The Impact of Middle-Class towards Economic Growth and Income Inequality in Indonesia

(Impak Kelas Pertengahan ke arah Pertumbuhan Ekonomi dan Ketidaksamaan Pendapatan di Indonesia)

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ABSTRACT

This study aims to elucidate the impact of inequality level in the middle-class income distribution on Indonesia's economic growth by using the 2004-2012 national socioeconomic survey data (Susenas) and 2008 Input-Output Table. The results of the 20-year GDP data estimation show that the value of Marginal Propensity to Consume (MPC) is 0.779 which means that 77.9 percent of income is utilised for consumption. Analysis results using I-O Table found that the inequality level of income distribution at the national level is higher than that in the middle-class level. This applies to both middle-class criteria used in this study; (1) income criteria USD10-USD100, and (2) criteria of 60% in the middle percentile (between 20 to 80 percentiles). In the province, income distribution inequality between the provincial level and the middle-class level is relatively varied as illustrated by the highest Gini index value that doubled the lowest Gini index. Analysis results also show that the increas in income of the middle-class has an impact on the increase of consumption, but has no significant influence on economic growth. The 20% increase in middle-class income can only boost economic growth by less than 1 percent. This suggests that the output changes in response to the shifts happening in the middle-class income are not flexible. From the two middle-class criteria used, the first criterion is not suitable for Indonesia because of the fluctuating exchange rates which cause the middle-class to fluctuate and to widen.

Keywords: Middle-class; inequality; consumption; economic growth.

ABSTRAK

Kajian ini bertujuan untuk membuktikan kesan ketidaksamaan dalam pengagihan pendapatan kelas pertengahan ke atas pertumbuhan ekonomi Indonesia dengan menggunakan data tinjauan sosioekonomi kebangsaan 2004 (Susenas) dan 2008 Input-Output Table. Hasil penganggaran data KDNK 20 tahun menunjukkan bahawa nilai Kecenderungan Mengguna Sut (MPC) adalah 0.779 yang bermaksud 77.9 peratus pendapatan digunakan untuk penggunaan. Hasil analisis menggunakan Jadual I-O mendapati bahawa tahap ketidaksamaan pengagihan pendapatan pada peringkat kebangsaan lebih tinggi daripada peringkat pertengahan. Ia terpakai untuk kedua-dua kriteria kelas pertengahan yang digunakan dalam kajian ini; (1) kriteria pendapatan USD10-USD100, dan (2) kriteria 60% dalam persentil tengah (antara 20 hingga 80 peratus). Di wilayah ini, ketidaksamaan agihan pendapatan di antara peringkat wilayah dan peringkat pertengahan agak berbeza-beza seperti digambarkan oleh nilai indeks Gini tertinggi yang menggandakan indeks Gini terendah. Hasil analisis juga menunjukkan bahawa peningkatan dalam pendapatan kelas pertengahan memberi kesan kepada peningkatan penggunaan, tetapi tidak mempunyai pengaruh yang signifikan terhadap pertumbuhan ekonomi. Peningkatan 20% dalam pendapatan kelas pertengahan hanya dapat meningkatkan pertumbuhan ekonomi dengan kurang daripada 1 peratus. Ini menunjukkan bahawa perubahan output sebagai tindak balas kepada perubahan yang berlaku dalam pendapatan kelas pertengahan adalah tidak fleksibel. Dari dua kriteria kelas pertengahan yang digunakan, kriteria pertama tidak sesuai untuk Indonesia kerana kadar pertukaran yang berubah-ubah, yang menyebabkan kelas pertengahan berfluktuasi dan melebar.

Kata kunci: Kelas pertengahan; ketidaksamaan; penggunaan; pertumbuhan ekonomi.

INTRODUCTION

Indonesia is on the "demographic bonus" condition where the dependency ratio is relatively small (MP3EI 2011). It means that from this moment until the next several years, Indonesia has a large working-age population compared to children and the elderly. The working population growth will be an input for economic growth, improved welfare, and reduction in inequality (Maipita 2014; 2016). The size of the middle-class is predicted to grow with the growth in economic sufficiency. When income increases, the pattern of spending will also increase, pushing growth in the various categories of consumption (Farrell et al. 2006). The rise of the middle-class is seen as an immediate consequence of economic growth (Cárdenas et al. 2011; Drabble et al. 2000).

The global crises that occurred in 2005 and 2008 had an impact on the global economy which effected the decline in economic growth in some developed countries including those which were the export destinations for Indonesian commodities. The 2008 crisis had affected the Indonesian economy as shown by the extreme change in rupiah exchange rate of IDR 10,900/USD at the end of that year (Indonesia Economic Outlook 2009 - 2014, Bank of Indonesia). This crisis was followed by the deficit in current account and capital account transactions caused by the decline of Indonesian exports due to the decrease in prices of various significant commodities of the world. However, the Indonesian economy, in general, was not significantly impacted.

CONSUMPTION CONTRIBUTION TO INDONESIA GDP FORMATION

Indonesia's economic growth has remained above 5% since 2004 and is closely related to the contribution of consumption expenditure. In 2004, Indonesia's economic growth reached 5.03% and kept increasing to 6.49% in 2011 and subsequently to 23% in 2012.

Household spending played a significant role in Indonesia's economic growth. For more than a decade its contribution to the gross domestic product (GDP) has already been in excess of 50% compared to those of other components (Figure 1). Although the contribution of consumption (C) to GDP formation shows a declining trend, in the period of 2000 to 2012, it remained higher than investment contribution (I), government expenditure (G), and net export (NX). From Figure 1, it is clear that the contribution of consumption to GDP formation in Indonesia has reached twice the contribution of investment, about seven times the contribution of government expenditure, and about six times of net export contribution.

It can be concluded that the significant contribution of the middle-class is crucial to GDP formation (Cárdenas et al. 2011; Drabble et al. 2000). In 2012 the GDP rose to USD 3,850 propelling Indonesia into the rank of upper middle income nation. The World Bank estimated that there was a surge in the middle-class community in 2010 attaining 56.5% from about 20.0% in 2000. The increase in the community is also associated with the increase in purchasing power. The middle-class community is a good consumer for goods and services in the domestic market and the import market. The domestic economy can thus be stimulated into creating a stronger import pressure. The strong consumer culture forged by this class is continuously strengthened with the rapid increase in their number.

Indonesia's economic growth experienced an ascending trend in parallel with her income inequality which can be seen more clearly at the provincial level (Figure 4). Some provinces had lower inequality, while others showed the opposite. But in general, inequality is the trend in the provinces as evident from BPS data. Variations in the number of inter-provincial Gini index generally describe varying degrees of inequality in each province. Income inequality is an indicator of how resources are distributed to the public. High inequality can harm social life and generate unrest and conflict.
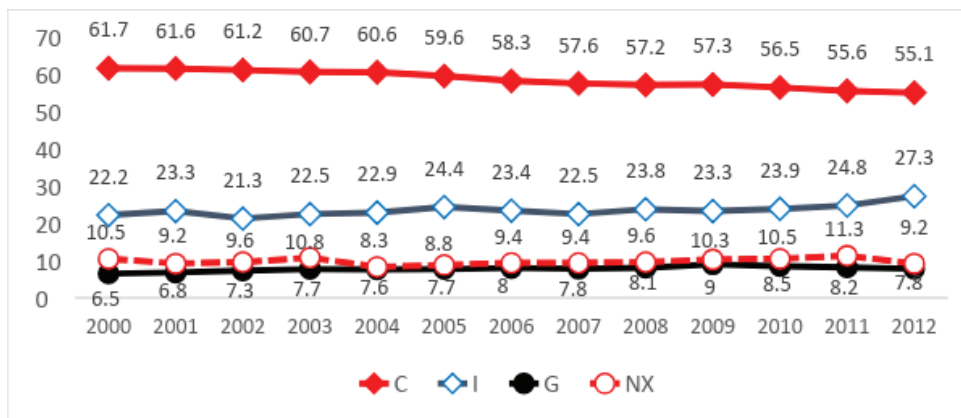

FIGURE 1. Expenditure components contribution to Indonesia's GDP (2000-2012)

Source: BPS, 2013, 2015; Maipita et al, 2016

Maipita (2014) observed that inequality has different meaning for different people.

Various studies argued that the middle-class played a unique role in economic thought for centuries (Kharas 2010). The middle-class is the source of every input required for growth, physical capital accumulation, and for human capital accumulation. Past research has shown that growth in the middle-class is associated with better governance, economic growth, and poverty reduction (Ncube et al. 2011). The class is increasingly considered as a prerequisite for the stability of a country's socio-economic structure (Nayab 2011).

Based on various past findings this study therefore aims to elaborate on; (1) the degree of inequality of income distribution among the middle-class in Indonesia; (2) the impact of the presence of the middle-class on Indonesia's economic growth. This paper consists of five main sections; introduction, literature review related to the topic of study, research methods used in the study, results and discussion, and conclusion.

LITERATURE REVIEW

Income distribution was first associated with the construction phase by Kuznets in 1955 (Daud 1995) using cross-country and time series data. The relation between income gap and level of per capita income was shown as an inverted U shape. Later studies were conducted to test Kuznet's hypothesis. These yielded various conclusions which can be categorized as follows; (1) most studies which supported Kuznet's hypothesis; (2) some studies which showed that the long-term positive economic growth-income distribution nexus is manifested only in developed countries which enjoyed high-income levels (e.g., Maipita 2014).

Barro (1997) and Deininger and Squire (1998) found no correlation between income distribution and economic growth. Bidani and Ravallion (1993), using OLS and instrumental variables, found that; (1) the average spending on consumption as percentage of the poverty line and as the Gini index has a real impact on various measures of poverty, headcount ratio (P0), poverty gap ratio (P1), and squared poverty gap (P2), with direction leaning to positive and negative influences; (2) the average spending on consumption also statistically has significant influence on the Gini index of provinces in Indonesia with a positive sign; (3) the inverted U relationship as Kuznets hypothesized does not apply to Indonesia.

Many studies have shown a positive relationship between the existence of the middle-class and economic growth and the income gap. Easterly (2001) showed that a large middle-class is likely to grow more quickly, at least in terms of its homogeneity. Their high demand will trigger an increase in investment and production which will ultimately boost the revenue and economic growth (Chun et al. 2010). Besides economic growth the country also strives for poverty reduction and equitable distribution of income (Maipita 2014; Maipita et al. 2010; 2016; Males et.al 2012; Male et al. 2012;). Kanbur et al. (2001) stated that equal distribution of income is necessary prerequisite for economic growth and poverty reduction.

The growth of the middle-class is often linked with better governance, economic growth, and poverty alleviation. Social stability as the backbone of the economy could enhance the growth of the private sector which is considered as the prerequisite towards more advanced economies (Birdsall et al. 2000; Drabble et al 2015; Kharas & Gertz 2007; Landes 1998; Nayab 2011; Ncube et al 2011; Pressman 2007; Sokolof & Engerman 2000). It is however not easy to define the middle-class since it is premised to various factors, such as income, wealth, prestige, education, home ownership and car ownership (Focus 2010; Jose 2016; Tarkhnishvili & Tarkhnishvili 2013). In comparison, the definition of poverty has a clear threshold (Yuan et al. 2011). Although there is no single definition of the middle-class it is most often associated with income level (Pressman 2015). Pressman (2007) earlier defines the middle-class as the community that earns between 75% to 150% of the average income. The downside to this definition is that the middle-class subtends a wide range (Dallinger 2013). In addition to this the middle-class can be explained in relative or absolute terms (Kharas 2010). On the relative basis it can be defined as a society with group revenue at the 20th percentile, the 80th of consumption percentile and with a distribution of between 0.75 to 1.25 times the average per capita income (Bhalla 2009; Birdsall et al. 2000; Easterly 2000; Kharas 2010; Ncube et al. 2011).

The middle-class has been variously defined in the literature in terms of income and expenditure of individual members or household: These have included daily expenditures of USD 2 to USD 4, and between USD 6 to USD 10 (Banerjee & Duflo 2007; Brulliad 2010; Ncube et al. 2011); expenditure of USD 2 to USD 13 per day (Ravallion 2009); income of USD 10 to USD 100 per person per day in Purchasing Power Parity (PPP), in the absolute approach; income of USD 12 to USD 50 per day in PPP, in Brazil and Italy in 2000 (Milanovic & Yitzhaki 2002); 0.60 to 2:25 times the average household income in the United Kingdom (Blackburn & Bloom 1985, in Rashdan 2014); revenue of USD 4 to USD 20 per day (Kingombe 2014); expenses per day between USD 2 and USD 20 in PPP (AFDB studies 2011); income per capita in PPP, according to three categories, of USD 5.000 to 15.000 per capita for low middle-class, USD 15.000 to 25.000 for the medium middle-class, and 25.000 to 40.000 USD for the high middle-class, in 2010 (Eagles 2013).

Nayab (2011) classified the middle-class using a weighted measure comprising five factors; (1) education, (2) employment, (3) income, (4) lifestyle, and (5) housing. By this measure Pakistan is estimated to have

a middle-class of about 35% of total population which is substantially more compared to those in the neighbouring countries such as Sri Lanka and India. The middle-class in Pakistan appears less vulnerable to economic fluctuations and has evolved and grown over time. Ncube et al. (2011) discovered that the per capita spending in Africa is around USD 2-20 per day. The population was grouped into three subclasses; (1) the float classes with the level of per capita consumption between USD 2-4 per day, (2) the lower middle-class with per capita spending level of USD 4-10 per day and (3) the upper middle-class with per capita spending level between USD 10 to 20 per day. Chunling (2009) disclosed that the China economy is closely linked with her middle-class which, as a social group, is characterised by higher income, education, prestige, and employment.

The literature recorded wide variation in defining the middle-class due to the range of factors that characterised it as mentioned earlier. However, researchers generally agree that income level and income distribution are among the most influential factors that define the standard or the group range of the middle-class, while variations in the level of income measurements, whether on per day, month, or year basis, are affected by data availability.

RESEARCH METHODS

In this study the middle-class is defined based on two criteria: (1) Model-1: where expenditure varies between USD10-USD100 per individual per month (Karas 2010) and (2) Model-2: where 60 percent of revenue ranges in between percentile 20 and 80 (Atkinson & Brandolini 2011; Bhalla 2009; Birdsall et al. 2000; Easterly 2001; Kharas 2010; Ncube et al. 2011,).

The processing and use of Susenas data, as the basis for the analysis with Input-Output (I-O) tables, are conducted in several stages. The National Socioeconomic Survey (Susenas) data from 2004 -2012 was used in the study. The variables adapted from the Susenas data are household expenditures per month collated from 33 Indonesian provinces. These are also used as proxy for income variables.

Data processing was based on household income and grouped into three classes; the lower class, middle-class and upper class. Only the middle-class data were used in this study. The middle-class income group was characterised based on two methods; the revenue per day which ranged between USD10-USD100 and group revenues which ranged between percentile 20 and percentile 80. Data on spending per household from the Susenas data, were converted into USD units for the middle-class category within the USD 10 - USD 100 range at the prevailing exchange rate. For the 20-80 percentile category data was first sorted into percentiles and thence separated into the said category. The calculation on income inequality for each category of the middle-class

was based on the national scale and the Gini index per category and province. To calculate the inequality level, the Gini's index was used as per equation (1) below:

$$KG = 1 - \sum_1^n (X_{i+1} - X_i)(Y_i + Y_{i+1})) \qquad (1)$$

KG is the Gini coefficient figure, X_i is the cumulative proportion of the number of households in class I, and Y_i is the cumulative proportion of household income in class I.

To determine the impact of changes in middle-class consumption on GDP, a simple general equilibrium model was used to conduct the simulation with I-O Table for year 2008. The use of the I-O table model indicated the same technical level despite changes in demand. The increase in household consumption will also increase the total I-O. In this case, the increase in middle-class private consumption resulted in new I-O. The change in the transaction in the I-O Table will also change the GDP. This is a proxy for influence on economic growth. The composition of GDP by expenditure in I-O Table follows equation (2):

$$GDP = C + I + G + X - M \qquad (2)$$

C is obtained from final household consumption demand for intermediate goods and import goods plus the final consumption demand from non-profit institutions serving households for intermediate goods and import goods; I is obtained from final demand of the formation of fixed capital gross of intermediate goods and import goods; G is from the government's final demand of intermediate goods and import goods; X is derived from final demand of export goods plus final demand of services; and M is obtained from the final demand of the total imports.

Multiplier output is obtained from the Leontief inversed matrix as in equation (3), while the income multiplier is obtained using equation (4).

$$X = (I - A)^{-1} F \qquad (3)$$

with $(I - A)$ as the Leontief matrix, $(I - A)^{-1}$ is the inversed Leontief matrix (multiplier output), F is the exogenous final demand, and X is the total output which is determined by combining various values of final demand, F.

$$M_{INC} = \hat{W}[I - A]^{-1} \qquad (4)$$

with M_{INC} as multiplier of income, $\hat{W}$ is a diagonal matrix coefficients of the gross value added (NTB) that is derived from $\hat{W} = \dfrac{U_j}{X_j}$, and $[I - A]^{-1}$ is the Leontief inversed matrix. In line with the basic assumption of the model I-O, then the relationship between the values added to the output is linear as shown in equation (5).

$$M_{NTB} = \hat{V}[I - A]^{-1} \qquad (5)$$

with M_{NTB} as the multiplier of NTB, $\hat{V}$ is the NTB's diagonal matrix coefficients which is obtained from $\hat{V} = \dfrac{V_j}{X_j}$.

Likewise, the calculation can be done by adding certain value to the final demand. The impacts of changes in final demand on the creation of output, revenue, gross added value, and labour requirements are shown in equation (6) to (9). The impact of changes in final demand to the output is;

$$\Delta O_{utput} = M_{out}\Delta F \qquad (6)$$

the impact of changes in final demand on revenue is;

$$\Delta INC = M_{INC}\Delta F \qquad (7)$$

the impact of changes in final demand on the creation of value added is;

$$\Delta NTB = M_{NTB}\Delta F \qquad (8)$$

the impact of changes in final demand on the need of labour is;

$$\Delta TK = M_{TK}\Delta F \qquad (9)$$

The analysis was conducted by increasing the demand on goods and services from the middle-class groups of baseline 10%, 15%, and 20% from each middle-class category. The baseline is the data of original I-O Table and from the latest year, 2012. The average expenditure for each category (based on criteria of USD 10-USD 100 and based on percentiles 20-80) is used as the baseline for middle-class spending. If the middle-class spending increases by 10%, then the average value of middle-class expenditures in each category is multiplied by 1.10. The difference from baseline and the rise in demand is used as the basis of any change that occurs in each I-O Table category. Additional demand on I-O table for household expenditures (C), is obtained from the multiplication of the difference between the baseline and the increase in demand according to the ratio of consumption in each household for each sector and the total final demand in each sector. Changes in household expenditures in the I-O Table will generate a new total input/output based on the relationship and on the same technical coefficients. This process will produce a new GDP. By comparing the new GDP with the GDP baseline, the result was shown as the values in economic growth generated by the increasing demand from middle-class households.

RESULTS AND DISCUSSION

THE PROFILE OF THE MIDDLE-CLASS IN INDONESIA

The Middle-Class Category Based on Income between USD10-USD100 (Model-1)

These criteria follow that of Kharas (2010) who defines the middle-class as the household that spends between USD 10 to USD 100. This definition when applied in Indonesia, is also affected by decreasing trend in the value of IDR (Indonesian Rupiah) against the USD followed by

TABLE 1. The value of the IDR exchange rate against USD

Year	The Value of IDR Against USD	
	End Year	Average
2004	9,290.00	8,938.85
2005	9,830.00	9,704.74
2006	9,020.00	9,159.32
2007	9,419.00	9,141.00
2008	10,950.00	9,698.96
2009	9,400.00	10,389.90
2010	8,991.00	9,090.43
2011	9,718.00	9,670.00
2012	9,113.00	9,068.00

Source: Asian Development Bank: Key Indicators for Asia and the Pacific 2011-2012

the inflation rate. To remain in the middle-class categories would require more IDR value. Table 1 shows how the trend of IDR weakens against the USD. Based on Table 1, further conversion is conducted to measure the average household spending as shown in Table 2.

The analysis showed an increase in the average individual expenditure. In 2008, the growth was relatively low due to the world economic crisis which affected Indonesia's economy. Conversely, the average spending of the middle-class increased and almost doubled the initial value (USD 24.65 became USD 47.02).

The drawback of using this method is due to the limit that was set in Model-1. When the exchange rate on IDR/USD becomes higher or lower while IDR value remains the same, the value of IDR in USD accordingly decreases resulting in shifting among groups within the middle-class. Due to the decline in the exchange rate, the results coverage observed was shifted upward, as illustrated in Figure 2.

TABLE 2. The average of spending and the middle-class growth based on Model-1

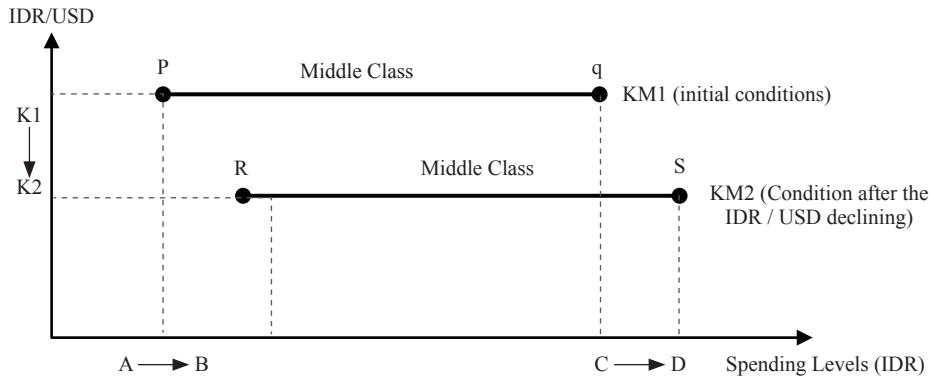| Year	Average	Growth	Observation Ratio	Average Ratio
	(USD)	(%)	(%)	(%)
2004	24.65		91.42	98.41
2005	26.97	9.39	90.41	92.12
2006	31.22	15.79	95.53	89.68
2007	35.17	12.63	93.91	85.12
2008	35.27	0.29	93.87	85.34
2009	36.22	2.70	93.63	83.94
2010	44.18	21.96	87.82	75.35
2011	46.95	6.29	82.62	66.44
2012	47.02	0.14	82.44	65.32

Source: Calculation result

FIGURE 2. Illustration of the middle-class shift caused by the changes in exchange rates

Source: Maipita and Wahyudi 2016; 2017

The proportion of the middle-class recorded in the study increased to an average of 92.37%. The middle-class to whole sample ratio also increased to 87%. This approach clearly shows up the role of the middle-class since the size of the low income class, which comprises the largest, was greatly reduced in size through using this method.

At the level of the rupiah exchange rate against the US dollar, as shown at K1, the middle-class is located along the PQ. This group is located at the level of spending in AC (e.g. A is equivalent to USD 10, and C is equal to USD 100). When the IDR exchange rate fell from K1 to K2, the original value of A, which is equivalent to USD 10, fell below this value. In other words, more rupiahs are needed than A to sustain its value to the equivalent of USD10. For example, the rupiah required today is A-B. Thus, there will be a shift in the lower limit of the middle-class from point A to point B. The upper limit will also shift from C to D. In consequence, the whole middle-class group also shift accordingly.

In the period 2004-2009, the average number of middle-class population exceeded 90.000% for each province. Specifically, in 2006, the middle-class averaged 95.027%, but later declined in 2010 to 86.231% (Table 3). The five provinces with the highest percentage of middle-class population and the five provinces with the lowest are shown in Table 3.

At the national level, the average middle-class spending shows an increasing trend (Table 4) with the range between USD 25.622 to USD 61.010.

The increase in middle-class spending at the individual level is shown in Table 5. The average spending continues on average to grow by as much as 8.65% per annum. During the nine-year period of observation, the ascending spending rate almost doubled suggesting a high income PP. The lowest rates of expenditure growth were recorded in 2008 and 2012, the years of the global economic crises.

In 2009-2010, the middle-class in Jakarta enjoyed the average levels of spending (purchasing power) which

TABLE 3. The percentage of middle-class from the total population according to province (top 5 - the largest to the smallest in Model-1)

Rank	Province	Percent/Year						
		2004	2005	2006	2007	2008	2009	2010
1	Lampung	84.347	87.356	96.561	94.302	96.765	96.105	94.960
2	SulBar	-	-	94.769	96.409	97.302	97.527	94.444
3	JaTeng	92.823	91.883	97.409	96.455	96.506	97.092	94.225
4	JaTim	91.526	90.064	96.447	95.487	96.108	96.589	93.967
5	NTT	72.379	67.132	88.232	92.013	92.331	93.548	93.563
...	...	...	...	...	...	...	...	...
29	BaBel	97.737	95.750	96.386	93.445	91.117	89.811	79.697
30	PaBar	-	-	96.482	92.326	93.750	91.423	78.719
31	KalTim	94.703	93.390	91.351	89.296	87.230	82.792	71.889
32	Kep. Riau	-	92.248	91.440	84.807	85.039	84.190	68.326
33	DKI Jakarta	91.126	86.154	81.250	77.012	73.367	71.813	56.820
	Average	91.554	90.268	95.027	93.589	93.570	93.158	86.231

Source: Calculation result

TABLE 4. The national average of the middle-class spending (Model-1)

National	Year						
	2004	2005	2006	2007	2008	2009	2010
	25.662	29.521	35.372	41.457	43.388	45.116	61.010

Source: Calculation result

TABLE 5. The minimum, maximum and average of the middle-class spending (USD/month)

Year	Minimum	Growth (%)	Maximum	Growth (%)	Average	Growth (%)
2004	10.00		99.98		24.65	
2005	10.00	0.00	99.99	0.01	26.97	9.39
2006	10.00	0.00	100.00	0.00	31.22	15.79
2007	10.00	0.01	99.98	−0.02	35.17	12.63
2008	10.00	−0.02	100.00	0.02	35.27	0.29
2009	10.00	0.01	100.00	−0.00	36.22	2.70
2010	10.00	0.01	100.00	0.00	44.18	21.96
2011	10.01	0.05	100.00	0.00	46.95	6.29
2012	10.16	1.56	100.00	0.00	47.02	0.14
Average	10.02	0.21	99.99	0.00	36.40	8.65

Source: Calculation Result

were higher than those in other provinces. This was followed by the East Kalimantan, Riau Islands (Riau) and Bangka Belitung. However, as perceived from the province, and in comparison to the total population, the reverse is true as shown explicitly in Figure 3. In 2010, the middle-class with the highest level of purchasing power was in Jakarta (Rank 1).

Currently however, Jakarta has the lowest appeal among the middle-class of other provinces (Ranked 33). The province of Lampung has the highest percentage of appeal among the middle-class, but the reverse is true for purchasing power (Ranked 29). This would suggest that a large disparity in purchasing power (revenue/ expenditure) exists between provinces. The lowest average purchasing power recorded is in the eastern region of Indonesia, including East Nusa Tenggara, Gorontalo, West Sulawesi, West Nusa Tenggara and Maluku.

The Middle-Classes Based on The 60% Criteria in the Middle (Between The 20[Th] Percentile and 80[Th] – Model 2)

The second criteria in defining the middle-class are those earning 60% income in the middle of or between the 20th percentile and 80th percentile (Easterly 2000;
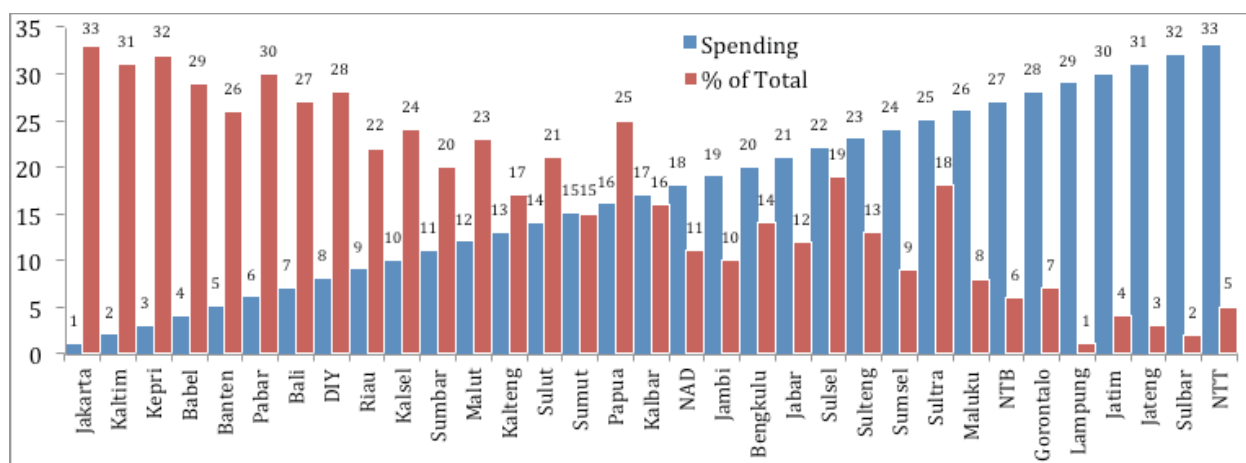

FIGURE 3. The average ranking of the highest spending in the middle-class and the total percentage of the middle-class against the total population according to the province in 2010 (sort by 2010)

Source: Calculation result

Birdsall et al. 2000; Bhalla 2009; Ncube et al., 2011). By this measure about 60% of the total population belong to this class either at the national or provincial level. Compared to the previous criteria (USD), the size of the middle-class is smaller. With reference to data in Table 2, the average size of the middle-class exceeded 90% of the total population.

The escalation in expenditure of the middle-class individual, from 2004 to 2012, is shown in Table 6. Within this period, the average spending rate grew at 13.82% per year doubling in size by 2010 which is indicative of high income performance in purchasing power. The trend however declined beyond this date. The lowest growth rate was recorded in 2008 due mainly to the impact of the global economic crisis.

The growth of middle-class income or expenditure shows a significant upward trend to its maximum value. In 2008, growth of the middle-class was severely impaired by the economic crisis but bounced back in 2012 following recovery. The relatively high expenditure growth indicates that the level of middle-class purchasing power is on the rapid increase. Calculations on purchasing power by the provinces are shown in Table 7. Blank cells indicate unavailability of data.

Ranking by province based on highest spending by the middle-class is similar to that for the USD-based criteria. Jakarta showed the largest individual expenditures, followed by Bangka Belitung and the Riau Islands province. The provinces with the smallest expenditures are the East Nusa Tenggara, Gorontalo and West Sulawesi. The average middle-class spending

TABLE 6. The minimum, maximum and average middle-class spending at the Model-2 criteria (IDR/month)

No	Province	Year								
		2004	2005	2006	2007	2008	2009	2010	2011	2012
1	DKI	273,896	318,586	167,234	405,068	449,017	497,678	522,544	560,363	589,576
2	Babel	160,573	215,043	188,542	293,268	324,325	343,435	397,404	437,007	504,720
3	Kep. Riau	-	227,667	179,648	302,908	351,390	385,156	420,146	528,102	493,714
4	Kaltim	177,702	200,109	34,333	284,888	301,027	330,855	409,542	449,251	490,548
5	Riau	164,539	174,702	137,885	265,676	276,699	308,454	330,179	389,027	406,615
..	..	..	..	..	..	..	..	..	..	..
29	Sulsel	102,595	111,568	44,765	147,040	156,919	176,992	190,212	222,082	237,550
30	Papua	113,903	119,800	70,913	155,977	160,232	191,701	205,639	233,540	237,286
31	Sulbar	-	-	54,738	142,896	156,777	182,757	198,380	215,291	236,884
32	Gorontalo	93,245	108,599	73,141	133,371	139,782	151,138	168,383	205,722	228,375
33	NTT	80,042	80,509	53,475	114,022	127,900	148,135	165,204	195,697	212,258
	Average	127,588	146,782	116,599	196,213	215,130	241,674	265,009	303,256	326,286

Source: Calculation Result

TABLE 7. The Average of middle-class spending according to province (Model-2 criterion; top 5 and bottom 5)

No	Province	Year								
		2004	2005	2006	2007	2008	2009	2010	2011	2012
1	DKI	273,896	318,586	167,234	405,068	449,017	497,678	522,544	560,363	589,576
2	Babel	160,573	215,043	188,542	293,268	324,325	343,435	397,404	437,007	504,720
3	Kep. Riau	-	227,667	179,648	302,908	351,390	385,156	420,146	528,102	493,714
4	Kaltim	177,702	200,109	34,333	284,888	301,027	330,855	409,542	449,251	490,548
5	Riau	164,539	174,702	137,885	265,676	276,699	308,454	330,179	389,027	406,615
..	..	..	..	..	..	..	..	..	..	..
29	Sulsel	102,595	111,568	44,765	147,040	156,919	176,992	190,212	222,082	237,550
30	Papua	113,903	119,800	70,913	155,977	160,232	191,701	205,639	233,540	237,286
31	Sulbar	-	-	54,738	142,896	156,777	182,757	198,380	215,291	236,884
32	Gorontalo	93,245	108,599	73,141	133,371	139,782	151,138	168,383	205,722	228,375
33	NTT	80,042	80,509	53,475	114,022	127,900	148,135	165,204	195,697	212,258
	Average	127,588	146,782	116,599	196,213	215,130	241,674	265,009	303,256	326,286

Source: Calculation Result

in Jakarta is almost three times bigger than that in East Nusa Tenggara (Table 7).

THE MIDDLE-CLASS INEQUALITY

The simulation results for the national Gini's index (the rate of inequality on income distribution) for all income in Indonesia are shown in Figure 4. There is a rising trend in Indonesia Gini's index per capita income, in real or nominal conditions.

The Middle-Class Inequality According to Income Model-1 Criteria

The inequality level of income distribution of the middle-class according to this criteria is shown in Figure 5. The inequality level of this group is relatively low compared to the national average within the observation period, which suggests that income distribution in the middle-income group is relatively homogeneous. The level of income distribution is also relatively constant

in this period. Despite some changes the fluctuation is however relatively small. In contrast to the national trend inequality in the middle-class group shows a declining tendency. In other words, the degree of inequality of income distribution at the national level is likely to rise, but at the middle-class scale, inequality tends to be more even.

Inequality level of total income distribution between the province and the middle-class is relatively varied. The five provinces with respectively the lowest and the highest inequality levels are shown in Table 8. Of the total 33 provinces in Indonesia, the lowest inequality level is in Jakarta, followed by Riau Islands and Bangka Belitung. This indicates that income distribution among the middle-class in these provinces are more even relative to that in other provinces. The percentage of middle-class in Jakarta is the lowest relative to the total population, but the group has the highest average expenditure compared to that of other provinces (Figure 3). This apparently suggests a relatively high inequality among its inhabitants in the total population.
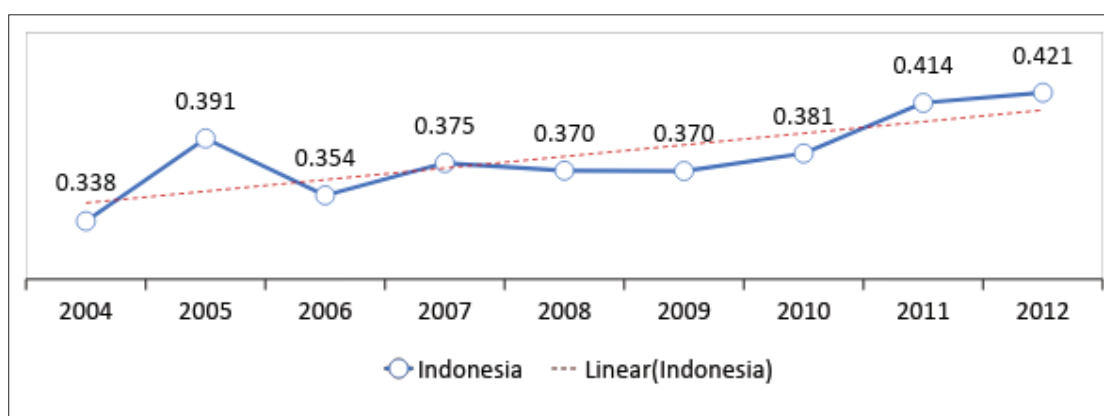

FIGURE 4. The Indonesian Gini's index development (USD)

Source: BPS Data

TABLE 8. The middle-class Gini's index, according to the province's (sorted by the smallest and largest 5 in 2012)

No	Province	Year								
		2004	2005	2006	2007	2008	2009	2010	2011	2012
1	DKI Jakarta	0.225	0.227	0.195	0.186	0.183	0.178	0.156	0.156	0.156
2	Kep. Bangka Belitung	0.243	0.261	0.232	0.218	0.215	0.228	0.188	0.175	0.161
3	Kalimantan Timur	0.273	0.281	0.253	0.242	0.239	0.246	0.207	0.189	0.187
4	Kep. Riau	0.000	0.280	0.246	0.220	0.220	0.218	0.182	0.168	0.187
5	Riau	0.273	0.281	0.251	0.247	0.246	0.240	0.222	0.205	0.206
..	..	..	..	..	..	..	..	..	..	..
29	Nusa Tenggara Timur	0.255	0.286	0.281	0.311	0.307	0.297	0.297	0.280	0.269
30	Gorontalo	0.260	0.293	0.283	0.295	0.292	0.284	0.322	0.299	0.282
31	Sulawesi Selatan	0.268	0.289	0.283	0.309	0.306	0.302	0.304	0.279	0.282
32	Sulawesi Tenggara	0.250	0.280	0.273	0.314	0.298	0.289	0.311	0.287	0.292
33	Papua	0.298	0.336	0.315	0.332	0.339	0.323	0.315	0.292	0.297

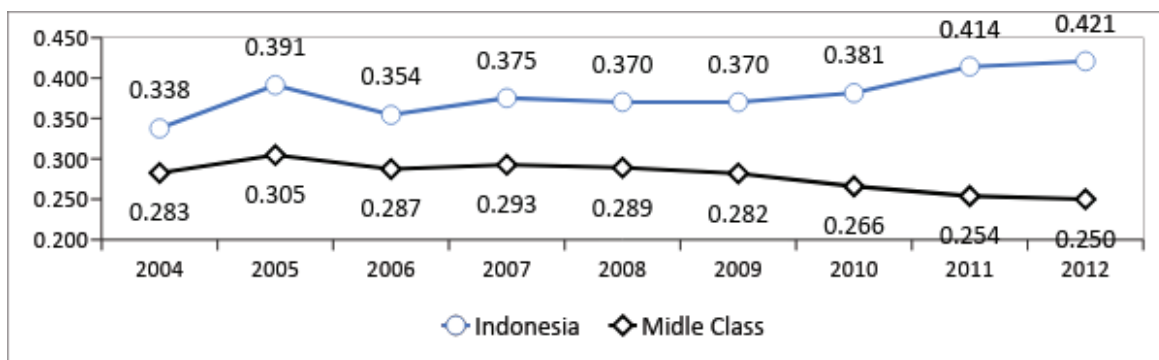*Source:* BPS data, the data calculation results Susenas

FIGURE 5. Gini index of Indonesia and the middle-class (Model-1 criteria)

Source: BPS data, the data calculation results Susenas

TABLE 9. Gini index of population by province (sorted by the smallest and largest 5 in 2012)

No	Province	Year								
		2004	2005	2006	2007	2008	**2009**	**2010**	**2011**	**2012**
1	Kep. Bangka Belitung	0.267	0.315	0.275	0.281	0.278	0.298	0.303	0.318	0.302
2	Sulawesi Barat	-	-	0.316	0.343	0.344	0.304	0.357	0.360	0.332
3	Nanggroe Aceh Darussalam	0.281	-	0.304	0.289	0.299	0.293	0.309	0.341	0.335
4	Kalimantan Tengah	0.272	0.303	0.281	0.311	0.306	0.300	0.313	0.353	0.337
5	Sumatera Utara	0.279	0.337	0.310	0.325	0.326	0.320	0.349	0.349	0.339
..	..	..	..	..	..	..	..	..	..	..
29	Bali	0.292	0.352	0.324	0.344	0.325	0.321	0.363	0.416	0.434
30	Sulawesi Utara	0.272	0.343	0.306	0.335	0.298	0.320	0.379	0.382	0.437
31	Gorontalo	0.302	0.369	0.321	0.387	0.356	0.362	0.435	0.449	0.439
32	DI Yogyakarta	0.419	0.464	0.425	0.390	0.405	0.402	0.432	0.428	0.445
33	Papua	0.350	0.450	0.389	0.424	0.423	0.393	0.424	0.432	0.453

Source: BPS data, the data calculation results Susenas

The provinces with the highest level middle-class inequality is the Papua province followed by Southeast Sulawesi and South Sulawesi. Compared to the inequality level of DKI Jakarta, the Gini's index of the middle-class in Papua is nearly half of Jakarta's. When the total level of inequality is compared for the middle-class level (Table 8 and 9) five provinces are shown with low inequality (to total population) in contrast to five provinces with the lowest inequality in the secondary group. Nationally, Bangka Belitung province has the lowest level of inequality (0302), followed by Sulawesi Barat (0332), and Nangroo Aceh Darussalam (0335). However, the middle-class group recorded the ranking differently. The province with the lowest levels of inequality is Jakarta (0156), followed by the Pacific Islands (0161), and East Kalimantan (0187).

THE MIDDLE-CLASS INEQUALITY ACCORDING TO MODEL-2 CRITERIA (BETWEEN 20 AND 80 PERCENTILE)

The income/expenditure inequality criterion between the 20th percentile and the 80th percentile (Model-2) is shown in Figure 6. The phenomenon appears to be the same with that in the previous criteria, where middle-class inequality is lower than total inequality. Another phenomenon is that the inequality that appears in this criterion is lower than the inequality recorded using the approach of the Model-1 criterion. This is due to the population used in Model-1 being more than that used in the Model-2 criterion. This suggests that the income group within 60% of revenues (Model-2) is more equal than the other income group. Figure 6 also provides information on the middle-class widest inequality and the inequality gap in total. More equitable income levels will provide greater social stability thus generating a condition that is much more conducive to growth.

Another interesting point from Figure 6 is that the trend in the national Gini's index has increased nationwide as with the middle-class Gini's index, although not as sharply as in the Model-2 criterion. Conversely however, the trend for the middle-class Gini's index, at the USD criterion, is on the decline. In other words, the unequal distribution of income in middle-class groups, at the Model-2 criterion, is likely to increase. In contrast the opposite trend occurred in the middle-class group of Model-1 criterion. In general, the middle-class
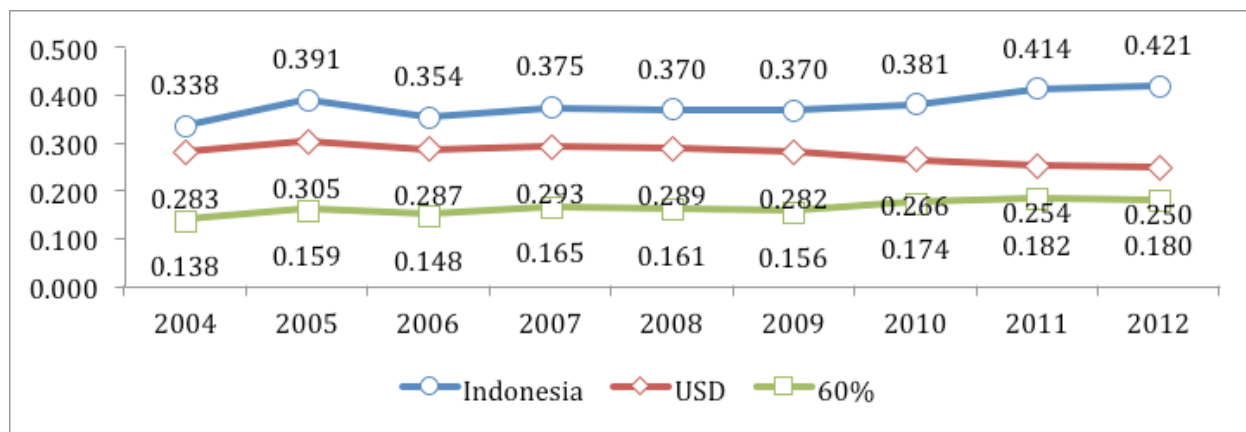
FIGURE 6. The Indonesia Gini's index and the middle-classes based on Model-1 and Model-2 criteria

Source: BPS data, the data calculation results Susenas

Gini's index showed opposing trends when different approaches (namely, Model-2 vs. Model-1) are used. The five provinces with the lowest and highest inequality respectively are shown in Table 10.

When Gini's index 2012 for middle-class (Table 8) is compared to the Model-2 criterion (Table 10), it is clear that Jakarta has the lowest value. Three of the five provinces with the highest Gini's index are East Nusa Tenggara, Gorontalo, and South Sulawesi. These regions are no longer in the Model-2 criterion (since replaced by the province of West Sumatra, the Moluccas, and North Sulawesi). Two provinces that are in the second werner criterion are Southeast Sulawesi and Papua, which have the highest Gini's index for both criteria. In 2012, the range between the smallest and highest Gini's indexes was 0.0529 whereas in the Model-2 criterion recorded 0.1414. This indicates that the distribution of income disparity in the middle-class is smaller in the Model-2 criterion. Generally however it suggests that economic growth is still weak, even with the middle-class.

THE INFLUENCE OF THE MIDDLE-CLASS TOWARDS ECONOMIC GROWTH

The simulation was conducted in three scenarios, namely through increasing household income by 10%, 15% and 20% from baseline. The model used to create the simulation is I-O Table 2008 (still used in Indonesia). Assuming that the structure of the economy in 2012 is similar to that in 2008, we can use a change in private consumption as exogenous variable that affect the total output or GDP. Simulation Results for the three scenarios are shown in Table 11.

Simulation calculations are taken from the average middle-class spending for each category. An example for the criteria of USD 10-USD 100 is shown here: Given the average expenditure of IDR 1,867,434 if increased by 10% will grow to IDR 2,054,177, with the difference amounting to IDR 186,743. The difference is the increase of household expenditure of each sector in the I-O Table whereby each sector will increase by

TABLE 10. The middle-class Gini's index according to Model-2 criteria (sorted by the smallest and largest 5 in 2012)

No	Province	Year								
		2004	2005	2006	2007	2008	2009	2010	2011	2012
1	DKI Jakarta	0.0924	0.1126	0.1045	0.1131	0.1131	0.1092	0.1219	0.1384	0.1409
2	Kep. Babel	0.1287	0.1366	0.1293	0.1381	0.1347	0.1206	0.1449	0.1601	0.1466
3	Kaltim	0.1265	0.1466	0.1350	0.1461	0.1465	0.1514	0.1579	0.1632	0.1625
4	DIY	0.1376	0.1592	0.1492	0.1639	0.1638	0.1593	0.1748	0.1783	0.1653
5	Kep. Riau	-	0.1426	0.1363	0.1392	0.1341	0.1278	0.1474	0.1496	0.1695
..	..	..	..	..	..	..	..	..	..	..
29	Sumbar	0.1368	0.1575	0.1448	0.1601	0.1510	0.1516	0.1710	0.1749	0.1840
30	Maluku	0.1379	0.1596	0.1494	0.1674	0.1666	0.1451	0.1764	0.1898	0.1846
31	Sultra	0.1357	0.1563	0.1464	0.1661	0.1581	0.1641	0.1707	0.1769	0.1852
32	Sulut	0.1335	0.1575	0.1455	0.1631	0.1548	0.1533	0.1830	0.1869	0.1868
33	Papua	0.1428	0.1682	0.1539	0.1654	0.1679	0.1618	0.1968	0.1965	0.1938

Source: BPS data, the data calculation results Susenas

TABLE 11. Simulation result of the increasing middle class revenue to the economic growth

Average Expenditure (IDR):		
Total Population		2,449,919.00
USD10-USD100 Group (Model-1)		1,867,434.00
20%-80% Group (Model-2)		1,639,903.92
Simulation I	**Increase of income (%)**	**Economic Growth (%)**
USD10-USD100 Group (Model-1)	10	0.1076
20%-80% Group (Model-2)	10	0.1225
Simulation II	**Increase of income (%)**	**Economic Growth (%)**
USD10-USD100 Group (Model-1)	15	0.1613
20%-80% Group (Model-1)	15	0.1836
Simulation III	**Increase of income (%)**	**Economic Growth (%)**
USD10-USD100 Group (Model-1)	20	0.2150
20%-80% Group (Model-1)	20	0.2447

Source: Susenas data, simulation result (I-O Table)

IRD 186,743 multiplied by the ratio of each household consumptions for each sector to the total final demand. For these measures, the I-O Table receives new data for household consumption column, thus making the total input/output unchanged. The percentage of change in the GDP shows the impact of the rise in middle-class household consumption to GDP. For this example, the increase is 0.1225%.

In general, the increase in the middle-class income level for both criteria exerted only a slight impact on economic growth. As incomes rise, spending patterns will increase, inducing growth across consumption categories (Farrell et al., 2006). But the increase in revenue grade proficiency level does not significantly affect economic growth. One causal reason is that economic growth is influenced by many factors. If the GDP is a function of consumption, investment, government spending, and net exports (GDP = C + I + G + NX), then it is expected that increase in consumption (C) on GDP would elicit relatively minor impact. The C simulated here is basically middle-class household consumption and not total consumption. Conversely, due to its impact on the GDP (as added income to the household) middle-class household consumption can be said to contribute considerably to economic growth.

CONCLUSION

Several important points that can be drawn for the conclusions are as follows: (1) The estimated consumption data over twenty years indicate that more than half of people's income is used for consumption expenditure. (2) The middle-class in the Model-1 criteria has broader coverage exceeding ninety percent in Indonesia and with similar results in the provinces. In comparison, the middle-class in Model-2 performed better in income distribution. (3) The national income distribution

inequality during 2004-2012, is higher than that in the middle-class. The degree of inequality in the middle-class in Model-2 criteria, is slightly less than that in Model-. (4) The high income group is more unequal than the middle and low income group, and the middle-class on average has the lowest inequality level compared to the other classes. (5) National disparities have increased during 2004-2012 and similarly so for the inequality trend among middle-class in Model-2 criterion, but a decreasing inclination in the Model-1 criterion. In the latter criterion, the highest and almost permanent inequality is recorded in the eastern region of Indonesia due presumably to the low development level. The trends suggest that national economic growth is not evenly distributed among the middle-class. (6) Many past studies credit the middle class for triggering increases in investment, production, income, and ultimately economic growth.

However, simulation results showed otherwise, where middle class income/expenditure does not significantly increase economic growth. Income increases, theoretically stimulate rise in spending patterns and, prompting consumption growth in various sectors. But the impact of revenue increase in reality among the middle-class could only promote economic growth of less than one percent. This indicates that the rise in middle-class income is inelastic to economic growth which is basically premised by many factors. Since the GDP is a function of consumption, investment, government spending, and net exports, an increase in middle-class household consumption will naturally exert little impact on economic growth.

Consumption and expenditure/income are but two variables that characterise the middle-class. Other variables include education, profession, health, savings, investment, capital and democracy. For future more comprehensive study these other variables should be considered. Since Indonesia is undergoing a demographic bonus, findings from this present study (especially

the escalation of impact of middle-class income on the economic sector/industry) could contribute to the planning process for future economic development.

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