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1. Introduction

Education is the key to national development and considered to be one of the principal means of alleviating poverty and inequality (De Janvry and Sadoulet, 2016). It is a major determinant of income, and a positive relationship is likely to exist between inequality in educational attainment and income inequality. Whether the expansion of education has narrowed or widened income inequality is of policy relevance in developing countries. Asian developing countries have made significant progress in education over the last decades. However, many of them still suffer from high poverty and inequality. Against this background, this study attempts to analyze the roles of education in the distribution of economic well-being in Asian developing countries that have developed relatively rapidly over the last two decades. The analysis is conducted in an urban and rural dual framework, since disparity between urban and rural areas is one of the main determinants of the distribution of economic wellbeing and there is a large difference in socioeconomic structure between urban and rural areas (Eastwood and Lipton, 2004; Shorrocks and Wan, 2005; Kanbur and Zhuang, 2013).

This study uses data from nation-wide household surveys conducted by central statistical offices. As a measure of economic well-being, it uses expenditure rather than income for the following reasons (Akita, Lukman and Yamada, 1999). First, expenditure data are usually more reliable than income data in developing countries since households in higher income groups tend to underreport their incomes. Second, welfare levels are likely to be better indicated by current expenditure than by current income. We should note, however, that expenditure inequality is usually smaller than income inequality since higher income households tend to save a larger proportion of their incomes.

We choose Indonesia, Myanmar and the Philippines as a sample of Asian developing countries and make a comparison among these countries in terms of the roles of education in the distribution of economic well-being. These three countries belong to the Association of South East Asian Nations (ASEAN) and are among the middle-income countries whose population exceeds 50 million. Indonesia is the world's largest archipelagic country and also the world's largest Muslim country. It comprises more than 13,000 islands. Meanwhile, the Philippines is the world's second largest archipelagic country, which consists of more than

7,000 islands. These two countries are diverse in terms of geography, natural resource endowments, ethnicity and culture; Indonesia and the Philippines accommodate, respectively, 300 and 110 ethnic groups. Myanmar is bordered by Bangladesh, China, India, Laos, and Thailand and joined ASEAN in 1997. In terms of land area, the country is the largest among the mainland ASEAN countries (Cambodia, Laos, Malaysia, Myanmar, Singapore, Thailand and Vietnam). Myanmar is also ethnically diverse with more than 100 ethnic groups.

Among the three countries, Indonesia has the largest population with 258 million in 2015, and 56% of them are living in the island of Java where the city of Jakarta is located (Table 1). The Philippines and Myanmar follow next with 102 million and 53 million, respectively. In the Philippines, 53% of the population are in the island of Luzon, where the city of Manila is located. Meanwhile, in Myanmar, around 14% of the population live in the region of Yangon, the largest region in the country. Indonesia is the most developed country in terms of per capita GDP, whose per capita GDP is 1.5 times that of the Philippines and 2.9 times that of Myanmar (Table 1). In Indonesia and the Philippines, the manufacturing share of total GDP has been declining gradually over the last two decades, while in Myanmar, it has been rising rapidly. As a result, these three countries registered the same level of the manufacturing share of total GDP in 2015. It seems that Indonesia and the Philippines have undergone premature output deindustrialization since the 2000s (Rodrik, 2016).

Table 1

Education system differs considerably among these three countries. In Indonesia, the formal education system consists of four levels: preprimary; basic compulsory education including six years of primary education (starting at seven years of age) and three years of junior secondary education; three years of senior secondary education; and tertiary education (one to four years of diploma programs and international standard bachelor's, master's and doctoral programs) (Di Gropello, 2011a). At each level of education, an Islamic counterpart is available to students, which serves as an alternative to the general education system (Di Gropello, 2011a). In Myanmar, the formal education system encompasses preschool, basic compulsory education (five years of primary education starting at five years of age inclusive of kindergarten), four years of junior secondary education, two years of senior secondary education, and tertiary education (bachelor's, master's and doctoral programs) (UNESCO, 2011; Hayden and Martin, 2013). In addition to formal education, monastic schools run by Buddhist monks are available for needy and orphans at the primary and secondary levels (Hayden and Martin, 2013). In the Philippines before 2012, the formal education system

consisted of preprimary, basic compulsory education including six years of primary education (starting at six years of age) and four years of secondary education, two years of postsecondary technical and vocational education programs or tertiary education (bachelor's, master's and doctoral programs) (Di Gropello, 2011b). Since 2013, however, basic compulsory education has been expanded to 13 years from kindergarten to senior secondary education (one year of kindergarten starting at five years of age, six years of primary education, and two years of junior and four years of senior secondary education) (UNESCO, 2015).

All three countries have made steady progress in education over the last two decades; their gross primary education ratios have exceeded 100% since the early 1990s. As shown in Figure 1, in the period from 2001-2015, the Philippines has raised its gross secondary enrollment ratio from 75% to 88%, while Indonesia has increased its ratio from 55% to 86%. Though the ratio is much smaller, Myanmar has increased its ratio from 38% to 52%. As shown in Figure 2, however, the progress of tertiary education varies among the three countries. While Indonesia has made substantial progress in tertiary education by raising its gross tertiary enrollment ratio from 14% to 33%, Myanmar increased its ratio merely from 11% to 14% and the Philippines from 31% to 35%. In Myanmar, tertiary education is still underdeveloped, and universities are concentrated in major cities such as Yangon and Mandalay. The gross tertiary enrollment ratio is the second lowest among ASEAN counties next to Laos.

Figures 1 and 2

This study first analyzes inequality in the number of years of education among households (hereafter, educational inequality) by conducting an inequality decomposition analysis by urban and rural sectors using the Gini coefficient. It then employs the Blinder-Oaxaca decomposition method to examine the effects of education on urban-rural disparity in mean per capita expenditure (hereafter, expenditure inequality) (Blinder, 1973; Oaxaca, 1973). Finally, using the two-stage hierarchical Theil decomposition method developed by Akita and Miyata (2013), this study analyzes the role of education in expenditure inequality after removing the effect of urban-rural differences in educational endowments on expenditure inequality. It should be noted that to measure expenditure inequality, the Theil index T is employed.[1] But, to measure educational inequality, the Gini coefficient is used

[1] The formula of the Theil index T will be presented in the methodology section. In this study, another Theil index, the Theil index L, is also used to perform a hierarchical inequality decomposition analysis. But the result

since a household with no education is given 0 year of education and thus it is not possible to calculate the Theil index *T*. These inequality measures satisfy several desirable properties such as anonymity principle, mean independence, population-size independence and the Pigue-Dalton transfer principle (Anand, 1983; Haughton and Khandker, 2009). Moreover, the Theil index *T* is additively decomposable by population sub-groups, that is, total inequality can be expressed as the sum of the within- and between-group inequality components (Bourguignon, 1979; Shorrocks, 1980). However, the Gini coefficient cannot be decomposed in this way, since the residual term emerges when the distributions of population sub-groups overlap (Lambert and Aronson, 1993; Dagum, 1997).

2. Literature Review

A spate of studies has been conducted to analyze the relationship between the level of education, educational inequality and income or expenditure inequality. Some of these studies include Knight and Sabot (1983), Ram (1989, 1990), Park (1996), Chu (2000), De Gregorio and Lee (2002), Lin (2006) and Abdullah, Doucouliagos and Manning (2015). Based on a dataset of around 100 countries, Ram (1990) found that there is an inverted-U shaped relationship between the level of educational attainment and educational inequality, that is, educational inequality first increases, attains the peak and then declines with educational expansion. Ram (1990) claimed that educational inequality may decline monotonically with educational expansion for less-developed countries which have already reached a certain level of educational attainment and have adopted free and universal primary education. Using a dataset of 59 countries, Park (1996) found that a higher level of educational attainment tends to reduce income inequality and educational inequality is positively associated with income inequality. Based on a panel dataset of more than 100 countries for the period from 1960 to 1990, De Gregorio and Lee (2002) found that higher educational attainment and more equal distribution of education appear to play a significant role in equalizing income distribution. Based on 64 empirical studies, Abdullah, Doucouliagos and Manning (2015) performed a meta regression analysis to investigate the effect of education on inequality and found that education appears to be an effective means for reducing inequality.

In an urban-rural dual framework, our study analyzes the role of education in expenditure inequality using the Theil decomposition method. The studies that employed the

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is similar to the one by the Theil index *T* qualitatively and thus it is not presented.

Theil decomposition method include Ikemoto (1985) for Malaysia, Glewwe (1986) for Sri Lanka, Ikemoto and Limskul (1987) for Thailand, Ching (1991) for the Philippines, Tsakloglou (1993) for Greece, Estudillo (1997) for the Philippines, Akita, Lukman and Yamada (1999) for Indonesia, Kanbur and Zhang (1999) for China, Parker (1999) for U.K., Dickey (2001) for Great Britain, Liu (2001) for Vietnam, Gray, Mills & Zandvakili (2003) for Canada, Mukhopadhaya (2003) for Singapore, Rao, Banerjee and Mukhopadhaya (2003) for Singapore, Motonishi (2006) for Thailand, Tang and Petrie (2009) for Australia, and Akita and Miyata (2013) for Indonesia. According to the studies that examined the role of education in inequality using the Theil decomposition method, education is one of the major determinants of income or expenditure inequality by accounting for around 20-40% of overall inequality. On the other hand, according to the Theil decomposition studies that analyzed the role of urban and rural locations in inequality, urban-rural disparity explains around 10-30% of overall income or expenditure inequality. It should be noted that unlike most previous studies which employed the one-stage Theil decomposition method, our study uses the two-stage hierarchical Theil decomposition method developed by Akita and Miyata (2013).

In Indonesia, there are many studies that have analyzed expenditure or income inequality using data from the National Socioeconomic Survey (*Susenas*) or the Family Life Survey (IFLS). They include Hughes and Islam (1981), Islam and Khan (1986), Asra (1989), Akita and Lukman (1999), Akita, Lukman and Yamada (1999), Asra (2000), Akita and Miyata (2008), Akita and Miyata (2013), Hayashi, Kataoka and Akita (2014), Yusuf, Sumner and Rum (2014) and Chongvilaivan and Kim (2016). Among these studies, Akita and Miyata (2008), Akita and Miyata (2013) and Hayashi, Kataoka and Akita (2014) focused on education and examined the role of education in expenditure inequality in an urban and rural framework using the Theil decomposition method. Akita and Miyata (2008) used household expenditure data from the 1996, 1999 and 2002 *Susenas* to investigate the evolution of expenditure inequality associated with urbanization and educational expansion. According to them, widening inequality among urban households with higher levels of education, together with urbanization and educational expansion, appears to have contributed to the rise of overall inequality over the period 1996-2002. Hayashi, Kataoka and Akita (2014) used household expenditure data from the panel *Susenas* to analyze the role of education in expenditure inequality from spatial perspectives over the period 2008-2010. Using several decomposition methods, they found that differences in educational attainment levels appear

to have played an important role in expenditure inequality within urban areas and between urban and rural areas. Finally, based on the 1987, 1990 and 1993 *Susenas*, Akita, Lukman and Yamada (1999) examined the roles of location, age, education, gender and household size in expenditure inequality using the one-stage Theil decomposition method. They found that expenditure disparity across educational groups accounted for more than 30% of overall expenditure inequality as measured by the Theil index *T*.

In Myanmar, most previous studies that used data from the Household Income and Expenditure Surveys (HIES) have focused on poverty, and studies on inequalities are scarce. Some of these studies include Lar, et al. (2012), Shaffer (2015), Teerawichitchainan and Knodel (2015), Wagle (2016), World Bank (2017) and Mohanty et al. (2018). Using a new household-level dataset for the Mawlamyine township (capital city of the Mon state), Lar, et al. (2012) analyzed the level, causes and consequences of poverty in one of the most promising areas for economic development. By estimating the incidence, depth and severity of poverty in rural, semi-urban and urban sections of the township, they found that semi-urban areas had the highest amount of absolute poverty. They also measured income and expenditure inequality using the Gini coefficient and found that urban areas had the largest inequality. They argued that poverty may most effectively be reduced by education, remittances and motorcycle ownership. Based on a poverty and vulnerability assessment survey carried out in 2013, Mohanty et al. (2018) estimated multidimensional poverty in the mountainous states of Chin and Shan and observed that almost half the population in Shan and three-quarters in Chin were multidimensionally poor and multidimensional poverty is negatively associated with education. They urged the need for a geographical focus for poverty alleviation in Myanmar.

In the Philippines, studies on the distribution of economic well-being using data from the Family Income and Expenditure Surveys (FIES) include Ching (1991), Estudillo (1997), Balisacan and Pernia (2002), Balisacan and Fuwa (2003, 2004), Pernia (2008), Son (2008), Mapa, Balisacan, Briones and Albis (2009), and Seriño (2014). Among these studies, Ching (1991), Estudillo (1997) and Seriño (2014) analyzed the roles of household attributes in income inequality using the one-stage Theil decomposition method. Using data from the 1985 FIES, Ching (1991) considered location, education, age, gender and household size as major determinants of income inequality and found that income disparity across educational groups of household head was the largest contributor to overall income inequality by accounting for 39% of overall inequality as measured by the Theil index *T*. On the other

hand, Estudillo (1997) used data from the 1971 and 1991 FIES in addition to the 1985 FIES to analyze the roles of location, education and age in income inequality and obtained results similar to Ching (1991), where the contribution of income disparity across educational groups of household head was the largest amounting to 25-35% of overall income inequality as measured by the Theil index *T*. Based on the 2000 and 2006 FIES, Seriño (2014) considered location, education and age as main determinants of income inequality in Eastern Visayas, one of the 13 regions of the Philippines. The study found that the contribution of income disparity across educational groups of household head was very large at around 40% of overall inequality as measured by the Theil index *T*.

3. Method and The Data

3.1. Methods

Decomposition of Education Gini Coefficient by Location (Urban and Rural Sectors)

To examine educational inequality, we conduct an inequality decomposition analysis by urban and rural sectors using the Gini coefficient. Unlike the Theil index *T*, the Gini coefficient fails to decompose additively into within- and between-group components since an extra term emerges if the distributions of educational attainment for the urban and rural sectors overlap. Nevertheless, we employ the Gini coefficient to conduct a decomposition analysis of educational inequality by urban and rural sectors, since there is a certain overlap between the urban and rural sectors in the distribution of educational attainment and it is interesting to know how this overlap evolves with the expansion of education.

Suppose that there are *N* households in a country, who are classified into the urban and rural sectors (sectors 1 and 2, respectively), and the educational level of a household is measured by the number of years of education completed by its household head. We let e_{ih}, μ and N_i be the number of years of education of household h in sector i, the mean number of years of education of all households, and the total number of households in sector i.[2] Then, overall educational inequality can be measured by the following Gini coefficient.

$$G = \frac{1}{2N^2\mu}\sum_{i=1}^{2}\sum_{j=1}^{2}\sum_{h=1}^{N_i}\sum_{k=1}^{N_j}\left|e_{ih} - e_{jk}\right| \qquad (1)$$

The education Gini defined by equation (1) can be additively decomposed into the within-sector Gini (G_{WS}), the between-sector Gini (G_{BS}) and the residual term (G_R) as follows (for details, see Lambert and Aronson, 1993; Dagum, 1997).

[2] Table A1 in the appendix presents the way how to determine the number of years of education completed by the head of household.

$$G = G_{WS} + G_{BS} + G_R \quad (2)$$

In equation (2), G_{WS} is a weighted average of the Gini coefficients for the urban and rural sectors, which is given by

$$G_{WS} = \sum_{i=1}^{2} p_i s_i G_i,$$

where p_i, s_i, and G_i are, respectively, the sector *i's* share of households, the sector *i's* share of the number of years of education, and the Gini coefficient of sector *i*. On the other hand, G_{BS} is the Gini coefficient that would be obtained if each household in a sector was given the mean number of years of education for the sector. G_{BS} is defined as

$$G_{BS} = \frac{1}{2N^2\mu}\sum_{i=1}^{2}\sum_{j=1}^{2}\sum_{h=1}^{N_i}\sum_{k=1}^{N_j}|\mu_i - \mu_j| = \frac{1}{2\mu}\sum_{i=1}^{2}\sum_{j=1}^{2} p_i p_j |\mu_i - \mu_j|$$

where μ_i is the mean number of years of education for sector *i*. We should note that the residual term, $G_R = G - G_{WS} - G_{BS}$, is zero if the distributions of years of education for the urban and rural sectors do not overlap; but takes a positive value if they overlap.

Blinder-Oaxaca Decomposition Analysis

To analyze the extent to which educational endowments explain the difference in mean per capita expenditure between the urban and rural sectors, we perform a Blinder-Oaxaca decomposition analysis (Blinder, 1973; Oaxaca, 1973). Consider the linear regression model for the urban and rural sectors (sectors 1 and 2, respectively),

$$y_k = \boldsymbol{X}_k'\boldsymbol{\beta}_k + e_k \qquad E(e_k) = 0$$

where y_k, $\boldsymbol{X}_k$, $\boldsymbol{\beta}_k$, and e_k are, respectively, the natural log of per capita expenditure, a vector of explanatory variables, a vector of coefficients associated with explanatory variables, and the error term. If we let $\widehat{\boldsymbol{\beta}}_k$, $\widehat{\boldsymbol{\beta}}^*$ and $\overline{\boldsymbol{X}}_k$ be, respectively, a vector of the least-squares estimates for $\boldsymbol{\beta}_k$ obtained separately from the urban and rural samples, a vector of the least-squares estimates of the coefficients obtained from the pooled sample of urban and rural households, and the estimate for $E(\boldsymbol{X}_k)$, then the estimated urban-rural difference in mean per capita expenditure is given by:

$$\widehat{D} = \bar{y}_1 - \bar{y}_2 = (\overline{\boldsymbol{X}}_1 - \overline{\boldsymbol{X}}_2)'\widehat{\boldsymbol{\beta}}^* + \left(\overline{\boldsymbol{X}}_1'(\widehat{\boldsymbol{\beta}}_1 - \widehat{\boldsymbol{\beta}}^*) + \overline{\boldsymbol{X}}_2'(\widehat{\boldsymbol{\beta}}^* - \widehat{\boldsymbol{\beta}}_2)\right). \quad (3)$$

This is the twofold decomposition equation suggested by Newmark (1988). The first term in equation (3) is the part that is explained by urban-rural differences in the explanatory variables (endowments effect), while the second term is the unexplained part.

In the regression model, we include, as explanatory variables, years of education, age, age squared, household size, and gender. For Myanmar, another explanatory variable, unemployment, is added, while for the Philippines, another explanatory variable, agriculture,

is added. Unemployment is a dummy variable, where unemployment for a household is given one if the household head is unemployed. Agriculture is also a dummy variable, where agriculture for a household is given one if the household head is employed in the agricultural sector.

Two-Stage Hierarchical Decomposition of Expenditure Inequality by the Theil Index T

To investigate the roles of education in expenditure inequality in an urban-rural dual framework, we conduct a two-stage hierarchical inequality decomposition analysis by location and education using the Theil index *T*. In this analysis, all households are first classified into the urban and rural sectors and then, households in each of these sectors are classified into education groups.

We let y_{ijk}, Y, N_{ij}, and m be, respectively, the per capita expenditure of household k in education group j in sector i, total per capita expenditure of all households, the number of households in education group j in sector i, and the number of education groups. Then overall inequality in per capita expenditure is given by the Theil index T as follows:

$$T = \sum_{i=1}^{2}\sum_{j=1}^{m}\sum_{k=1}^{N_{ij}}\left(\frac{y_{ijk}}{Y}\right) log\left(\frac{y_{ijk}/Y}{1/N}\right) \quad (4)$$

Next, we let Y_{ij} and Y_i denote, respectively, the total per capita expenditure of households in education group j in sector i and the total per capita expenditure of households in sector i. Then, the Theil index T in equation (4) can be decomposed hierarchically into the between-sector inequality component (T_{BS}), the within-sector between-group inequality component (T_{WSBG}), and the within-sector within-group inequality component (T_{WSWG}) as follows:

$$\begin{aligned} T &= T_{BS} + \sum_{i=1}^{2}\left(\frac{Y_i}{Y}\right)T_i \\ &= T_{BS} + \sum_{i=1}^{2}\left(\frac{Y_i}{Y}\right)T_{BGi} + \sum_{i=1}^{2}\sum_{j=1}^{m}\left(\frac{Y_{ij}}{Y}\right)T_{ij} \\ &= T_{BS} + T_{WSBG} + T_{WSWG} \end{aligned} \quad (5)$$

where T_i, T_{BGi} and T_{ij} are, respectively, inequality within sector i, inequality between education groups in sector i, and inequality within education group j in sector i. Equation (5) presents the two-stage hierarchical inequality decomposition equation for location and education (Akita and Miyata, 2013).

We should note that the two-stage nested Theil decomposition method, developed by Akita (2003), is similar to equation (5). However, it is based on district-level GDP data rather

than household-level data and considers a natural hierarchical structure, that is, region-province-district, in which each region is composed of a different set of provinces and each province consists of a different set of districts. By contrast, in equation (5), the urban and rural sectors have the same set of education groups.

In the two-stage hierarchical decomposition, the order of decomposition can be reversed, that is, overall inequality can be decomposed hierarchically into the between-group inequality component (T_{BG}), the within-group between-sector inequality component (T_{WGBS}), and the within-group within-sector inequality component (T_{WGWS}) as follows:

$$T=T_{BG}+T_{WGBS}+T_{WGWS} \quad (6)$$

We should note that T_{WGWS} in equation (6) is the same as T_{WSWG} in equation (5). In the hierarchical inequality decomposition method, therefore, the order of decomposition matters. In order to cope with this problem, Tang and Petrie (2009) proposed an alternative multivariate decomposition framework, that is, the non-hierarchical decomposition method, in which the Theil index is decomposed non-hierarchically, that is, simultaneously with respect to some nominal scaled variables such as location, education, gender, ethnicity and age. In the context of inequality decomposition by location and education, the non-hierarchical decomposition equation is given by

$$T=T_{BS}+T_{BG}+T_{ISG}+T_{WSWG} \quad (7)$$

where T_{ISG} is the sector-group interaction term. Since we have $T_{WSBG}=T_{BG}+T_{ISG}$ from equations (5) and (7), the interaction term is obtained by $T_{ISG}=T_{WSBG}-T_{BG}$. We should note, however, that the non-hierarchical decomposition method is unable to examine the difference in the structure of educational attainment between the urban and rural sectors, even though it can suggest, based on an interaction term, the significance of the difference in educational endowments between them. In contrast, the hierarchical decomposition method can analyze the difference in the structure of educational attainment by performing a one-stage decomposition analysis by education for each sector.

3.2. The Data

Table 2 presents the sample sizes of nation-wide household surveys in Indonesia, Myanmar and the Philippines used by this study. It also provides the distribution of households across educational groups in urban and rural areas and the shares of urban and rural households.[3] The sample sizes are large enough to estimate inequalities by educational groups in urban

[3] The distributions of households are estimated using sampling household weights.

and rural areas. In Indonesia, the National Socioeconomic Survey (*Susenas*) has been conducted by the Central Bureau of Statistics since 1963. This study analyzes data from the 2000, 2006 and 2011 *Susenas*. In Indonesia, households are classified into the primary, secondary and tertiary education groups in terms of the education levels of their household heads.[4] The primary education group includes households whose heads have either no education, incomplete primary education or primary education. The secondary group consists of households whose heads completed junior or senior secondary education, whereas the tertiary group includes households whose heads have completed one-, two- or three-year junior college (Diploma 1, 2, 3), four-year university/college (Diploma 1 and bachelor's degree), master's degree, or doctor's degree program.

Table 2

In Myanmar, the Household Income and Expenditure Survey (HIES) has been conducted every four to six years since 1997 by the Central Statistical Organization of the Ministry of Planning and Finance in collaboration with the United Nations Development Program.[5] This study uses data from the 2006 and 2012 HIES. In Myanmar, households are classified into five groups, that is, no education, pre-primary, primary, secondary and tertiary education groups since the no and pre-primary education groups together constitute more than 40% of households. The pre-primary education group includes households whose heads have no education but literate, monastic education or incomplete primary education. The secondary group includes households whose heads have junior or senior secondary education, while the tertiary group includes households whose heads have vocational education, bachelor's, master's or doctor's degrees. It should be noted that in the HIES questionnaire, no distinction is made between bachelor's, master's and doctor's degree programs.

In the Philippines, the Family Income and Expenditure Survey (FIES) has been undertaken every three to six years since 1957 by the National Statistical Office. This study uses data from the 2000 and 2006 FIES. Like Indonesia, households are classified into the primary, secondary and tertiary education groups. The primary education group includes households whose heads have no education, pre-primary education or primary education. The secondary group includes households whose heads have incomplete secondary or

[4] See Table A1 in the appendix for the classifications of households in Indonesia, Myanmar and the Philippines.
[5] Since 2015, the name of the survey has been changed to the Myanmar Living Condition Survey.

secondary education, while the tertiary group includes households whose heads have vocational education, bachelor's, master's or doctor's degrees.

4. Empirical Results

4.1. Decomposition of Education Gini by Location (Urban and Rural Sectors)

Before examining the roles of education in expenditure inequality, it is instructive to analyze educational inequality since a positive relationship is likely to exist between educational inequality and expenditure inequality. Table 3 presents the result of the decomposition of education Gini by urban and rural locations.

Table 3

In Indonesia, the mean level of educational attainment has increased steadily in both urban and rural areas (see Table 2). In 2000, the mean years of education in the urban and rural sectors were, respectively, 8.3 and 5.1 years; but they have increased gradually to 9.2 and 6.3 years in 2011. We should note that the speed of educational expansion has been faster in rural than urban areas; thus, the urban-rural ratio in mean years of education has declined to 1.46 in 2011 from 1.63. Nonetheless, a noticeable educational disparity still existed between the urban and rural sectors. Overall educational inequality has decreased gradually from 0.37 to 0.33. The expansion of secondary education appears to have not only reduced educational disparity between the urban and rural sectors but also educational inequality within the rural sector. Their combined contribution to overall educational inequality has thus declined from 60% to 49%. Meanwhile, the contribution of the residual term, which represents the overlap in the distribution of educational attainment between the urban and rural sectors, has risen from 21% to 25%. The urban sector has a much smaller educational inequality than the rural sector. Since its inequality has remained almost constant, its contribution to overall educational inequality has increased from 18% to 26%.

In Myanmar, one of the peculiar phenomena is that the pre-primary and primary education groups have raised their population shares, while the secondary education group has lowered its share in both urban and rural sectors (see Table 2). As a result, the mean years of education have declined slightly from 5.6 years to 5.4 years. Due mainly to the expansion of pre-primary and primary education, overall educational inequality has declined from 0.35 to 0.32. The expansion was more prominent in the rural sector than in the urban sector; thus, rural educational inequality has declined notably from 0.35 to 0.30. In 2012, it was slightly smaller than urban educational inequality since urban inequality has remained constant. However, since the rural sector had a much larger population share, rural inequality

accounted for 35% of overall educational inequality. The contribution of the urban-rural disparity to overall educational inequality has risen from 25% to 28%. By contrast, the contribution of the residual term, which shows the overlap in the distribution of educational attainment between the urban and rural sectors, has declined from 25% to 23%.

In the Philippines, the mean level of educational attainment has risen in both urban and rural areas, where the primary education group has lowered its population share while the secondary and tertiary groups have raised their shares (see Table 2). In 2000, the mean years of education in the urban and rural sectors were, respectively, 9.0 and 6.3 years; but they increased to 9.2 and 6.6 years in 2006. With the expansion of secondary education, urban and rural educational inequalities have both declined, though their contributions to overall inequality have remained almost constant, respectively, at 23% and 23-24%. Since the expansion of secondary and tertiary education was slightly faster in the rural than in the urban sector, urban-rural educational disparity has also decreased. Overall educational inequality has thus declined, though slightly from 0.29 to 0.28 by the Gini coefficient.

In sum, overall educational inequality has declined in all three countries over the study periods. In Indonesia, declining rural inequality induced by the expansion of secondary education contributed to reducing overall educational inequality, while in Myanmar, declining rural inequality induced by the expansion of pre-primary and primary education contributed to the decrease in overall inequality. On the other hand, declining urban and rural inequalities brought about by the expansion of secondary education contributed equally to the reduction of overall inequality. In Indonesia, secondary education has expanded more rapidly in rural than in urban areas. This has not only reduced rural educational inequality but also narrowed educational disparity between the urban and rural sectors.

4.2. Blinder-Oaxaca Decomposition Analysis

We found in the previous subsection that the expansion of compulsory education appears to have reduced overall educational inequality in all three countries. In this subsection, we analyze the role of education in urban-rural disparity in mean per capita expenditure using the Blinder-Oaxaca decomposition method. Table 4 presents the result. In all three countries, the urban-rural difference of educational endowments has been the major determinant of urban-rural difference in mean per capita expenditure as it accounted for around 30-40% of the expenditure difference. This suggests that narrowing urban-rural educational gap is the key to reduce the expenditure disparity. As discussed previously, primary education has been compulsory in all three countries; thus, its gross enrollment ratio has exceeded 100%.

However, many rural households have completed only primary education or less. Particularly in Myanmar, more than half of rural households have not completed primary education. Thus, promoting and strengthening primary education is essential in rural Myanmar to decrease urban-rural educational gap; this would in turn reduce urban-rural expenditure disparity. On the other hand, in Indonesia and the Philippines, promoting and strengthening secondary education is necessary in rural areas to reduce urban-rural educational gap in addition to improving the quality of primary education.

Table 4

4.3. Hierarchical Decomposition of Expenditure Inequality by Location and Education

Table 5 presents, hierarchically, the results of an inequality decomposition analysis by urban and rural locations and an inequality decomposition analysis by educational groups in each of the urban and rural sectors, where the contributions are all measured against overall expenditure inequality rather than urban and rural expenditure inequalities.[6]

Table 5

4.3.1. Indonesia

In Indonesia, overall expenditure inequality has increased prominently from 0.20 to 0.32 over the study period (see Table 5a). According to the expenditure shares of decile groups, the richest decile group has raised its expenditure share significantly from 26.8% in 2000 to 32.2% in 2011, while most other decile groups lost their shares (see Table A3a in the appendix). According to Table 1, the economic growth was not high in Indonesia compared to other ASEAN countries, but it has favored the richest segment of the population disproportionately. While poverty incidence has declined, the growth in this period was not pro-poor in the strict sense (Kakwani and Pernia, 2000; De Silva and Sumarto, 2014).[7] Like other Asian countries, the urban sector has a much larger expenditure inequality than the rural sector due to the heterogeneous nature of its economy accommodating a wide variety of job opportunities (Eastwood and Lipton, 2004). During the study period, urbanization has proceeded rapidly; in 2000, the urban sector accounted for 42% of all households, but its share has risen to 50% in 2011 (see Table 2). Due in part to the rising share of urban households, the level and trends of overall inequality resemble very closely those of urban

[6] Table A2 in the appendix summarizes these results based on the hierarchical decomposition equation (equation (5)). It also presents the result of a non-hierarchical decomposition analysis (equation (7)).
[7] Growth is strictly pro-poor if it is accompanied by the reduction of inequality/

inequality. Meanwhile, expenditure disparity between the urban and rural sectors was not large. After increasing to 0.044 in 2006 from 0.030 in 2000, it has declined to 0.034 in 2011, due in part to declining urban-rural disparity in educational endowments (see Table 5a). The contribution of the between-sector inequality to overall inequality has thus declined to 10.5% in 2011 from 17.7% in 2006 (see Tables 5a).[8] In 2011, 90% of overall inequality was due to inequalities within the urban and rural sectors.

To further explore the determinants of inequalities within the urban and rural sectors, we conducted a Theil decomposition analysis by educational groups in each sector. According to Table 5a, there is a notable difference between the urban and rural sectors in the contribution of disparity between educational groups. In urban areas, expenditure disparity between educational groups was a prominent contributor to overall inequality, but not in rural areas. Expenditure disparity between educational groups has risen in both urban and rural areas. Particularly, the urban sector increased its between-group disparity notably from 0.035 to 0.076. The contribution of urban sector's between-group disparity has thus risen from 9.6% to 14.8% (see Tables 5a). In both urban and rural areas, higher educational group tends to have a larger within-group inequality. In 2011, the tertiary education group had the highest within-group inequality at 0.30 in urban areas, which is followed by the secondary and primary education groups, respectively, at 0.24 and 0.23. The contribution of tertiary group's inequality in urban areas has increased from 11.2% to 15.6%. In sum, the rise in overall expenditure inequality is due mainly to the rise in disparity between educational groups and tertiary group's inequality in urban areas. Their combined contribution has increased notably from 20.8% (= 9.6% + 11.2%) in 2000 to 30.4% (14.8% + 15.6%) in 2011.

Since junior secondary education was made compulsory in 1994, secondary education has expanded prominently. According to Figure 1, the GER of secondary education has increased from 55.5% in 2001 to 79.1% in 2011. Tertiary education has also expanded very rapidly, with the labor market requiring more formal professional qualifications and demanding a more skilled workforce (Hill and Wie, 2013). According to Figure 2, the GER of tertiary education was 14.2% in 2001; but it increased prominently to 26.3% in 2011. The expansion of secondary and tertiary education, particularly in urban areas, appears to have

[8] The between-sector inequality refers to expenditure disparity between the urban and rural sectors, while the between-group disparity refers to expenditure disparity between educational groups.

played an important role in the rise of overall expenditure inequality by raising not only disparity between educational groups but also inequalities within the tertiary education group.

Based on the 2011 *Susenas*, Table 6 presents the distribution of households according to occupation in each of the three educational groups. In the tertiary education group, about 8.5% of urban households are engaged in the information/communication and finance/real estate sectors. This share is much larger than the shares in the primary and secondary education groups (0.3% and 2.4%, respectively). These two sectors have been growing very rapidly; their annual average GDP growth rates, respectively, at 21.1% and 6.7% over the period 2000-2011, are much larger than the country's growth rate of 5.3%. Though not as rapid as the information/communication and finance/real estate sectors, the education, health and government services sectors have also grown more rapidly than the country as a whole, and these services sectors have very large shares in the tertiary education group as compared to the primary and secondary groups. Due to growing demands for technical, managerial and professional skills required for these services sectors, households in the sectors seem to have had increasingly high wages and salaries as they have much higher mean per capita expenditures than those in other sectors in 2011. These observations are indicative of the growing inequality within the tertiary education group.

Table 6

The tertiary education group comprises three subgroups of households with respect to educational attainment levels: one, two or three-year junior college (subgroup1: Diploma 1, 2 or 3); four-year university/college (subgroup 2: Sarjana 1/Diploma 4); and master's or doctoral program (subgroup 3: Sarjana 2 or 3). Thus, we can further decompose its within-group inequality into inequalities within and between these three subgroups. Table 7 presents the result of this inequality decomposition in urban areas for 2000 and 2011. One of the major findings is that variations in mean per capita expenditure among the three subgroups are extremely small in urban areas. In 2011, the ratio between subgroups 1 and 3 in mean per capita expenditure was 1.5, while the ratio between subgroups 1 and 2 was 1.1. This implies that tertiary group's inequality in urban areas is due largely to inequalities within its subgroups. Particularly in 2011, subgroup 1 (Diploma 1, 2 or 3) had a large inequality at 0.40, a significant increase from 0.23 in 2000. This seems to have contributed to the rise of expenditure inequality within the tertiary education group. Large inequalities within educational subgroups indicate that there are wide variations in the quality of education at the same education level.

Table 7

4.3.2. Myanmar

In Myanmar, overall expenditure inequality was 0.40 in 2006, but increased notably to 0.52 in 2012 (see Table 5b). Among Asian countries, this level of expenditure inequality is extremely high (Eastwood and Lipton, 2004). According to the expenditure shares of decile groups, the richest decile group has raised its expenditure share significantly from 35.2% in 2006 to 38.6% in 2012, while most other decile groups lost their shares (see Table A3b in the appendix). This indicates that rapid economic growth in this period has favored the richest segment of the population disproportionately, though it has lowered the incidence of poverty (see Table 1). The economic growth in this period (at more than 10%) was not pro-poor in the strict sense (Kakwani and Pernia, 2000). Since the urban sector offers a wide variety of job opportunities, urban inequality was much larger than rural inequality (see Table 5b). Both urban and rural inequalities have remained at a high level and have risen significantly. In both urban and rural sectors, only the richest group gained its expenditure shares, suggesting that high economic growth in this period has favored the richest segment of the population in both sectors (see Table A3b).

Expenditure disparity between the urban and rural sectors was not large, though showing an increasing trend; by the Theil index *T*, it accounted for only 1.6% and 5.3% of overall expenditure inequality, respectively, in 2006 and 2012 (see Tables 5b). In other words, within-sector inequalities are mostly responsible for high overall expenditure inequality; thus, it is necessary to explore the factors of expenditure inequality within the urban and rural sectors. However, unlike many other Asian countries, where income or expenditure disparity between educational groups accounts for around 15-20% of overall inequality, expenditure disparity between five educational groups was very small in both urban and rural sectors by accounting, respectively, for 2-3% and 1-2% of overall expenditure inequality. As shown in Table A2b in the appendix, the within-sector between-group inequality component (WSBG) accounted for 4.7% of overall expenditure inequality in 2012 (= 3.2% in urban + 1.5% in rural). The combined contribution of the between-sector inequality component (BS) and the within-sector between-group inequality component (WSBG) was 10.0% (= 5.3% + 4.7%) in 2012 (see Table A2b). In other words, 90% of overall expenditure inequality was due to the within-sector within-group inequality component (WSWG), where WSWG is the weighted average of expenditure inequalities within educational groups in the urban and rural sectors.

In the urban sector, the tertiary education group had the highest within-group expenditure inequality in 2012 at 0.71 and this was followed by primary at 0.54 and secondary at 0.50. They together accounted for 38.4% of overall expenditure inequality (= 10.9% + 15.3% + 12.2%). On the other hand, in the rural sector, the combined contribution of expenditure inequalities within the pre-primary and primary educational groups to overall inequality was 30.9% (= 20.2% + 10.7%). These observations suggest that to alleviate overall expenditure inequality, inequalities within these educational groups need to be reduced.

To further explore the determinants of expenditure inequality, a decomposition analysis by age groups, gender and employment status is conducted in each of these educational groups. However, these household attributes are found to be insignificant in determining expenditure inequality in both urban and rural sectors. It should be noted that in the urban primary and secondary education groups, expenditure inequality increases as we move from younger to older age groups (see Table 8). In the urban tertiary educational group, no such tendency exists; but the oldest group (aged 61 and more) had the highest within-group inequality. These observations suggest that in urban areas, formal job opportunities are limited for older households and many of these households are likely to be unemployed or work in the informal sector.[9] In Myanmar, pension coverage is also very low, mainly because only civil servants and political and defense personnel receive pensions at present; thus, retired households in the private sector need to rely on their savings and/or children for livings. In the rural pre-primary and primary education groups, the 51-60 age group had the highest expenditure inequality, and this is followed by the oldest group. The 51-60 age group accounted for one third of expenditure inequality in the rural pre-primary and primary groups. One of the reasons why expenditure inequality is high among older households in rural areas would be that land assets are not distributed equitably, and older landless households are less likely to be employed as laborers in agriculture.

Table 8

4.3.3. The Philippines

In the Philippines, unlike Indonesia and Myanmar, overall expenditure inequality has declined notably from 0.44 to 0.39 over the study period (see Table 5c). But this level of expenditure inequality is still high among Asian countries (Eastwood and Lipton, 2004).

[9] According to the World Development Indicators, informal employment as a proportion of total non-agricultural employment was high at 83% in 2015.

According to the expenditure shares of decile groups, the richest decile group has lowered its expenditure share slightly from 36.5% in 2000 to 35.1% in 2006, while the other decile groups raised their shares (see Table A3c in the appendix). According to Table 1, the country grew at around 4.5% in the study period. While the growth was not high among ASEAN countries, it was highly pro-poor (Kakwani and Pernia, 2000).[10] Like other Asian countries, urban expenditure inequality has been much larger than rural inequality since the urban sector offers a wide variety of job opportunities (Eastwood and Lipton, 2004). During the study period, urban inequality has declined prominently from 0.40 to 0.34, while rural inequality has risen slightly from 0.27 to 0.28. On the other hand, expenditure disparity between the urban and rural sectors has fallen from 0.076 to 0.068. However, the contribution of the between-sector expenditure inequality has remained constant at around 17% of overall inequality. In other words, more than 80% of overall inequality was due to inequalities within urban and rural areas.

To explore the determinants of inequalities within the urban and rural sectors, we conduct a Theil decomposition analysis by educational groups in each sector. Like Indonesia and Myanmar, there is a notable difference between the urban and rural sectors in the contribution of disparity between educational groups to overall expenditure inequality. In urban areas, expenditure disparity between educational groups was a prominent contributor to overall inequality; but its contribution has decreased from 15.4% to 13.1% (see Table 5c). Unlike Indonesia and Myanmar, however, the contribution of the between-group expenditure inequality in rural areas was not negligible and has increased from 3.7% to 5.2%. The contribution of the within-sector between-group expenditure inequality (WSBG) has remained almost constant at around 18-19% (see Tables 5c and Table A2c). In both urban and rural areas, higher educational group tends to have a larger within-group inequality. In 2006, the tertiary education group had the highest within-group inequality at 0.29 in urban areas, which is followed by the secondary and primary education groups, respectively, at 0.25 and 0.23. In rural areas, the tertiary group also had the highest within-group inequality at 0.28, which is followed by the secondary and primary education groups.

In urban areas, inequality in the tertiary education group has declined substantially from 0.38 to 0.29; thus, its contribution to overall inequality has decreased from 31.2% to 25.8% (see Table 5c). We should note that in the Philippines, tertiary education's GER was

[10] Economic growth is highly pro-poor if the growth is accompanied by the fall of inequality.

relatively high at around 28-30% during the study period (see Figure 2). The tertiary education group thus accounted for one third of urban households (see Table 2). From these observations, the substantial reduction of overall expenditure inequality appears to have been due to decrease in inequality among urban households with tertiary education. On the other hand, inequality in the secondary education group has risen from 0.21 to 0.25; thus, its contribution to overall inequality has increased from 9.5% to 13.9%. Since expenditure inequalities among urban households with secondary and tertiary education play an important role in determining overall expenditure inequality, we further explore the determinants of these within-group inequalities by conducting an inequality decomposition analysis by age groups, gender and marital status. However, these household attributes are not significant in determining the inequalities. We should note that in urban sector's secondary education group, inequality among female headed households has increased notably from 0.24 to 0.32 by the Theil index *T*. Though female headed households accounted for 22% of urban households, this appears to have raised inequality among urban households with secondary education. In urban areas, around 60% of female household heads are either widowed or divorced, which was much larger than that of male household heads (4%). Female household heads are also much older than male heads. Female headed households with lower education are thus more vulnerable to economic shocks.

5. Conclusion

Using data from nation-wide household surveys, this study investigated the roles of education in expenditure inequality in the following three ASEAN countries: Indonesia, Myanmar, and the Philippines. Since disparity between urban and rural areas is one of the main determinants of expenditure inequality and there is a large difference in the socioeconomic structure between urban and rural areas, an analysis was made in an urban-rural framework.

In all three countries, education plays an important role in determining expenditure disparity between the urban and rural sectors since urban-rural difference in educational endowments accounted for around 30-40% of the difference in mean per capita expenditure. Thus, narrowing urban-rural educational gap is the key to the reduction of expenditure disparity between the urban and rural sectors. In Myanmar, about half of rural households have not completed primary education. This is true even for younger age groups, though primary education has been compulsory. Furthermore, due to insufficient government funding, schools are in poor condition, salaries for teachers are unattractive, and teachers

need to manage large classes (Hayden and Martin, 2013). Therefore, it is essential to strengthen primary education in rural areas to narrow the urban-rural educational gap. However, unlike Indonesia and the Philippines, the contribution of urban-rural expenditure disparity to overall expenditure inequality was not large. Additionally, in both urban and rural areas, the contribution of expenditure disparity between educational groups was not large either. Therefore, to alleviate overall expenditure inequality, inequalities within educational groups need to be reduced. In urban areas, expansion of secondary education is important given the nature of skills and knowledge required by urban sector jobs. On the other hand, formal job opportunities are limited for older households and many of these households are likely to be unemployed or work in the informal sector. Since older age groups tend to have larger expenditure inequalities in urban areas, the government needs to strengthen social safety net programs and raise pension coverage in the private sector.

In Indonesia and the Philippines, urban-rural expenditure disparity accounted, respectively, for 11% and 17% of overall expenditure inequality; thus, narrowing urban-rural educational gap could mitigate overall expenditure inequality by reducing expenditure disparity between the urban and rural sectors. Since a large proportion of rural households had only primary education or less even though primary and secondary education has been compulsory for many years, to reduce urban-rural educational gap, the government needs to improve the quality of primary education and reduce dropout rates at the primary level in rural areas.

In Indonesia and the Philippines, expenditure disparity between educational groups was large in urban areas by accounting for more than 10% of overall expenditure inequality. It is thus important to reduce expenditure disparity between educational groups in these two countrries. To reduce the educational disparity in urban areas, the government needs to further improve the quality of primary and secondary education and reduce dropout rates at these education levels, thereby raising the enrollment ratio of tertiary education. But, at the same time, the government needs to introduce policies that could reduce variations in quality among tertiary education institutions, since expenditure inequality among urban households with tertiary education was high compared to those with primary and secondary education. Since there seems to have been mismatches between the qualifications of university and college graduates and the needs of employers, the government should also introduce policies that could promote linkages between industry and academia to remove the mismatch. We should note that unlike Indonesia and Myanmar, in the Philippines, the rural sector had a

relatively high expenditure disparity between educational groups. Particularly, the ratio of the tertiary to primary and secondary education groups in mean per capita expenditure was high. Thus, in rural Philippines, improving the quality of education and reducing dropout rate are important not only at the primary but also secondary education level.

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Table 1. GDP and Manufacturing Value Added at Constant 2010 US Dollars

	GDP, population, and manufacturing value added				Growth rate (%)		
	2000	2005	2010	2015	00-05	05-10	10-15
GDP (million US dollars)							
Indonesia	453,414	571,205	755,094	988,129	4.6	5.6	5.4
Myanmar	15,985	29,275	49,541	70,340	12.1	10.5	7.0
Philippines	125,348	156,874	199,591	266,055	4.5	4.8	5.7
ASEAN	1,181,299	1,517,081	1,974,459	2,528,391	5.0	5.3	4.9
Population (thousand)							
Indonesia	211,514	226,289	241,834	258,383	1.4	1.3	1.3
Myanmar	46,720	48,950	50,601	52,681	0.9	0.7	0.8
Philippines	77,992	86,326	93,967	102,113	2.0	1.7	1.7
ASEAN	523,789	559,796	595,411	632,637	1.3	1.2	1.2
Per capita GDP (US dollars)							
Indonesia	2,144	2,524	3,122	3,824	3.3	4.3	4.1
Myanmar	342	598	979	1,335	11.2	9.9	6.2
Philippines	1,607	1,817	2,124	2,605	2.5	3.1	4.1
ASEAN	2,255	2,710	3,316	3,997	3.7	4.0	3.7
Manufacturing value added (million US dollars)							
Indonesia	107,460	136,991	166,412	212,810	4.9	3.9	4.9
Myanmar	1,145	3,332	9,840	15,564	21.4	21.7	9.2
Philippines	29,655	35,968	42,802	59,606	3.9	3.5	6.6
ASEAN	279,450	364,035	452,070	556,238	5.3	4.3	4.1
Ratio of manufacturing value added to total GDP (%)							
Indonesia	23.7	24.0	22.0	21.5			
Myanmar	7.2	11.4	19.9	22.1			
Philippines	23.7	22.9	21.4	22.4			
ASEAN	23.7	24.0	22.9	22.0			

(Note) ASEAN excludes Brunei.
(Source) Authors' calculation from World Development Indicators, World Bank

Table 2. Household Surveys in Indonesia, Myanmar and the Philippines

Indonesia	Sample size			Distribution of households (%)		
	Urban	Rural	Total	Urban	Rural	Total
2000						
Primary	32,053	87,015	119,068	45	78	64
Secondary	33,708	25,879	59,587	44	20	30
Tertiary	8,168	2,500	10,668	11	2	5
Total	73,929	115,394	189,323	100	100	100
Urban & rural shares				42	58	100
2006						
Primary	38,072	113,461	151,533	41	73	59
Secondary	47,973	47,047	95,020	47	24	34
Tertiary	12,193	4,718	16,911	12	3	7
Total	98,238	165,226	263,464	100	100	100
Urban & rural shares				43	57	100
2011						
Primary	43,304	102,758	146,062	40	69	54
Secondary	53,520	46,127	99,647	47	28	37
Tertiary	16,573	6,240	22,813	13	3	8
Total	113,397	155,125	268,522	100	100	100
Urban & rural shares				50	50	100
Myanmar	Sample size			Distribution of households (%)		
	Urban	Rural	Total	Urban	Rural	Total
2006						
No education	561	982	1,543	3	6	5
Pre-primary	4,810	6,387	11,197	26	44	38
Primary	4,129	4,078	8,207	24	28	26
Secondary	6,252	2,592	8,844	37	19	26
Tertiary	1,847	358	2,205	11	3	6
Total	17,599	14,397	31,996	100	100	100
Urban & rural shares				35	65	100
2012						
No education	506	637	1,143	2	4	3
Pre-primary	5,416	7,077	12,493	28	48	41
Primary	4,411	4,464	8,875	26	32	30
Secondary	5,557	1,881	7,438	32	14	20
Tertiary	2,258	288	2,546	12	2	5
Total	18,148	14,347	32,495	100	100	100
Urban & rural shares				34	66	100
Philippines	Sample size			Distribution of households (%)		
	Urban	Rural	Total	Urban	Rural	Total
2000						
Primary	7,905	10,022	17,927	32	63	47
Secondary	8,398	4,298	12,696	37	27	32
Tertiary	7,221	1,771	8,992	32	11	21
Total	23,524	16,091	39,615	100	100	100
Urban & rural shares				49	51	100
2006						
Primary	4,988	12,484	17,472	28	59	44
Secondary	6,633	6,109	12,742	39	29	34
Tertiary	5,644	2,621	8,265	33	12	22
Total	17,265	21,214	38,479	100	100	100
Urban & rural shares				50	50	100

(Notes) The distribution of households is estimated using sampling household weights.
(Sources) *Susenas* in 2000, 2006 and 2011 for Indonesia, HIES in 2006 and 2012 for Myanmar, and FIES in 2000 and 2006 for the Philippines.

Table 3a. Decomposition of Educational Gini by Location (Urban and Rural Sectors), Indonesia

	Gini index	Absolute contribution	Relative contribution (%)	Population share (%)	Mean years of education
2000					
Urban sector (1)	0.297	0.068	18.3	42.2	8.3
Rural sector (2)	0.393	0.104	28.0	57.8	5.1
Within-sector (3) = (1) + (2)		0.172	46.4		
Between-sector (4)		0.120	32.4		
Urban & rural overlap (5)		0.079	21.2		
Total (6) = (3) + (4) + (5)	0.371	0.371	100.0	100.0	6.5
2006					
Urban sector (1)	0.279	0.065	19.2	43.3	8.8
Rural sector (2)	0.355	0.093	27.3	56.7	5.7
Within-sector (3) = (1) + (2)		0.158	46.5		
Between-sector (4)		0.106	31.1		
Urban & rural overlap (5)		0.076	22.4		
Total (6) = (3) + (4) + (5)	0.340	0.340	100.0	100.0	7.1
2011					
Urban sector (1)	0.291	0.086	26.0	49.9	9.2
Rural sector (2)	0.339	0.069	21.0	50.1	6.3
Within-sector (3) = (1) + (2)		0.155	47.0		
Between-sector (4)		0.093	28.2		
Urban & rural overlap (5)		0.082	24.8		
Total (6) = (3) + (4) + (5)	0.330	0.330	100.0	100.0	7.7

(Source) Authors' calculation from *Susenas* in 2000, 2006 and 2011.

Table 3b. Decomposition of Educational Gini by Location (Urban and Rural Sectors), Myanmar

	Gini index	Absolute contribution	Relative contribution (%)	Population share (%)	Mean years of education
2006					
Urban sector (1)	0.313	0.047	13.5	34.9	7.0
Rural sector (2)	0.349	0.129	36.7	65.1	4.9
Within-sector (3) = (1) + (2)		0.176	50.3		
Between-sector (4)		0.086	24.6		
Urban & rural overlap (5)		0.088	25.2		
Total (6) = (3) + (4) + (5)	0.350	0.350	100.0	100.0	5.6
2012					
Urban sector (1)	0.310	0.046	14.1	34.0	6.9
Rural sector (2)	0.299	0.112	34.7	66.0	4.7
Within-sector (3) = (1) + (2)		0.158	48.8		
Between-sector (4)		0.091	28.2		
Urban & rural overlap (5)		0.074	23.0		
Total (6) = (3) + (4) + (5)	0.323	0.323	100.0	100.0	5.4

(Source) Authors' calculation from HIES in 2006 and 2012.

Table 3c. Decomposition of Educational Gini by Location (Urban and Rural Sectors), Philippines

	Gini index	Absolute contribution	Relative contribution (%)	Population share (%)	Mean years of education
2000					
Urban sector (1)	0.232	0.067	23	49	9.0
Rural sector (2)	0.320	0.068	23	51	6.3
Within-sector (3) = (1) + (2)		0.134	46		
Between-sector (4)		0.089	31		
Urban & rural overlap (5)		0.067	23		
Total (6) = (3) + (4) + (5)	0.290	0.290	100	100	7.6
2006					
Urban sector (1)	0.218	0.063	23	50	9.2
Rural sector (2)	0.308	0.065	24	50	6.6
Within-sector (3) = (1) + (2)		0.128	46		
Between-sector (4)		0.083	30		
Urban & rural overlap (5)		0.065	24		
Total (6) = (3) + (4) + (5)	0.275	0.275	100	100	7.8

(Source) Authors' calculation from FIES in 2000 and 2006.

Table 4a. Blinder-Oaxaca Decomposition of Urban-Rural Difference in Mean Per Capita Expenditure, Indonesia

	2000			2006		
	Coefficient	z value	Contribution (%)	Coefficient	z value	Contribution (%)
Differential						
Prediction for urban	11.923	5,880.5		12.751	6,715.0	
Prediction for rural	11.523	8,705.5		12.280	10,000.0	
Difference	0.400	165.4	100.0	0.472	210.7	100.0
Explained part						
Years of education	0.136	111.0	33.9	0.143	128.7	30.3
Age	-0.006	-6.3	-1.5	-0.012	-13.0	-2.5
Age squared	0.004	5.6	0.9	0.008	12.2	1.8
Household size	-0.012	-11.7	-3.0	-0.006	-6.4	-1.2
Gender	0.000	6.3	0.1	0.000	3.1	0.0
Total	0.122	80.3	30.5	0.134	100.7	28.4
Unexplained part						
Total	0.278	127.9	69.5	0.338	169.3	71.6

	2011		
	Coefficient	z value	Contribution (%)
Differential			
Prediction for urban	13.338	6,679.1	
Prediction for rural	12.921	8,858.1	
Difference	0.417	168.6	100.0
Explained part			
Years of education	0.176	134.8	42.3
Age	-0.013	-13.0	-3.1
Age squared	0.010	12.7	2.5
Household size	0.004	5.1	1.0
Gender	0.000	4.3	0.0
Total	0.178	122.0	42.8
Unexplained part			
Total	0.239	107.6	57.2

(Source) Authors' calculation from *Susenas* in 2000, 2006 and 2011.

Table 4b. Blinder-Oaxaca Decomposition of Urban-Rural Difference in Mean Per Capita Expenditure, Myanmar

	2006			2012		
	Coefficient	z value	Contribution (%)	Coefficient	z value	Contribution (%)
Differential						
Prediction for urban	10.752	14,000		11.627	13,000	
Prediction for rural	10.589	20,000		11.249	20,000	
Difference	0.163	173		0.378	357	
Explained part						
Years of education	0.066	208	40.6	0.114	273	30.1
Age	0.008	22	4.6	0.047	75	12.5
Age squared	-0.005	-15	-3.0	-0.041	-67	-10.8
Household size	-0.003	-13	-1.8	0.005	19	1.3
Gender	0.000	3	0.1	-0.001	-12	-0.3
Unemployment	-0.012	-84	-7.2	0.000	10	0.0
Total	0.054	125	33.3	0.124	234	32.9
Unexplained part						
Total	0.109	116	66.7	0.254	239	67.1

(Source) Authors' calculation from HIES in 2006 and 2012.

Table 4c. Blinder-Oaxaca Decomposition of Urban-Rural Difference in Mean Per Capita Expenditure, Philippines

	2000			2006		
	Coefficient	z value	Contribution (%)	Coefficient	z value	Contribution (%)
Differential						
Prediction for urban	10.062	2027.4		10.445	1803.4	
Prediction for rural	9.448	1893.7		9.768	2211.7	
Difference	0.614	87.3		0.676	92.9	
Explained part						
Years of education	0.216	55.6	35.1	0.218	56.5	32.2
Age	-0.004	-1.3	-0.7	-0.013	-4.5	-1.9
Age squared	0.004	1.8	0.7	0.007	4.0	1.1
Agriculture	0.114	40.0	18.6	0.105	40.4	15.5
Household size	0.002	0.9	0.4	0.008	3.1	1.2
Gender	0.004	7.1	0.6	0.005	7.6	0.7
Total	0.336	62.7	54.7	0.329	62.3	48.7
Unexplained part						
Total	0.278	44.4	45.3	0.347	55.0	51.3

(Source) Authors' calculation from FIES in 2000 and 2006.

Table 5a. Decomposition of Expenditure Inequality by Location and Education, Indonesia

	Theil T	Contribution (%)	Expenditure share (%)		Theil T	Contribution (%)	Expenditure share (%)
2000							
Total (1) = (2) + (3)	0.200	100.0	100.0				
B-sector (2)	0.030	14.9					
W-sector (3) = (a) + (d)	0.171	85.1					
Urban (a)=(c)+(d)	0.220	59.7	54.4	Rural (d) = (e) + (f)	0.112	25.4	45.6
B-group (c)	0.035	9.6		B-group (e)	0.006	1.2	
W-group (d)	0.185	50.1		W-group (f)	0.106	24.2	
Primary	0.148	14.1	19.1	Primary	0.101	17.1	33.9
Secondary	0.195	24.7	25.4	Secondary	0.117	6.1	10.4
Tertiary	0.230	11.2	9.8	Tertiary	0.156	1.0	1.3
2006							
Total (1) = (2) + (3)	0.248	100.0	100.0				
B-sector (2)	0.044	17.7					
W-sector (3) = (a) + (d)	0.204	82.3					
Urban (a)=(c)+(d)	0.251	58.7	58.1	Rural (d) = (e) + (f)	0.139	23.6	41.9
B-group (c)	0.051	11.9		B-group (e)	0.010	1.7	
W-group (d)	0.200	46.8		W-group (f)	0.129	21.9	
Primary	0.170	11.7	17.1	Primary	0.115	13.3	28.6
Secondary	0.190	21.5	28.1	Secondary	0.154	7.2	11.6
Tertiary	0.263	13.6	12.9	Tertiary	0.197	1.4	1.8
2011							
Total (1) = (2) + (3)	0.322	100.0	100.0				
B-sector (2)	0.034	10.5					
W-sector (3) = (a) + (d)	0.288	89.5					
Urban (a)=(c)+(d)	0.330	64.5	62.9	Rural (d) = (e) + (f)	0.217	25.0	37.1
B-group (c)	0.076	14.8		B-group (e)	0.019	2.2	
W-group (d)	0.255	49.7		W-group (f)	0.198	22.8	
Primary	0.232	11.8	16.4	Primary	0.183	12.9	22.6
Secondary	0.241	22.3	29.8	Secondary	0.216	8.2	12.2
Tertiary	0.301	15.6	16.6	Tertiary	0.242	1.8	2.4

(Source) Authors' calculation from *Susenas* in 2000, 2006 and 2011.

Table 5b. Decomposition of Expenditure Inequality by Location and Education, Myanmar

	Theil T	Contribution (%)	Expenditure Share (%)		Theil T	Contribution (%)	Expenditure Share (%)
2006							
Total (1) = (2) + (3)	0.400	100.0					
B-sector (2)	0.006	1.6					
W-sector (3) = (a) + (d)	0.393	98.4					
Urban (a) = (b) + (c)	0.468	47.0	40.2	Rural (d) = (e) + (f)	0.344	51.4	59.8
B-group (b)	0.026	2.6		B-group (e)	0.006	1.0	
W-group (c)	0.442	44.4		W-group (f)	0.337	50.4	
No education	0.789	1.8	0.9	No education	0.267	1.7	2.5
Pre-primary	0.382	7.7	8.1	Pre-primary	0.354	22.3	25.2
Primary	0.326	6.8	8.3	Primary	0.301	12.5	16.6
Secondary	0.432	17.2	16.0	Secondary	0.360	11.9	13.2
Tertiary	0.630	10.9	7.0	Tertiary	0.361	2.0	2.2
2012							
Total (1) = (2) + (3)	0.520	100.0					
B-sector (2)	0.028	5.3					
W-sector (3) = (a) + (d)	0.492	94.7					
Urban (a) = (b) + (c)	0.574	49.9	45.3	Rural (d) = (e) + (f)	0.425	44.8	54.7
B-group (b)	0.038	3.2		B-group (e)	0.013	1.5	
W-group (c)	0.536	46.7		W-group (f)	0.412	43.3	
No education	0.339	0.4	0.6	No education	0.928	3.4	1.9
Pre-primary	0.446	7.9	9.2	Pre-primary	0.447	20.1	23.5
Primary	0.537	10.9	10.5	Primary	0.315	10.7	17.7
Secondary	0.498	15.3	15.9	Secondary	0.364	6.8	9.7
Tertiary	0.710	12.2	9.0	Tertiary	0.604	2.3	2.0

(Source) Authors' calculation from HIES in 2006 and 2012.

Table 5c. Decomposition of Expenditure Inequality by Location and Education, Philippines

	Theil T	Contribution (%)	Expenditure share (%)		Theil T	Contribution (%)	Expenditure share (%)
2000							
Total (1) = (2) + (3)	0.438	100.0	100.0				
B-sector (2)	0.076	17.3					
W-sector (3) = (a) + (d)	0.362	82.7					
Urban (a)=(c)+(d)	0.404	63.4	68.7	Rural (d) = (e) + (f)	0.270	19.3	31.3
B-group (c)	0.098	15.4		B-group (e)	0.052	3.7	
W-group (d)	0.306	48.0		W-group (f)	0.219	15.6	
Primary	0.244	7.2	13.0	Primary	0.192	7.0	16.0
Secondary	0.212	9.5	19.7	Secondary	0.212	4.2	8.8
Tertiary	0.380	31.2	36.0	Tertiary	0.292	4.4	6.6
2006							
Total (1) = (2) + (3)	0.391	100.0	100.0				
B-sector (2)	0.068	17.4					
W-sector (3) = (a) + (d)	0.323	82.6					
Urban (a)=(c)+(d)	0.343	59.5	67.8	Rural (d) = (e) + (f)	0.281	23.1	32.2
B-group (c)	0.076	13.1		B-group (e)	0.063	5.2	
W-group (d)	0.267	46.4		W-group (f)	0.218	17.9	
Primary	0.227	6.7	11.5	Primary	0.190	7.1	14.7
Secondary	0.247	13.9	22.0	Secondary	0.213	5.2	9.6
Tertiary	0.294	25.8	34.3	Tertiary	0.278	5.6	7.8

(Source) Authors' calculation from FIES in 2000 and 2006.

Table 6. Distribution of Households according to Occupations in Each Educational Group in 2011 in Indonesia

	Urban Sector					Rural Sector					GDP Growth Rate 2000-11 (%)
	Mean PCE (1,000 Rp.)	Primary (%)	Second. (%)	Tertiary (%)	Total (%)	Mean PCE (1,000 Rp.)	Primary (%)	Second. (%)	Tertiary (%)	Total (%)	
Agriculture	476	28.3	7.5	3.1	14.8	421	67.5	47.3	13.5	59.7	3.5
Mining/Quarrying	1,004	1.2	1.6	1.5	1.4	552	1.9	2.4	0.8	2.0	1.1
Manufacturing	785	11.2	18.5	8.7	14.4	471	6.1	8.1	2.8	6.6	4.6
Electricity/Gas/Water	1,098	0.1	0.9	1.0	0.6	592	0.1	0.3	0.3	0.2	7.7
Construction	633	11.9	9.2	5.2	9.7	432	6.9	8.1	1.5	7.1	6.9
Trade/Hotel/Restaurant	836	24.3	27.0	17.2	24.7	566	9.6	13.6	8.4	10.7	6.3
Transportation	663	8.7	9.3	3.2	8.3	519	3.0	6.2	1.8	3.9	6.3
Information	1,446	0.1	0.8	2.6	0.7	705	0.0	0.1	0.4	0.1	21.1
Finance/Real Estate	1,315	0.2	1.6	5.8	1.6	832	0.0	0.5	1.5	0.2	6.7
Education Services	1,079	0.3	1.6	18.2	3.3	780	0.1	1.6	40.6	2.0	
Health Services	1,282	0.3	0.8	3.2	0.9	879	0.1	0.4	3.5	0.3	5.5
Government Services	904	12.1	20.0	29.5	18.2	591	3.9	10.5	24.5	6.5	
Others	881	1.5	1.3	0.8	1.3	445	0.7	0.8	0.5	0.7	
Total	782	100.0	100.0	100.0	100.0	468	100.0	100.0	100.0	100.0	5.3

(Note) Mean PCE refers to mean per capita expenditure.
(Source) Authors' calculation from *Susenas* in 2011 and Annual Statistics Indonesia in various years.

Table 7. Decomposition of Expenditure Inequality by Education Subgroup in 2000 and 2011 in Indonesia: Tertiary Education in Urban Areas

	Inequality	Contribution (%)	Expenditure Share (%)	Mean Per Capita Exp. (1,000 Rp.)
2000				
D1, D2 and D3	0.231	28.8	28.6	272
D4 and S1	0.216	62.4	66.4	321
S2 and S3	0.279	6.0	5.0	449
W-subgroup	0.223	97.2		
B-subgroup	0.007	2.8		
Total	0.230	100.0	100.0	309
2011				
D1, D2 and D3	0.403	29.0	21.6	1,409
D4 and S1	0.260	58.2	67.0	1,560
S2 and S3	0.287	10.9	11.4	2,060
W-subgroup	0.294	98.1		
B-subgroup	0.006	1.9		
Total	0.300	100.0	100.0	1,559

(Note) D1, D2, D3 and D4 are, respectively, Diploma 1, 2, 3 and 4, while S1, S2 and S3 are, respectively, bachelor, master's and doctoral degrees.
(Source) Authors' calculation from *Susenas* in 2000 and 2011.

Table 8. Decomposition of Expenditure Inequality by Age Groups in the Urban and Rural Sectors in 2012 in Myanmar

Urban sector

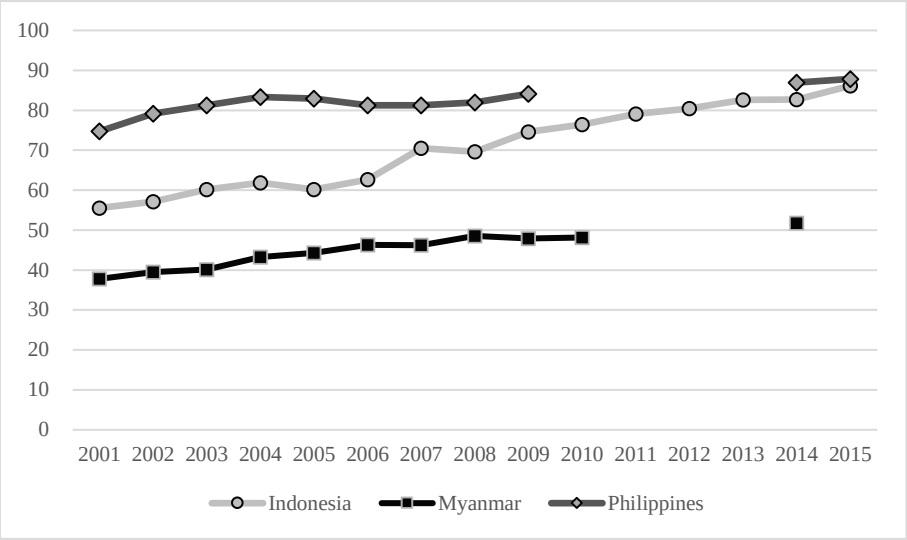
Age group	Primary			Secondary			Tertiary		
	Theil T	Contribution (%)	Population Share (%)	Theil T	Contribution (%)	Population Share (%)	Theil T	Contribution (%)	Population Share (%)
- 40	0.345	13	20	0.408	16	19	0.779	31	24
41 - 50	0.459	22	27	0.479	26	26	0.636	24	26
51 - 60	0.592	31	28	0.503	28	28	0.602	20	25
61 -	0.704	34	25	0.581	30	27	0.799	24	25
W-group	0.536	100		0.497	100		0.704	99	
B-group	0.001	0		0.001	0		0.006	1	
Total	0.537	100	100	0.498	100	100	0.710	100	100

Rural sector

Age group	Pre-primary			Primary		
	Theil T	Contribution (%)	Population Share (%)	Theil T	Contribution (%)	Population Share (%)
- 40	0.393	14	19	0.309	25	27
41 - 50	0.383	20	24	0.283	27	30
51 - 60	0.524	35	26	0.357	34	29
61 -	0.441	30	30	0.298	14	15
W-group	0.444	99		0.314	100	
B-group	0.003	1		0.001	0	
Total	0.447	100	100	0.315	100	100

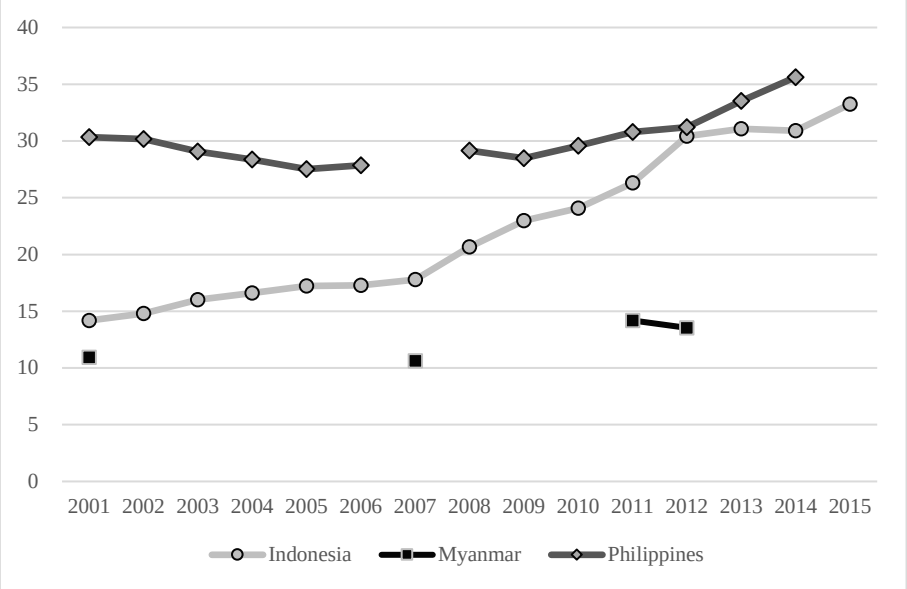
(Source) Authors' calculation from HIES in 2006 and 2012.

Figure 1. Gross Enrollment Ratio, Secondary Education



(Source) World Development Indicators, World Bank.

Figure 2. Gross Enrollment Ratio, Tertiary Education



(Source) World Development Indicators, World Bank.

Appendix

Table A1. Years of Education

	Education	Years of education
Indonesia		
Primary	No education	0
	Incomplete primary education	3
	General and Islamic primary education	6
Secondary	General and Islamic junior secondary education	9
	General, Islamic and vocational senior secondary education	12
Tertiary	Diploma I and II programs	13
	Diploma III programs	15
	Diploma IV or bachelor's degree programs	16
	Master’s or doctor’s degree programs	18
Myanmar		
No education	No education (illiterate)	0
Pre-primary	No education (literate)	1
	Monastic education	2
	Incomplete primary education	4
Primary	Primary education	5
Secondary	Junior secondary education	9
	Senior secondary education	11
Tertiary	Vocational education	13
	Bachelor's, master’s and doctor’s degree programs	14
Philippines		
Primary	No education	0
	Pre-primary education	3
	Primary education	6
Secondary	Incomplete secondary education	8
	Secondary education	10
Tertiary	Technical and vocational education	12
	Bachelor's degree programs	14
	Master’s or doctor’s degree programs	16

(Sources) *Susenas* for Indonesia, HIES for Myanmar, and FIES for the Philippines.

Table A2a. Hierarchical versus Non-hierarchical Decomposition of Expenditure Inequality, Indonesia

	Hierarchical Decomposition		Non-hierarchical Decomposition	
	Theil T	Contribution (%)	Theil T	Contribution (%)
2000				
Total	0.200	100.0	0.200	100.0
B-sector (BS)	0.030	14.9	0.030	14.9
B-group (BG)			0.038	19.0
Interaction Term (ISG)			-0.016	-8.2
W-sector B-group (WSBG)	0.022	10.8		
W-sector W-group (WSWG)	0.149	74.3	0.149	74.3
2006				
Total	0.248	100.0	0.248	100.0
B-sector (BS)	0.044	17.7	0.044	17.7
B-group (BG)			0.057	23.2
Interaction Term (ISG)			-0.024	-9.6
W-sector B-group (WSBG)	0.034	13.6		
W-sector W-group (WSWG)	0.171	68.7	0.171	68.7
2011				
Total	0.322	100.0	0.322	100.0
B-sector (BS)	0.034	10.4	0.034	10.4
B-group (BG)			0.075	23.4
Interaction Term (ISG)			-0.021	-6.4
W-sector B-group (WSBG)	0.054	17.0		
W-sector W-group (WSWG)	0.233	72.6	0.233	72.6

(Source) Authors' calculation from *Susenas* in 2000, 2006 and 2011.

Table A2b. Hierarchical versus Non-hierarchical Decomposition of Expenditure Inequality, Myanmar

	Hierarchical Decomposition		Non-hierarchical Decomposition	
	Theil T	Contribution (%)	Theil T	Contribution (%)
2006				
Total	0.400	100.0	0.400	100.0
B-sector (BS)	0.006	1.6	0.006	1.6
B-group (BG)			0.017	4.3
Interaction Term (ISG)			-0.003	-0.9
W-sector B-group (WSBG)	0.014	3.4		
W-sector W-group (WSWG)	0.380	95.0	0.380	95.0
2012				
Total	0.520	100.0	0.520	100.0
B-sector (BS)	0.028	5.3	0.028	5.3
B-group (BG)			0.040	7.7
Interaction Term (ISG)			-0.016	-3.0
W-sector B-group (WSBG)	0.024	4.7		
W-sector W-group (WSWG)	0.468	90.0	0.468	90.0

(Source) Authors' calculation from HIES in 2006 and 2012.

Table A2c. Hierarchical versus Non-hierarchical Decomposition of Expenditure Inequality, Philippines

	Hierarchical Decomposition		Non-hierarchical Decomposition	
	Theil T	Contribution (%)	Theil T	Contribution (%)
2000				
Total	0.438	100.0	0.438	100.0
B-sector (BS)	0.076	17.3	0.076	17.3
B-group (BG)			0.129	29.6
Interaction Term (ISG)			-0.046	-10.5
W-sector B-group (WSBG)	0.083	19.0		
W-sector W-group (WSWG)	0.279	63.7	0.279	63.7
2006				
Total	0.391	100.0	0.391	100.0
B-sector (BS)	0.068	17.4	0.068	17.4
B-group (BG)			0.112	28.6
Interaction Term (ISG)			-0.040	-10.3
W-sector B-group (WSBG)	0.071	18.3		
W-sector W-group (WSWG)	0.251	64.3	0.251	64.3

(Source) Authors' calculation from FIES in 2000 and 2006.

Table A3a. Expenditure Shares of Decile Groups in Urban and Rural Sectors in Indonesia (in %)

	Urban			Rural			Total		
Decile	2000	2011	Change	2000	2011	Change	2000	2011	Change
1	3.6	2.8	-0.81	4.5	3.7	-0.83	3.8	3.0	-0.87
2	4.8	3.7	-1.05	5.9	4.7	-1.14	5.1	3.9	-1.12
3	5.7	4.6	-1.11	6.8	5.6	-1.20	5.9	4.8	-1.14
4	6.5	5.5	-1.03	7.5	6.4	-1.10	6.7	5.6	-1.08
5	7.4	6.5	-0.89	8.4	7.4	-0.91	7.5	6.6	-0.94
6	8.4	7.8	-0.65	9.2	8.6	-0.65	8.5	7.8	-0.74
7	9.8	9.4	-0.33	10.3	10.0	-0.31	9.8	9.3	-0.45
8	11.6	11.8	0.17	11.8	11.9	0.15	11.5	11.5	-0.01
9	14.7	15.7	1.04	14.1	14.8	0.78	14.4	15.3	0.90
10	27.6	32.3	4.66	21.6	26.8	5.22	26.8	32.2	5.45
T20/B20	5.1	7.4		3.4	5.0		4.6	6.9	

(Note) T20/B20 is the ratio of the share of the top 20% to the share of the bottom 20%.
(Source) Authors' calculation from *Susenas* in 2000 and 2011.

Table A3b. Expenditure Shares of Decile Groups in Urban and Rural Sectors in Myanmar (in %)

	Urban			Rural			Total		
Decile	2006	2012	Change	2006	2012	Change	2006	2012	Change
1	2.2	1.7	-0.43	2.4	2.3	-0.19	2.3	2.0	-0.34
2	3.3	2.8	-0.50	3.7	3.5	-0.27	3.6	3.1	-0.48
3	4.2	3.7	-0.47	4.7	4.3	-0.38	4.5	3.9	-0.57
4	5.1	4.7	-0.41	5.6	5.2	-0.42	5.4	4.8	-0.59
5	6.0	5.7	-0.36	6.6	6.2	-0.40	6.4	5.8	-0.54
6	7.2	6.9	-0.24	7.9	7.5	-0.41	7.6	7.0	-0.55
7	8.7	8.5	-0.15	9.4	9.0	-0.41	9.0	8.6	-0.41
8	11.0	10.7	-0.30	11.4	11.3	-0.11	11.2	11.1	-0.09
9	14.8	14.6	-0.19	15.1	15.5	0.38	15.0	15.1	0.14
10	37.6	40.7	3.04	33.1	35.3	2.23	35.2	38.6	3.43
T20/B20	9.5	12.1		7.8	8.9		8.5	10.6	

(Note) T20/B20 is the ratio of the share of the top 20% to the share of the bottom 20%.
(Source) Authors' calculation from HIES in 2006 and 2012.

Table A3c. Expenditure Shares of Decile Groups in Urban and Rural Sectors in the Philippines (in %)

	Urban			Rural			Total		
Decile	2000	2006	Change	2000	2006	Change	2000	2006	Change
1	2.1	2.2	0.09	3.0	3.0	0.02	2.1	2.2	0.06
2	3.3	3.4	0.12	4.2	4.1	-0.07	3.1	3.1	0.05
3	4.2	4.4	0.19	5.0	5.0	-0.09	3.9	4.0	0.07
4	5.1	5.4	0.25	5.9	5.8	-0.07	4.8	4.9	0.09
5	6.2	6.5	0.31	6.9	6.7	-0.11	5.9	6.0	0.11
6	7.5	7.8	0.29	8.0	7.9	-0.13	7.2	7.4	0.17
7	9.2	9.5	0.31	9.6	9.4	-0.23	9.0	9.2	0.24
8	11.6	11.9	0.29	11.8	11.6	-0.23	11.6	11.8	0.27
9	15.7	16.0	0.24	15.6	15.5	-0.14	16.1	16.4	0.37
10	35.0	32.9	-2.10	30.1	31.1	1.05	36.5	35.1	-1.42
T20/B20	9.4	8.8		6.4	6.6		10.1	9.7	

(Note) T20/B20 is the ratio of the share of the top 20% to the share of the bottom 20%.
(Source) Authors' calculation from FIES in 2000 and 2006.