79% of overall inequality is due to differences within urban and rural areas; only 21% is due to differences between the two sectors. The same holds during 1997–98. However the within-group component fell by almost 8% between 1992–93 and 1997–98, while the sources of inequality due to the differences between urban and rural areas have increased. In other words, evidence supports the notion that the major source of overall inequality comes from within-sector sources. Nonetheless, the contribution of between-sectors sources to the rising overall inequality rose between 1992–93 and 1997–98. As shown by the mean logarithmic deviation in Table 3, the between-sector effects constitute 75.8% (0.025) of the increase in total inequality in Vietnam (0.033) between 1992–93 and 1997–98. For the Theil entropy, the corresponding contribution is 75.3%.14 This result is quite similar to the Chinese experience. I will return to this point when I examine Vietnam’s inequality in an international perspective.

Climatic conditions and agricultural capacity vary widely among the seven major regions in Vietnam. In general, cultivated land is scarce – Only about 18% of land is cultivated, the rest is mountainous. The Northern Uplands is hilly to mountainous but the weather is suitable for agricultural cultivation. There is a high proportion of ethnic minorities in this region. Due to language problems and poor infrastructure, ethnic minorities have to struggle with economic hardships. The Red River Delta has relatively good irrigation development. Much of the farmland here is fertile and produces a high yield of crops. The North Central Coast and to a lesser extent the Central Coast face tough agro-climates. Arable land is particularly limited in the North Central. The Central Highlands can produce annual and perennial crops even though most land is at altitudes

14. Glewwe et al. (2000) also report that differences in average expenditures between urban and rural areas account for only 21% of overall inequality in 1992–93 and 31% in 1997–98. Nonetheless, the gap between urban and rural areas has increased over the five-year period.
above 1000 metres. The Southeast is warm and humid and is also suitable for cultivation. The region has inherited a relatively good transportation and power infrastructure. The weather in the Mekong Delta is similar to that of the Southeast. The quality of land and irrigated land is of average quality for Vietnam. Households without land rights are the poor in this region (Dollar, Glewwe and Litvack, 1998). In general, available land per capita is less in the north than in the south as the north is more heavily populated.

With different regional endowments, how does inequality in different regions look? Tables 4–6 report various inequality measures for the seven major regions in Vietnam. The per capita real expenditure level in the Southeast appears to be more unevenly distributed relative to other regions during 1992–93, with a Gini coefficient of 0.358. Other inequality measures also indicate more disparity in the Southeast than in other six regions. However the VLSS 97–98 shows that while inequality in the Southeast is abating to stable compared to the VLSS 92–93, other regions have caught up and show increased inequality in the distribution of consumption expenditures. For instance, North Central shows a rise in inequality of 44.7% to 0.712 as indicated by the coefficient of variations.
Table 6  Atkinson Measure

<table>
<thead>
<tr>
<th></th>
<th>92–93 ε = 0.5</th>
<th>92–93 ε = 1</th>
<th>92–93 ε = 2</th>
<th>97–98 weighted ε = 0.5</th>
<th>97–98 weighted ε = 1</th>
<th>97–98 weighted ε = 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.089</td>
<td>0.162</td>
<td>0.357</td>
<td>0.100</td>
<td>0.181</td>
<td>0.398</td>
</tr>
<tr>
<td>Northern Uplands</td>
<td>0.048</td>
<td>0.093</td>
<td>0.190</td>
<td>0.060</td>
<td>0.113</td>
<td>0.237</td>
</tr>
<tr>
<td>Red River Delta</td>
<td>0.080</td>
<td>0.143</td>
<td>0.341</td>
<td>0.085</td>
<td>0.154</td>
<td>0.352</td>
</tr>
<tr>
<td>North Central</td>
<td>0.048</td>
<td>0.091</td>
<td>0.195</td>
<td>0.071</td>
<td>0.126</td>
<td>0.324</td>
</tr>
<tr>
<td>Central Coast</td>
<td>0.090</td>
<td>0.172</td>
<td>0.359</td>
<td>0.091</td>
<td>0.170</td>
<td>0.340</td>
</tr>
<tr>
<td>Central Highlands</td>
<td>0.079</td>
<td>0.159</td>
<td>0.253</td>
<td>0.079</td>
<td>0.154</td>
<td>0.272</td>
</tr>
<tr>
<td>Southeast</td>
<td>0.102</td>
<td>0.190</td>
<td>0.357</td>
<td>0.093</td>
<td>0.173</td>
<td>0.342</td>
</tr>
<tr>
<td>Mekong River Delta</td>
<td>0.080</td>
<td>0.148</td>
<td>0.315</td>
<td>0.073</td>
<td>0.133</td>
<td>0.313</td>
</tr>
<tr>
<td>Urban</td>
<td>0.091</td>
<td>0.170</td>
<td>0.332</td>
<td>0.093</td>
<td>0.175</td>
<td>0.335</td>
</tr>
<tr>
<td>Rural</td>
<td>0.064</td>
<td>0.120</td>
<td>0.261</td>
<td>0.063</td>
<td>0.118</td>
<td>0.262</td>
</tr>
</tbody>
</table>

Table 7  Decomposition of the Generalized Entropy Measures for Regions

<table>
<thead>
<tr>
<th></th>
<th>Within-region</th>
<th>Between-regions</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean log deviation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1992–93</td>
<td>0.153 (85.47)</td>
<td>0.026 (14.52)</td>
<td>0.179 (100)</td>
</tr>
<tr>
<td>1997–98</td>
<td>0.168 (79.24)</td>
<td>0.044 (20.75)</td>
<td>0.212 (100)</td>
</tr>
<tr>
<td>Theil coefficient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1992–93</td>
<td>0.173 (86.93)</td>
<td>0.026 (13.06)</td>
<td>0.199 (100)</td>
</tr>
<tr>
<td>1997–98</td>
<td>0.188 (79.91)</td>
<td>0.047 (20.08)</td>
<td>0.234 (100)</td>
</tr>
</tbody>
</table>

Note: Figures in parentheses are percentages.

What is the role of the differences in disparity in different regions in explaining Vietnam’s overall inequality? Table 7 presents the decomposition results of the Generalised Entropy measures.

The Southeast is the wealthiest among the seven major regions in Vietnam in both survey periods. To what extent does the disparity among regions contribute to overall inequality in Vietnam? Decomposition of the mean log deviation and the Theil coefficient into the within-group and between-groups components for these major regions is reported in Table 7. During 1992–93, the mean log deviation indicates that about 85% of Vietnam’s overall inequality could be attributed to within-region differences. The VLSS 97–98 shows that the within-region component remains the major source of Vietnam’s inequality. The Theil coefficient shows that 80% of overall inequality was attributable to within-region differences. Comparing the VLSS 92–93 and VLSS 97–98, the between-groups component accounts for a reduced share of Vietnam’s overall inequality.15 The effect of the

15. Glewwe et al. (2000) report similar findings, with decomposition of Theil coefficient indicating between-regions differences of 0.0264 and 0.0503 in 1992–93 and 1997–98 respectively.
changes in real per capita consumption between regions, as indicated by the mean log deviation, constitutes 54% of the overall increase in Vietnam’s inequality between the two surveys. The evidence supports the notion that the between-regions disparity is not yet the major source of Vietnam’s overall inequality. Nonetheless, it should be noted that the between-regions disparity in per capita real expenditure levels has widened over time.

VI. An International Comparison

How does inequality in Vietnam look in an international perspective? Different methodologies, data collection processes and survey years always make cross-country comparison difficult, not to mention that the underlying relationship between income and utility differs across countries. Nevertheless it is of some value to compare inequality in Vietnam with that in other countries.

It is apparent from Table 8 that inequality for Vietnam was one of the lowest for those countries with surveys conducted around 1992–93. Although inequality rose, as shown in the VLSS 97–98, Vietnam still remains at the lower end of the range for those countries with survey years around 1995–97.

Recall that while within-sector (urban and rural) and within-region disparities have a larger weight in overall inequality in Vietnam as indicated by the two VLSSs, between-sectors disparity is making an increasing contribution to overall
inequality in Vietnam. As shown by the mean logarithmic deviation in Table 3, the between-sectors effects constitute 75.8% (0.025) of the increases in total inequality in Vietnam (0.033) from 1992–93 to 1997–98. For the Theil’s entropy, the corresponding contribution is 75.3%. The increase in urban-rural expenditure differentials is the major factor behind the rising disparity in Vietnam. Similar results hold for China despite differences in the percentage contributions. In his study of the Sichuan and Jiangsu provinces in 1986, 1988, 1992 and 1994, Yang (1999) finds that the effect of sectoral (urban-rural) per capita expenditure changes, as indicated by the mean logarithmic deviation, constitutes 73% and 51% of the increase in overall inequality in Sichuan and Jiangsu. For the Theil entropy, the corresponding figures are 74% and 40%. Inequality within urban areas accounts for only small shares of overall inequality in both provinces over time.

Vietnam has recorded impressive economic growth since Doi Moi. This strong growth has probably reduced poverty to some extent. Yet, Vietnam remains one of the poorest countries in the world. What is the poverty situation in Vietnam during 1992–93 and 1997–98? To what extent have the poor benefited from the fruits of market reform? Table 9 examines poverty in Vietnam during 1992–93 and 1997–98. It also analyses the changes in poverty between the two periods. For 1992–93, the headcount ratio indicates that nearly 53% of the population was poor in the sense that their food consumption is not sufficient to provide 2100 calories per person per day. Poverty was almost twice as high in rural areas as in urban areas. Nearly 60% of the rural population was living below the poverty line as indicated by the headcount index. Given around 80% of the population reside in rural areas, about 88% of poverty in Vietnam was found in

17. World Bank (2000a) provides a good overview of Vietnam’s poverty situation in late 1990s.
18. According to the World Bank (2000b), overall poverty of Vietnam as indicated by the headcount ratio was 50.9% in 1993. The ratios for urban and rural areas were 25.9 and 57.2% respectively.
Table 10 Vietnam’s Poverty: An International Comparison

<table>
<thead>
<tr>
<th>Headcount ratio</th>
<th>Survey year</th>
<th>Urban</th>
<th>Rural</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam</td>
<td>1992–93</td>
<td>31.7</td>
<td>57.9</td>
<td>52.7</td>
</tr>
<tr>
<td></td>
<td>1997–98</td>
<td>10.6</td>
<td>30.2</td>
<td>26.1</td>
</tr>
<tr>
<td>China</td>
<td>1998</td>
<td>&lt;2</td>
<td>4.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Ghana</td>
<td>1992</td>
<td>26.7</td>
<td>34.3</td>
<td>31.4</td>
</tr>
<tr>
<td>Jamaica</td>
<td>1992</td>
<td>–</td>
<td>–</td>
<td>34.2</td>
</tr>
<tr>
<td>India</td>
<td>1994</td>
<td>30.5</td>
<td>36.7</td>
<td>35.0</td>
</tr>
<tr>
<td>Pakistan</td>
<td>1991</td>
<td>28.0</td>
<td>36.9</td>
<td>34.0</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>1995–96</td>
<td>14.3</td>
<td>39.8</td>
<td>35.6</td>
</tr>
<tr>
<td>Peru</td>
<td>1997</td>
<td>40.4</td>
<td>64.7</td>
<td>49.0</td>
</tr>
<tr>
<td>Hungary</td>
<td>1993</td>
<td>–</td>
<td>–</td>
<td>8.6</td>
</tr>
</tbody>
</table>

Source: Author’s own calculations, World Bank (2000c).

rural areas. In other words, the primary task of attacking poverty in Vietnam was to reduce poverty in rural areas.

What is the incidence of poverty in 1997–98? By all measures poverty has decreased significantly. Under 30% the Vietnamese population was poor, if using the same poverty line as in 1992–93, adjusted for price differential between January 1993 and January 1998. Poverty was almost halved over the five-year period. A similar conclusion is drawn in the study of Glewwe et al. (2000). 19 In line with urban poverty, rural poverty also declined remarkably between the two periods of time. As indicated by the headcount ratio, urban poverty declined by two-thirds – only about 10% of the urban population was living below the poverty line during 1997–98. Rural poverty also fell. Nevertheless the reduction in rural poverty lagged behind that of urban poverty – it declined by 48%, while urban poverty fell by 66.6% between the two periods. 20 Regional disparities in the degree and depth of marketization, and the reduction in public provision of social services may contribute to the lagging behind of the average income gains in rural areas (Dollar, Glewwe and Litvack, 1998). Reducing rural poverty remains vital in combating poverty in Vietnam. Other poverty measures paint a similar picture.

How does Vietnam fare in terms of poverty among other countries? It would be clearer if overall poverty in Vietnam could be compared with that of other countries using the international poverty line (It is defined by the World Bank as the population below US$1 purchasing power parity a day). However this sort of data for different countries is difficult to get. With this caveat in mind, Table 10 presents the headcount ratio calculated at the national poverty lines to help to examine poverty in Vietnam in an international perspective. It shows that the extent of

19. They report a 55% fall in the Foster-Greer-Thorbecke index from 1992–93 to 1997–98. Other poverty indicators also suggest a substantial reduction in poverty between the two-survey period.
20. It is not clear whether migrants to the urban areas were excluded from the surveys. Since these migrants are usually the poorest in urban areas, the exclusion of them would underestimate the extent of poverty in urban areas (Glewwe et al., 2000).
poverty as measured by the headcount ratio is much greater than that of China. Table 10 also shows that the headcount ratio of Vietnam was higher than that of Ghana and Jamaica during 1992–93. However poverty had declined significantly by 1997–98. Vietnam has achieved a headcount ratio lower than such countries as Peru and Bangladesh. Even if it still lagged behind China and Hungary.

VII. Conclusion

The availability of the VLSS 92–93 and the VLSS 97–98 make it possible to evaluate the changes of the living standards in Vietnam during the transition to a market economy and to examine how Vietnam fared in an international perspective. Using the individual as the unit of analysis, this paper examines the locational aspects of inequality and poverty in Vietnam. The main finding is that the living standards of Vietnam improved substantially between 1992–93 and 1997–98. There was a moderate increase in inequality during the market reform, but inequality in Vietnam was low relative to other countries. It is common in transitional countries for there to be a large gap in expenditures between urban and rural areas. By using various inequality indices, this paper has found that inequality within each sector constitutes a large part of Vietnam’s overall inequality at each point in time. Comparison over time has seen an increase in Vietnam’s overall inequality. More importantly, inequality has made the major contribution to increased overall inequality.

Among the locational aspects of Vietnam’s inequality is the role of regional differences. As shown in the VLSS92–93, the Southeast is the wealthiest as well as the most unequally-distributed region. While it remains the wealthiest among other regions as indicated by the VLSS97–98, inequality in other regions has caught up with it over time. Within-region inequality is the major component in Vietnam’s overall inequality in both survey periods. Between-regions disparity increased and accounted for most of the rise in the overall inequality in Vietnam between 1992–93 and 1997–98.

Vietnam has achieved a substantial reduction in poverty, placing it among the relatively good performers in terms of the extent of poverty. This result confirms the notion that poverty could be reduced substantially within a few years after the inauguration of market reform. Nonetheless poverty in Vietnam is not without problems. Rural poverty has fallen more slowly than urban poverty. The headcount ratio, for instance, indicates that during 1997–98 about 30% of the rural population still lived below the poverty line compared to 10% of the urban population. Policies to combat rural poverty remain an important task in poverty reduction in Vietnam.

21. China’s poverty incidence is very low in relation to the national poverty line. According to a World Bank source, this is because Chinese government’s poverty line is set at a very low level – about 635 Yuan per year in 1998. This poverty line is equivalent to only $0.70 per day in purchasing power parity at 1993 prices.
The widening urban-rural disparity and the concentration of the poor in rural areas have highlighted the importance of raising rural income. While possibilities for expanding agricultural land are limited, there is a potential for improving productivity. Assistance in expanding crop varieties, adopting efficient production techniques and provision of infrastructure are a few factors that would increase agricultural productivity. Diversifying into off-farm activities can also contribute to raising rural income.

References
MARKETS, INEQUALITY AND POVERTY IN VIETNAM


