ADB

ADB Economics
Working Paper Series

Middle Class Size in the Past, Present, and Future: A Description of Trends in Asia

Natalie Chun
No. 217 | September 2010

Asian Development Bank

ADB

Middle Class Size in the Past, Present, and Future: A Description of Trends in Asia

Natalie Chun
September 2010

Asian Development Bank

The ADB Economics Working Paper Series is a forum for stimulating discussion and eliciting feedback on ongoing and recently completed research and policy studies undertaken by the Asian Development Bank (ADB) staff, consultants, or resource persons. The series deals with key economic and development problems, particularly those facing the Asia and Pacific region; as well as conceptual, analytical, or methodological issues relating to project/program economic analysis, and statistical data and measurement. The series aims to enhance the knowledge on Asia's development and policy challenges; strengthen analytical rigor and quality of ADB's country partnership strategies, and its subregional and country operations; and improve the quality and availability of statistical data and development indicators for monitoring development effectiveness.

The ADB Economics Working Paper Series is a quick-disseminating, informal publication whose titles could subsequently be revised for publication as articles in professional journals or chapters in books. The series is maintained by the Economics and Research Department.

Contents

Abstract

This paper describes the size of the middle class in developing Asia across countries and over time. Based on an absolute measure of the middle class of $2–$20 (2005 purchasing power parity United States dollars), it finds that between 1990 and 2008, the size of the middle class in developing Asia has grown dramatically in percentage share, absolute size, and purchasing power. However, there are large variations in the size and growth of the middle class across countries, with the primary growth of the middle class largely driven by the People's Republic of China (PRC). Considerably smaller growth has occurred in many countries including Nepal and Sri Lanka. Still, a large portion of the middle class residing in the $2–$4 range are extremely vulnerable, and many of the poor in Asia remain in the PRC and India. This suggests that it may be good for policymakers to not only focus on countries that have lagged behind in terms of growth of the middle class, but that it should also concern itself with focusing on countries where there is still considerable room to build, and bolster the absolute size of the middle class in Asia.

I. Introduction

The individuals who belong to the middle class may hold the key to a country's prosperity and can strengthen the prospects for economic growth that result in poverty reduction.[1] The basic income, skills, and values that are considered to characterize the middle class may enable them to improve not only their own standards of living, but also that of others as well.[2] Moreover, the middle class are considered to have a heavy influence over the policies that get implemented as they typically represent the viewpoint upon which politicians and policy makers tend to converge to obtain widespread support.[3] In effect, the focus on the middle class, as opposed to the poor, stems from the contention that the middle class has the base amount of income to invest in productive activities that contribute to economywide welfare, whereas the poor only have enough to survive.

While identifying the causal relationship that exists between the middle class and economic growth is difficult, Easterly (2001) has provided evidence suggesting that there is a strong interrelationship between the pace at which a country grows and the size and share of the income that the middle class holds. Inevitably one cannot necessarily separate the discussion of middle class from that of inequality. Many studies have shown that high inequality, especially in low- and middle-income countries, is potentially detrimental to poverty reduction and results in lower rates of economic growth. Moreover, Kharas and Gertz (2010) and Kharas (2010) have discussed the potential negative implications of a small middle class that can cause countries to get stuck in a growth trap where growth stagnates and inhibits the ability of countries to transition from being a middle-income into a high-income country.

---

[1] Ravaillion (2009) f nds that a larger middle class is associated with a higher rate of poverty reduction in developing countries than one would expect under a neutral distribution growth scenario.

[2] In their recent survey of the middle-class, Banerjee and Duf o (2008) identify three types of arguments through which the middle class may act as a driver of growth. One holds the middle class as important for growth because it is the source of entrepreneurs "armed with a capacity and tolerance for delayed gratif cation". A second argument stresses the middle-class "values" that encourage accumulation of human capital and savings, i.e., inputs vital for entrepreneurs. A f nal argument relies on the role of the middle class as consumers. In particular, through their willingness and ability to pay extra for better quality products, the middle class is said to drive the demand for better quality consumer goods and those whose production exhibits increasing returns to scale. This demand feeds into investments in production and marketing and raises economywide income levels.

[3] This is a particular reference to the median voter theorem proposed by Black (1948). The middle class, being right in the middle of the distribution, tends to be at the midpoint of the policies and preferences demanded by the population especially in regard to economic policies—given that one can represent the preferences of people in the population along a single dimension.

The objective of this paper, however, is not to figure out the causal relationship between economic growth and the middle class, but to document and describe the size and growth of the middle class over time to provide a basis for assessing the economic health of a country or region; and to hypothesize the potential size of the middle class in the future and the potential constraints and demands it may impose on the global economy due to its purchasing power. In this paper, an absolute measure of the middle class based on income or consumption expenditure data from household surveys is used to focus specifically on the developing world's middle class. This absolute measure captures the percentage of a country's population living on $2–$20 per person per day (2005 purchasing power parity United States dollars [PPP $]). This paper does not attempt to debate the merits of using a particular middle class definition, but argues for using this absolute approach in this paper as it provides a means to make comparisons across countries and over time.

The paper highlights the size of the middle class in terms of percent, population size, and annual expenditures in developing Asia as Asia is the region that has seen the most rapid growth in the middle class over the past few decades, and is the region expected to see the largest growth in the coming decades. This exercise is expected to identify the countries that are lagging behind and appear to have seen little change in the size and health of the middle class, which is important if it is believed that the middle class is truly critical to sustaining strong economic growth. While the region has experienced dramatic reductions in poverty and a subsequent rise of a fairly large middle class population, the region has many people still in poverty and therefore has great potential for exponentially increasing its consumption. Moreover, the growth of the middle class has largely been unequal with large differences between countries and a high proportion of the middle class very vulnerable to falling back into poverty as they reside mostly in the $2–$4 range.

The rest of this paper is organized as follows: Section II overviews the literature and different measures for the middle class based on the specific definition to be used for middle class. Section III details the data that is used to obtain distributions and determine the size of the middle class. Section IV looks at the size of the middle class for different countries in Asia in comparison to other class categories. Section V discusses how the middle class in Asia has changed over time. Section VI compares the performance of developing Asia in building its middle class size vis-a-vis other regional developing economies worldwide and to countries of the Organisation for Economic Co-operation and Development (OECD). Section VII discusses the share and size of the middle class in different countries in Asia in 2030 based on some rough projections regarding the evolution of economic growth and possible scenarios for inequality. While no attempt is made to debate the merits of using a particular middle class definition, in Section VIII some evidence is provided on how variations in the definition of middle class may change the assessments of the size of the middle class and its growth over the years. Finally, Section IX concludes with future avenues for discussing the middle class and what the

potential implications are if the middle class within Asia tends to grow as it has in the past.

II. Defining the Middle Class

Little consensus exists on the specific parameters that define the middle class. In ancient times Aristotle viewed the middle class in political terms, defining the middle class as the class that held the greatest political power (Mulgan 1977). However, more recently the middle class has taken on more varied interpretations noted almost equally for their socioeconomic implications and tendency toward mediocrity as much as that of political power. For example, Karl Marx and Frederick Engels believed that the middle class is comprised of individuals who were primarily selfish and lacked ingenuity. On the other hand, others such as Stein and Charters (1990) seem to view the middle class more optimistically as a group that has high moral standards and lacks selfish intent. Thus, arriving at a precise definition and parameters by which to define the middle class is no straightforward task.

In economics alone, multiple definitions of middle class are used in a number of recent papers on the middle class even when considering only income or consumption expenditures. The basis for deciding the precise definition of middle class depends on the type of comparisons one is trying to perform and sometimes uses little science or justification.

Easterly (2001) used a relative definition of middle class as those between the 20th and 80th percentiles of one's country distribution to investigate how the size of the middle class varied in relation to economic growth after controlling for ethnic polarization of a country. Birdsall, Graham, and Pettinato (2000) also use a relative approach but one where the size of the middle class fluctuates depending on the density around the mean income. They take the middle class as those who are within 75% to 125% of the median income distribution of a given country. In general, these relative definitions are more useful for examining the purchasing power held by the middle income group relative to the poor or upper-income groups within the country, but is less able to assess how well-off the middle income group is in relation to other countries in total purchasing power.

In cross-country comparisons, researchers have a higher tendency to use absolute measures for the middle class. Banerjee and Duflo (2008) defined the middle class as those whose daily consumption lies between $2–$10 (2005 PPP $). Given that the global poverty line is $1.25 (2005 PPP $), these people are generally perceived as lower-middle class even in developing countries and would be considered poor by developed country standards. Kharas and Gertz (2009), investigating a larger and potentially richer set of individuals, used a definition as those making between $10–$100 (2005 PPP $) per day, but used national accounts per capita household consumption means to adjust their survey distributions, rather than going with the typically lower survey means. Ravallion

(2010) also focused on the middle class in developing countries, defining them as the population lying between the median poverty line of developing countries and the poverty line of the United States, which is the upper bound of those being middle class, i.e., lying between $2 and approximately $26.5 (2005 PPP $) per person per day. Finally, Bussolo, De Hoyos, Medvedev, and van der Mensbrugghe (2007); and Bussolo, De Hoyos, and Medvedev (2009) have defined the middle class as those with average daily incomes between the poverty lines of Brazil ($10 2005 PPP $) and Italy ($20 2005 PPP $).

Birdsall (2007) uses a $10 (2005 PPP $) per person per day line to identify the middle class and simply requires that they make less than 90% of the income distribution in a given country, thus creating a middle class definition that is absolute at the bottom end and relative at the upper end of the distribution.

Much emphasis is placed on the fact that in developing countries where the average consumption or income is close to the global poverty line, there is relative inelasticity in what defines poor or impoverished. Meanwhile, as one moves into richer countries, the view of poverty rises and is more elastic or relative to average income. As this paper is concerned with the middle class in developing countries and is interested in comparing the size of the middle class across countries and time, the focus is on an absolute approach to defining the middle class. In particular, it looks at the middle class near the poverty line consuming on average $2–$4 per day. This represents the very vulnerable middle class that makes only slightly more than the poverty line that Ravallion, Chen, and Sangraula (2008) use for the developing world of $1.25 per day. The paper also considers the developing world's middle-middle class as those with consumption expenditures between $4–$10 per day, who may make enough money beyond mere subsistence level, and who can actually save or consume non-necessary goods. Finally, the upper-middle class of the developing world is those whose consumption is $10–$20 (2005 PPP $) per person per day and thus are roughly between the poverty lines of the transition country of Brazil and the lower OECD country of Italy.

III. Data

A variety of data sources were used to create the distributions and determine the size of the middle class. For developing countries, the primary source for the distribution data was obtained from the World Bank's PovcalNet database. This database provides detailed distributions of either income or household consumption expenditures by different percentiles based on actual household survey data. In addition, it provides the survey means for household per capita income or consumption in 2005 PPP $. The PovcalNet database primarily provides distributions based on consumption except in the instances where only income measures exist. At lower levels of income the difference between consumption and income is small. However, these differences tend to grow with wealth

and thus are considered a potential measurement error in the analysis. Still these differences are expected to be relatively minor as there is a high correlation between income and consumption especially at lower levels, and thus should have little effect on overall computations. The paper also focuses on consumption expenditures as this better captures individual welfare and is less prone to fluctuations from negative and positive shocks.

The tabulated distributions and means enable us to back out the entire (smoothed) income distribution based on the methodology outlined in *Inequality in Asia* (ADB 2007) and Datt (1998) drawing upon parameterizations of Lorenz curves based on tabulated distribution data. While a method discussed in Shorrocks and Wan (2004) may better approximate the true distribution, it is shown to only marginally underestimate the effect, such that altering the methodology is likely to leave the percentage sizes in different income/expenditure brackets relatively unchanged.

For OECD and high-income countries in Asia, decile and quantile distributions from the World Income Inequality Database Version 2.0c compiled by the United Nations University – World Institute for Development Economics Research (UNU-WIDER 2008) are used. As the quality of the data was suspect and more difficult to compare across time, attention was limited to the distributional data that was designated as top quality (quality = 1) and represented gross income or expenditures. However, the data quality restriction was relaxed for Japan; the Republic of Korea; Singapore; and Taipei,China. In general, most of the data for the OECD countries was income-based rather than expenditure-based. In all cases, if the median household per capita income or expenditures of the survey was reported, then this value was used; otherwise, the mean of the survey was used in deriving the distribution. In cases where neither the median of the survey nor the mean of the survey were reported in the database, the ratio of survey mean to national accounts mean was taken and then interpolated or extrapolated based on years in which both information existed. This interpolated or extrapolated ratio was then used to back out the survey mean for the missing year based on the reported national account means. These survey means were then converted into 2005 PPPs using reported PPP values obtained from the Penn World Tables database 6.3 developed by the International Comparison Program.

The use of national accounts household per capita consumption means was also employed as these means tend to differ substantially from the survey means particularly in Asia. These national accounts means were obtained from the World Development Indicators (WDI) database using the national accounts means with the survey distributions to derive alternative measures of middle class size. For Taipei,China the distribution data provided by WDI is used where the World Income Inequality database did not at least report quantile distributions.

The regional comparisons and direct country comparisons that are reported in this paper were created by developing a set of common reference years at 3-year intervals from

1990 to 2008. These common reference years were assigned the closest available year of survey data for each country within a region to the common reference year, limiting inclusion of countries into the regional aggregates based on whether there were are at least two distinct years of survey data within the time frame of 1985 to 2008. The assumption is that the closest available survey year was a fairly close approximate of the distribution of the common reference year. Thus all regional aggregates have the same set of countries for each common reference year between 1990 and 2008. The additional requirement was that all countries included in this set had at least 2 years of valid national accounts data for the common reference years and the survey years. This allowed for transforming the survey mean to the common reference year by assuming that the survey mean increased or decreased via the same relationship that the national accounts mean increased or decreased. That is, it is assumed that there was no differential change in the relationship between the survey mean and the common reference years between these 2 years. In cases where the survey mean or national accounts mean was missing for a particular year, the survey means or national accounts means are backed out by interpolating the data or extrapolating the data. The survey means were then adjusted to the common reference year using 2005 PPPs, and deflated or inflated using consumer price indices (CPI) from WDI using 2005 as the base reference year. In instances where urban and rural measures were reported separately, 2005 PPP deflators detailed in Ravallion, Chen, and Sangraula (2008) were used, which takes into account that $1 in rural areas has greater purchasing power than $1 in urban areas. Finally, as urban and rural areas for the People's Republic of China (PRC), India, and Indonesia were presented separately in the PovcalNet database, the data for some parts of the analysis are collapsed using the population weights for urban and rural. The countries associated with the regional aggregates based on countries grouped into developing Asia, World Bank designations, and OECD countries are listed in Table 1.

**Table 1: Economies Included in Regional Aggregate Data**

Region	Economies
Developing Asia	Armenia, Azerbaijan, Bangladesh, Cambodia, People's Republic of China, Georgia, India, Indonesia, Kazakhstan, Kyrgyz Republic, Lao People's Democratic Republic, Malaysia, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, Tajikistan, Thailand, Turkmenistan, Uzbekistan, Viet Nam
Developing Europe	Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Russian Federation, Turkey, Ukraine
Latin America and the Caribbean	Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Peru, Uruguay, Venezuela
Middle East and North Africa	Algeria, Djibouti, Egypt, Iran, Jordan, Morocco, Tunisia, Yemen
OECD	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Slovak Republic, Spain, Sweden, United Kingdom, United States
Sub-Saharan Africa	Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, South Africa, Swaziland, Tanzania, Uganda

Sources: PovcalNet database and UNU-WIDER (2008).

IV. Asia's Importance at the Global Level

The population size and growth in the middle class since 1990 have created dramatic changes within the Asia and Pacific region. To anchor the discussion, developing Asia is compared with other developing regional economies and the OECD. Table 1 contains the countries included in the regional aggregations. The included countries capture a majority of the world's population. As seen in Figure 1, developing Asia comprises more than half of the world's population and dominates all other regional economies in population size.

Figure 1: Population by Region (million)
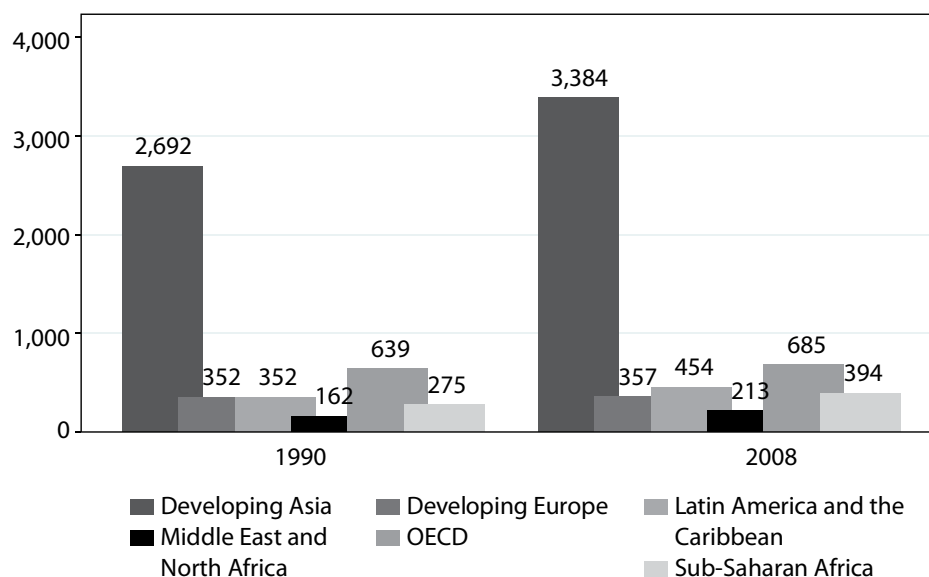
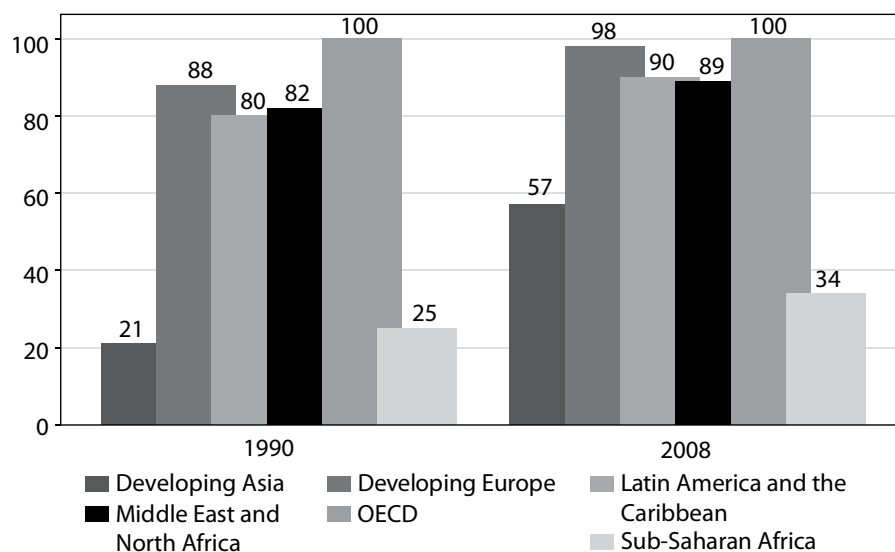Source: Author's estimates.

Table 2 displays population, class size percentages, and total expenditures for each of the regions in 1990 and 2008 based on household survey data. It shows that in 1990, the percentage of people living under $2 a day in 2005 PPP in developing Asia was 79% of the population, which was the highest of all the regions including Sub-Saharan Africa with 75% of its population living under $2 a day. The table also shows that the middle class making between $2–$20 per day is 21% of the total population. Still, the population size of developing Asia meant that the middle class still held a substantial portion of overall total monthly expenditures at 11%, while the OECD middle class accounted for 71% of all total monthly expenditures. In all, the Asia and Pacific region, even excluding higher-income countries such as Japan and the Republic of Korea, ranks second only to the OECD in overall total annual expenditures despite still having a relatively high proportion of their populations in poverty, as seen in Figures 2 and 3.

Table 2: Summary Statistics of Population, Class Size, and Total Expenditures by Region for 1990 and 2008 Survey Means

| Region	Total Population (million)	Percent of Population			Total Annual Expenditures (2005 PPP $ billion)			
		Poor (<$2 per person per day)	Middle ($2–$20 per person per day)	High (>$20 per person per day)	Poor (<$2 per person per day)	Middle ($2–$20 per person per day)	High (>$20 per person per day)	Total
1990								
Developing Asia	2692.2	79	21	0	843	721	42	1605
Developing Europe	352.3	12	84	4	23	638	141	802
Latin America and the Caribbean	352.5	20	71	9	31	641	480	1153
Middle East and North Africa	162.3	18	80	2	16	247	39	303
OECD	639.0	0	24	76	0	735	9636	10371
Sub-Saharan Africa	274.8	75	24	1	70	109	44	224
2008								
Developing Asia	3383.7	43	56	1	696	3285	350	4331
Developing Europe	356.6	2	87	11	4	974	425	1403
Latin America and the Caribbean	454.2	10	77	13	22	1008	924	1953
Middle East and North Africa	212.8	12	86	3	14	365	66	445
OECD	685.4	0	16	84	0	542	12617	13159
Sub-Saharan Africa	393.5	66	33	1	100	206	69	376

PPP = purchasing power parity.
Source: Author's estimates.

Figure 2: Population by Region above $2 per Day in 2005 PPP $ (percent)

PPP = purchasing power parity.
Source: Author's estimates.

Figure 3: Annual Expenditures by Region (US$ billion)
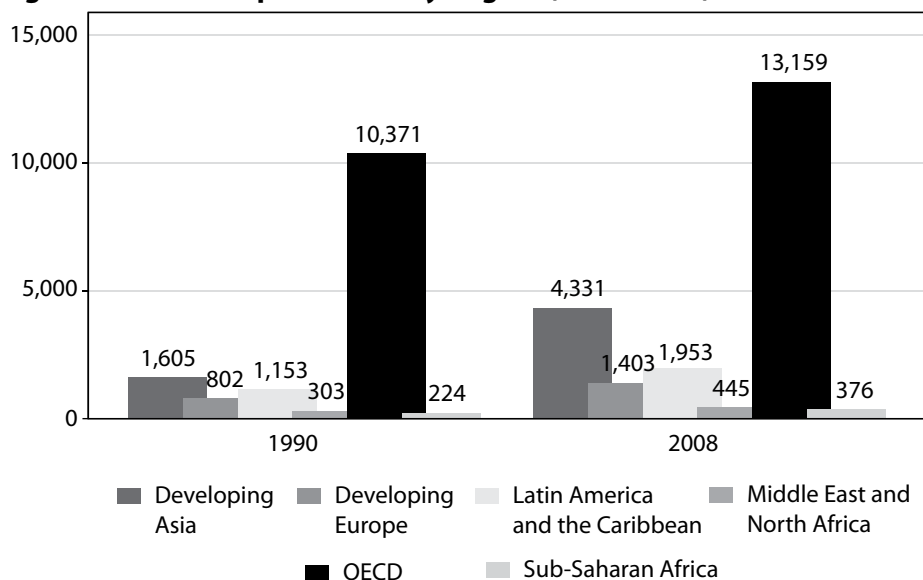
Source: Author's estimates.

By 2008, however, developing Asia substantially reduced the number of people living on less than $2 per day, so that the middle class and upper class making $2 per day or more accounted for 57% of the entire population based on household survey data (Figure 3). This is substantially higher than Sub-Saharan Africa's percentage of the population in this income/expenditure bracket of 34%. Moreover, developing Asia's middle class expenditures had more than tripled from $1.6 trillion in annual expenditures per month to $4.3 trillion; total annual expenditures accounted for roughly 20% of all global expenditures. The use of National Accounts data (see Table 3) shows that changes are even greater in terms of reduction in the middle class and growth in expenditures between 1990 and 2008.

Developing Asia's population accounts for roughly 60% of the total population, but the middle class is still relatively small compared to many other developing regions. Nevertheless, it already has total monthly income and expenditures that rank only second compared to the OECD. These global regional trends can more precisely be seen in Figures 4–7. Thus, given that the poor class expenditures of all other regions are dwarfed by the poor class expenditures of developing Asia, it is expected that continued decreases in poverty within the region will lead to a dominant middle class that will comprise the majority of purchasing power globally in the near future.

Table 3: Summary Statistics of Population, Class Size, and Total Expenditures by Region for 1990 and 2008 National Account Means

Region	Total Population (million)	Percent of Population			Total Annual Income/Expenditures (2005 PPP $ billion)			
		Poor (<$2 per person per day)	Middle ($2–$20 per person per day)	High (>$20 per person per day)	Poor (<$2 per person per day)	Middle ($2–$20 per person per day)	High (>$20 per person per day)	Total
1990								
Developing Asia	2692.2	69	31	0	765	1102	86	1952
Developing Europe	352.3	3	92	5	7	867	175	1049
Latin America and the Caribbean	352.5	18	66	16	27	640	1568	2235
Middle East and North Africa	162.3	14	83	2	13	263	38	314
OECD	639.0	0	19	81	0	603	10451	11053
Sub-Saharan Africa	274.8	74	24	2	66	118	74	257
2008								
Developing Asia	3383.7	17	82	1	315	4924	551	5790
Developing Europe	356.6	0	68	32	0	965	1454	2419
Latin America and the Caribbean	454.2	6	70	24	14	1041	1749	2803
Middle East and North Africa	212.8	8	85	7	8	489	191	688
OECD	685.4	0	10	90	0	386	15264	15650
Sub-Saharan Africa	393.5	67	31	3	95	210	166	472

PPP = purchasing power parity.
Sources: World Development Indicators, household tabulated distribution data from PovcalNet database, and World Income Inequality Database.

Figure 4: Global Developing Regions and OECD Middle Class, 2008
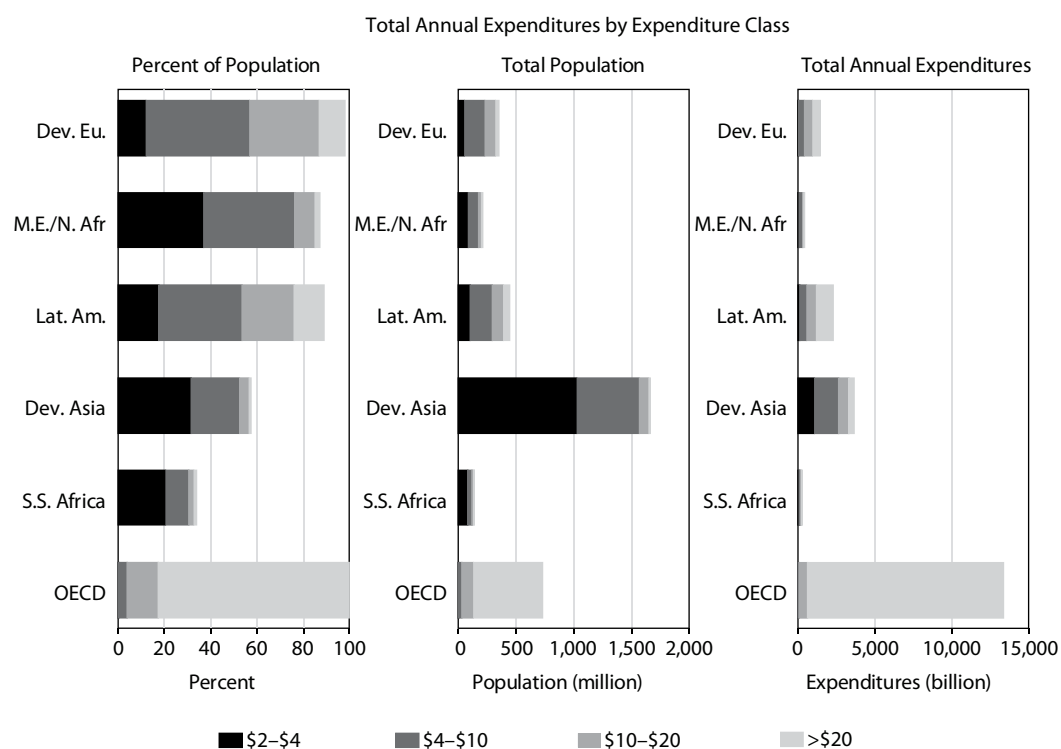
Total Annual Expenditures by Expenditure Class

Dev. Eu. = Developing Europe; M.E./N. Afr = Middle East and North Africa; Lat. Am. = Latin America and the Caribbean; Dev. Asia = Developing Asia, S. S. Africa = Sub-Saharan Africa, OECD = Organisation for Economic Co-operation and Development.
Source: Author's estimates.

Figure 5: Global Developing Regions and OECD Poor, 2008
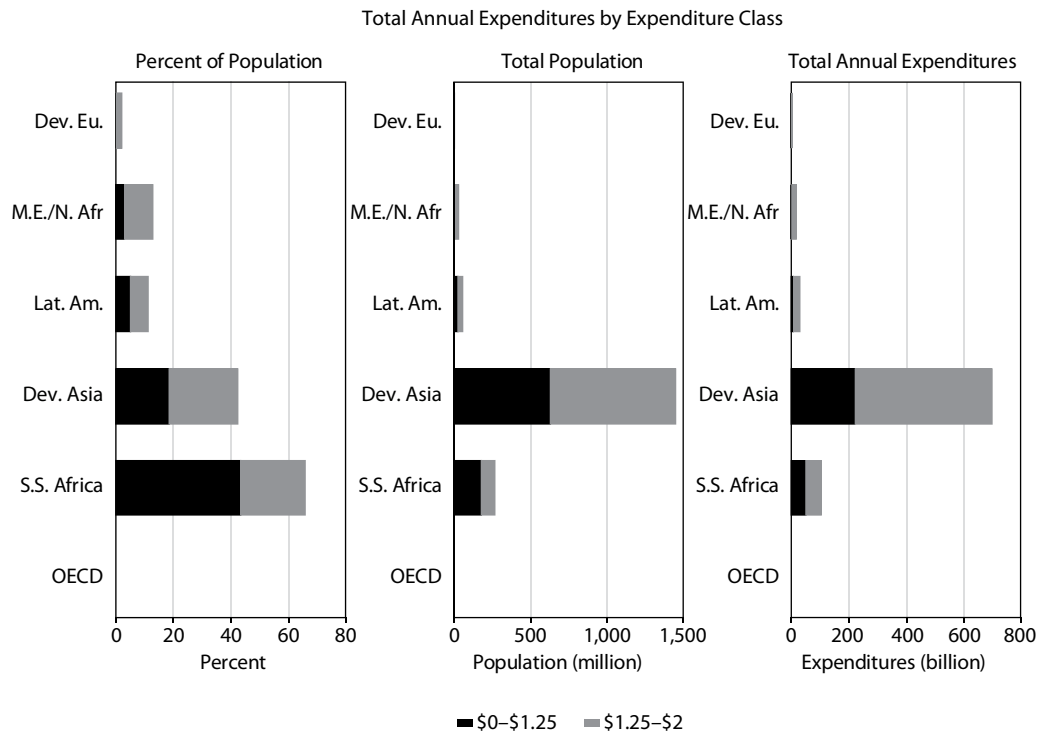
Total Annual Expenditures by Expenditure Class

Dev. Eu. = Developing Europe; M.E./N. Afr = Middle East and North Africa; Lat. Am. = Latin America and the Caribbean;
Dev. Asia = Developing Asia, S. S. Africa = Sub-Saharan Africa; OECD = Organisation for Economic Co-operation and Development.
Source: Author's estimates.

Figure 6: Global Developing Regions and OECD Middle Class, 1990–2008

Total Annual Expenditures by Expenditure Class

Dev. Eu. = Developing Europe; M.E./N. Afr = Middle East and North Africa; Lat. Am. = Latin America and the Caribbean;
Dev. Asia = Developing Asia, S. S. Africa = Sub-Saharan Africa; OECD = Organisation for Economic Co-operation and Development.
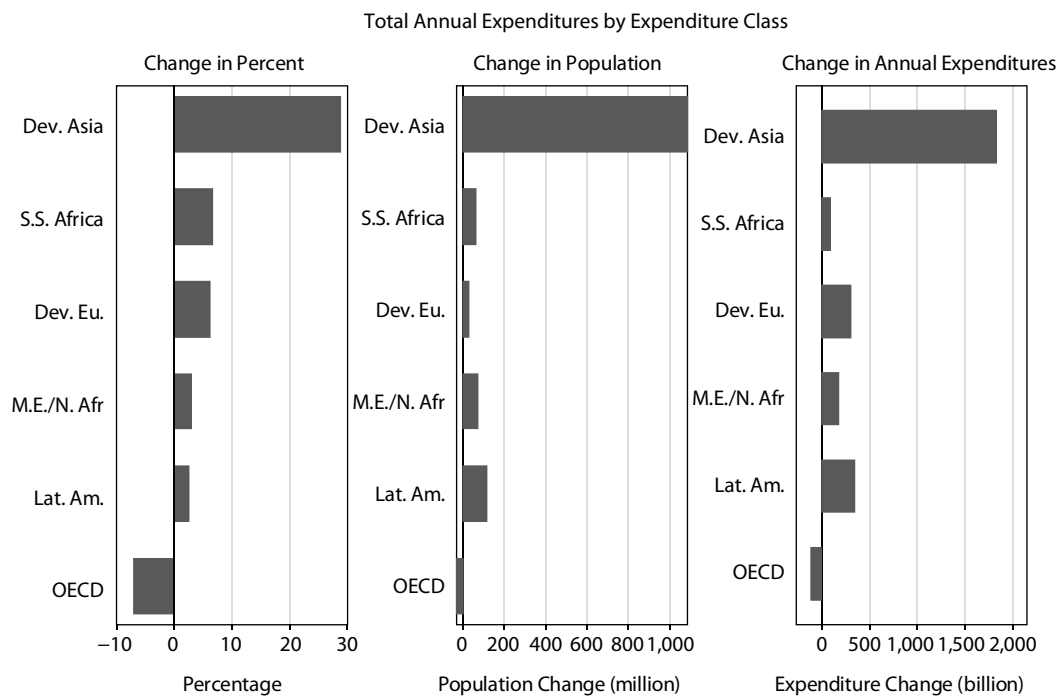Source: Author's estimates.

Figure 7: Global Developing Regions and OECD Poor, 1990–2008

Total Annual Expenditures by Expenditure Class

Dev. Eu. = Developing Europe; M.E./N. Afr = Middle East and North Africa; Lat. Am. = Latin America and the Caribbean; Dev. Asia = Developing Asia, S. S. Africa = Sub-Saharan Africa; OECD = Organisation for Economic Co-operation and Development.
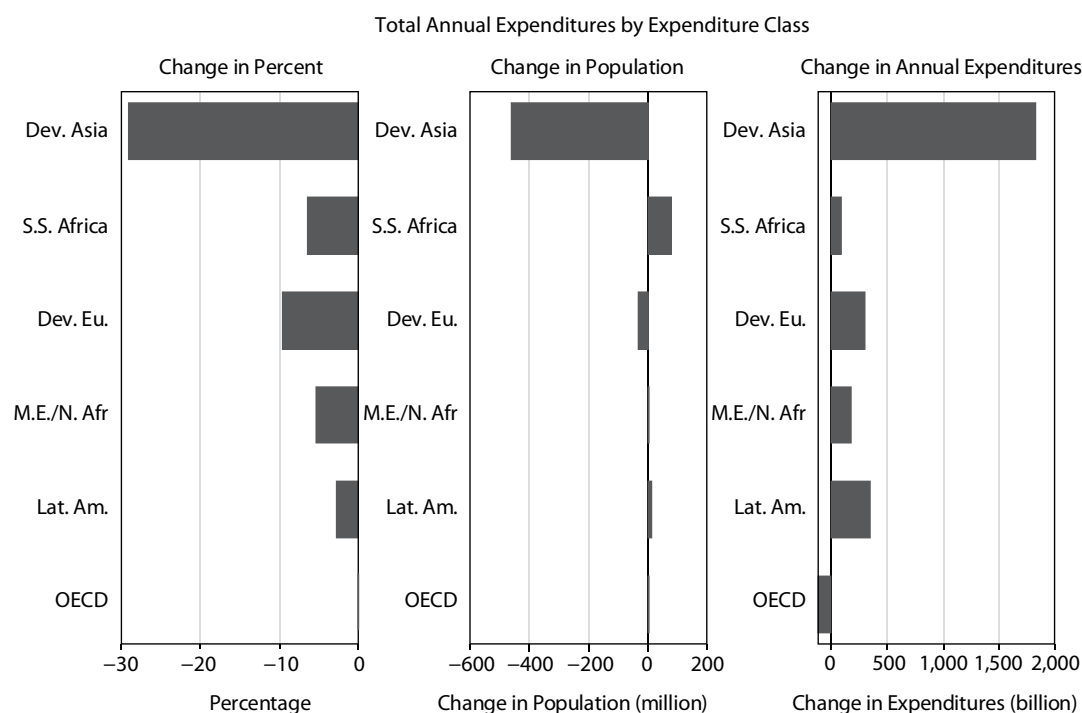Sources: PovcalNet household income/consumption distributions and survey means.

V. The Middle Class in Developing Asia

The previous section showed that there is a sizable population of middle class individuals with expenditures between $2–$20 (2005 PPP $) in developing Asia. This section focuses on the particular countries that are driving this growth in the middle class within the region and are likely to drive growth in the future.

Table 4 provides the size of the different income class groups for 21 developing Asian countries as a share of a country's total population from the most recent survey year of data available. Bhutan with only a single year of survey data is eliminated in subsequent analyses based on regional aggregate data. Table 4 shows that the five countries with the largest middle class are, respectively, Azerbaijan, Malaysia, Thailand, Kazakhstan, and Georgia; while the five countries in the region with the smallest middle class are Bangladesh, Nepal, the Lao People's Democratic Republic, Uzbekistan, and India, respectively.[4] Despite the middle class only accounting for a small proportion of the

---

4   Pakistan surveys are thought to have reliability issues. These issues are mentioned and described in the *Key Indicators* 2004 and 2007 editions (ADB 2004 and 2007). There was also some concern regarding Malaysia's

Table 4: Percent, Population Size, and Total Annual Expenditures of Developing Asia by Expenditure Class, Most Recent Survey Year

Economy	Survey Year	Percent of Population						Total Population (million)						Total Annual Expenditures (billion)					
		$0–$1.25	$1.25–$2	$2–$4	$4–$10	$10–$20	$20+	$0–$1.25	$1.25–$2	$2–$4	$4–$10	$10–$20	$20+	$0–$1.25	$1.25–$2	$2–$4	$4–$10	$10–$20	$20+
Azerbaijan	2005	0.00	0.00	43.00	55.66	1.34	0.00	0.00	0.00	3.61	4.67	0.11	0.00	0.00	0.00	4.38	8.74	0.48	0.00
Malaysia	2004	0.00	7.28	27.05	48.10	14.13	3.44	0.00	0.00	6.81	12.12	3.56	0.87	0.00	1.13	7.36	27.74	17.11	8.43
Thailand	2004	0.00	10.72	33.50	41.69	10.63	3.46	0.00	0.00	21.87	27.21	6.94	2.26	0.00	4.32	23.25	60.66	33.47	27.65
Kazakhstan	2003	2.88	13.70	39.40	38.30	5.44	0.28	0.43	0.43	5.87	5.71	0.81	0.04	0.18	1.21	6.28	12.10	3.84	0.32
Georgia	2005	14.07	15.51	37.19	28.35	4.00	0.88	0.63	0.63	1.66	1.27	0.18	0.04	0.20	0.41	1.75	2.66	0.85	0.38
PRC	2005	15.45	21.19	33.97	25.17	3.54	0.68	201.47	201.47	442.82	328.18	46.16	8.86	41.05	90.53	233.72	311.96	95.57	37.27
Sri Lanka	2002	15.03	25.04	37.75	18.70	2.68	0.80	2.86	2.86	7.18	3.55	0.51	0.15	1.10	2.78	7.28	7.38	2.44	1.90
Armenia	2003	10.64	31.68	44.16	12.07	1.10	0.35	0.33	0.33	1.35	0.37	0.03	0.01	0.12	0.57	1.33	0.73	0.16	0.19
Philippines	2006	22.63	21.73	31.49	19.65	3.80	0.70	19.71	19.71	27.43	17.11	3.31	0.61	6.81	11.00	27.97	36.54	15.98	5.21
Viet Nam	2006	21.44	26.14	35.53	14.81	1.93	0.15	18.04	18.04	29.89	12.46	1.62	0.13	6.46	12.82	30.01	25.61	7.74	0.97
Mongolia	2005	22.06	26.05	39.22	12.40	0.27	0.00	0.56	0.56	1.00	0.32	0.01	0.00	0.18	0.39	1.00	0.63	0.03	0.00
Bhutan	2003	26.23	22.60	30.61	16.69	2.90	0.97	0.16	0.16	0.19	0.10	0.02	0.01	0.05	0.08	0.19	0.22	0.09	0.08
Kyrgyz Republic	2004	21.81	29.18	36.36	12.05	0.60	0.00	1.11	1.11	1.85	0.61	0.03	0.00	0.40	0.87	1.84	1.24	0.12	0.00
Indonesia	2005	21.78	31.38	34.96	10.46	1.16	0.26	48.04	48.04	77.10	23.07	2.55	0.58	8.77	20.35	37.71	22.98	5.87	3.86
Pakistan	2005	23.16	36.57	32.94	6.56	0.62	0.15	36.08	36.08	51.31	10.22	0.97	0.23	13.47	33.13	49.13	20.25	4.59	2.49
Cambodia	2004	39.53	27.10	24.72	7.41	0.91	0.33	5.42	5.42	3.39	1.02	0.12	0.05	1.75	2.14	3.32	2.06	0.60	0.86
India	2005	41.62	33.23	20.45	4.15	0.45	0.10	455.60	455.60	223.82	45.41	4.90	1.14	94.87	125.53	117.11	44.39	10.96	9.95
Uzbekistan	2003	46.46	29.51	19.34	4.11	0.45	0.13	11.88	11.88	4.94	1.05	0.12	0.03	3.67	4.31	4.71	2.11	0.55	0.48
Lao PDR	2002	43.88	32.21	19.60	3.88	0.41	0.02	2.46	2.46	1.10	0.22	0.02	0.00	0.81	1.03	1.04	0.43	0.11	0.01
Nepal	2004	54.47	22.26	16.74	5.30	0.85	0.38	14.46	14.46	4.45	1.41	0.23	0.10	4.21	3.37	4.32	2.91	1.09	2.40
Bangladesh	2005	50.46	29.24	16.38	3.48	0.39	0.05	77.27	77.27	25.08	5.33	0.60	0.08	25.34	25.37	23.82	10.74	2.87	0.64

PPP = purchasing power parity.
Note: All expenditure classes and expenditure amounts are based on 2005 PPP $.
Source: Author's estimates.

population in India, the overall size of the Indian population results in the middle class dominating many other countries in terms of overall expenditures. Only the PRC has a larger middle class in absolute size.

In general, Table 4 shows there is a strong negative correlation between the percentage of the population in the middle class versus the percentage of the population living below $2 per day for developing Asia. In total population size, however, India has the largest number of poor with roughly 900 million living on less than $2 per day, with the PRC a far second at roughly 400 million poor. Thus, if the policy concern is helping countries that seem to have a small proportion middle class (less than 60%), then more than half of the countries fit this bill. However, if the concern is with the actual number of poor who are still not considered middle class, then the countries that are important to focus on are the PRC and India.

VI. Growth of Asia's Middle Class, 1990–2008

The progress that countries within Asia have made in creating a middle class over the last 20 years is important in identifying which countries have remained relatively stagnant or have had trouble in moving people into the middle class. For policy makers these are the countries where research may have considerable benefits as the lack of progress in creating a middle class may indicate that there are substantial barriers or impediments to economic growth and the creation of a middle class. Thus, this section looks at the countries that have progressed in creating a sizable middle class between 1990 and 2008, and countries that have stagnated based on available household survey data from PovcalNet.

Table 5 shows that Armenia, the PRC, Viet Nam, Indonesia, and Pakistan, respectively, have made the greatest progress in percentage increase in the share of the middle class between 1990 and 2008. The PRC and Viet Nam have far exceeded the progress made by many other countries in increasing their middle class by 60% over the 18-year time period. However, in total numbers that have moved from poor to middle class, the PRC has made substantial progress, with an increase in the middle class population of roughly 850 million and an increase in total annual expenditures of $1.8 trillion. Despite India's relatively low rank in terms of its rate, it has increased its middle class between 1990 and 2008, and its population size has made it a substantial force in total purchasing power

rather minimal growth that appears to have occurred between 1990 and 2008. Based on close inspection of the survey data, it was observed that Malaysia's per capita consumption rose fairly rapidly between 1990 and 1997. However, by the 2004 household survey data, per capita consumption had dropped by almost a third despite a continued rise in the reported national accounts per capita private consumption data between 1997 and 2004, which thus can explain the marginally slower growth compared to what might normally be expected basing on national accounts data. It is assumed that the survey data is correct and thus the 2004 survey data is adjusted to expected 2008 based on this difference.

within the region. Table 4 shows that many countries have made progress in reducing the overall percentage of the poor population. Finally, while India has made progress in reducing the overall percentage of poor and increasing the size of its middle class, low growth in per capita consumption has not outpaced population growth resulting in the addition of more than 84 million new poor people in 2008 compared to 1990.

A closer look at the income/expenditure distributions in the PRC, India, and the Philippines as seen in Figures 8–13, the PRC is the country that has seen a dramatic reduction in the percentage of people living on less than $2 per day and an increase in the number of people with income/expenditures between $2 and $20 per day. Meanwhile, India has made relatively little inroads into poverty reduction. Likewise, the progress in the Philippines appears to have stagnated. In fact, the PRC's progress in reducing poverty and increasing the middle class is so rapid that the decrease has resulted in a clear shift in the distribution of the middle class past that of the Philippines in its urban areas, and nearly to a similar distribution in rural areas. This was achieved despite having started from a much more disadvantaged distribution (higher proportion of those living below the global poverty line) than the Philippines less than 2 decades ago. On the other hand, India still has many people living below the global poverty line—nearly 40% in both rural and urban areas in comparison to only about 20% in the Philippines.

In focusing efforts not only on countries that have the greatest population of poor, but the highest proportion of poor, both the PRC and India continue to need greater assistance in developing critical policies to reduce poverty and increase the size of the middle class. However, if the concern is with countries that have made relatively little progress in recent decades, countries such as India, Malaysia, the Philippines, and Nepal are relatively more crucial economies that require closer inspection to determine the possible hold-ups and barriers to increasing the size of the middle class.

Table 5: Change in Percent, Population Size, and Total Annual Expenditures of Developing Asia by Class Status, 1990–2008

| Economy	Poor ($0–$1.25, 2005 PPP $)			Middle Class ($2–$20, 2005 PPP $)		
	Absolute Percentage Change	Population Change (million)	Annual Expenditure Change (billion)	Absolute Percentage Change	Population Change (million)	Annual Expenditure Change (billion)
Armenia	−77.23	−2.37	−0.54	76.53	2.29	3.59
PRC	−63.01	−675.49	−211.93	61.40	844.61	1825.00
Viet Nam	−57.78	−32.58	−0.83	57.37	49.35	77.17
Indonesia	−46.76	−64.70	−16.50	46.32	113.73	168.11
Pakistan	−36.71	−18.29	5.12	36.52	65.87	80.51
Azerbaijan	−35.05	−2.65	−1.28	35.10	3.11	4.48
Lao PDR	−28.97	−0.33	0.18	28.89	1.89	2.39
Mongolia	−24.38	−0.37	−0.14	24.38	1.02	1.86
Cambodia	−24.30	−0.07	0.48	23.99	3.98	5.79
Thailand	−19.98	−10.26	−4.79	17.63	17.16	55.30
Turkmenistan	−54.86	−2.01	−1.05	15.23	0.92	9.00
India	−12.90	84.08	71.90	12.79	205.00	256.02
Philippines	−12.58	2.93	2.02	11.97	23.61	48.30
Bangladesh	−8.39	18.00	9.17	8.31	18.46	24.30
Malaysia	−6.34	−0.98	−0.54	5.65	6.46	22.25
Georgia	−5.47	−0.31	−0.15	4.02	−0.01	1.25
Tajikistan	4.13	0.31	0.18	−3.86	0.28	−0.45
Nepal	5.79	8.41	0.21	−5.83	−0.63	−0.54
Kazakhstan	7.90	1.19	0.73	−6.66	−2.21	−19.84
Sri Lanka	9.95	3.35	0.78	−10.05	−0.87	−0.37
Kyrgyz Republic	14.60	0.74	0.45	−14.87	−0.10	0.03

PPP = purchasing power parity.
Note: All expenditure classes and expenditure amounts are based on 2005 PPP $.
Source: Author's estimates.

Figure 8: Distribution of Expenditure Classes among Middle Class, 1990–2008 (percent)
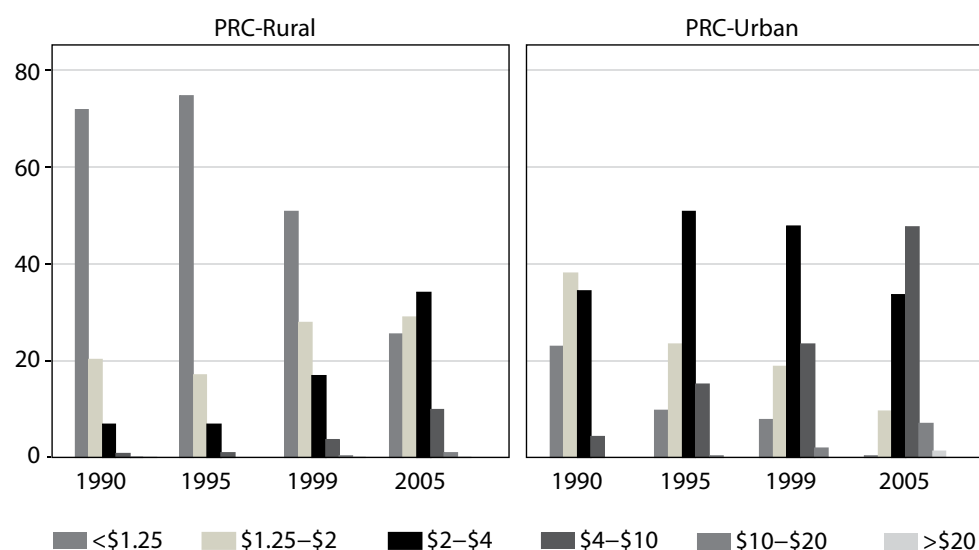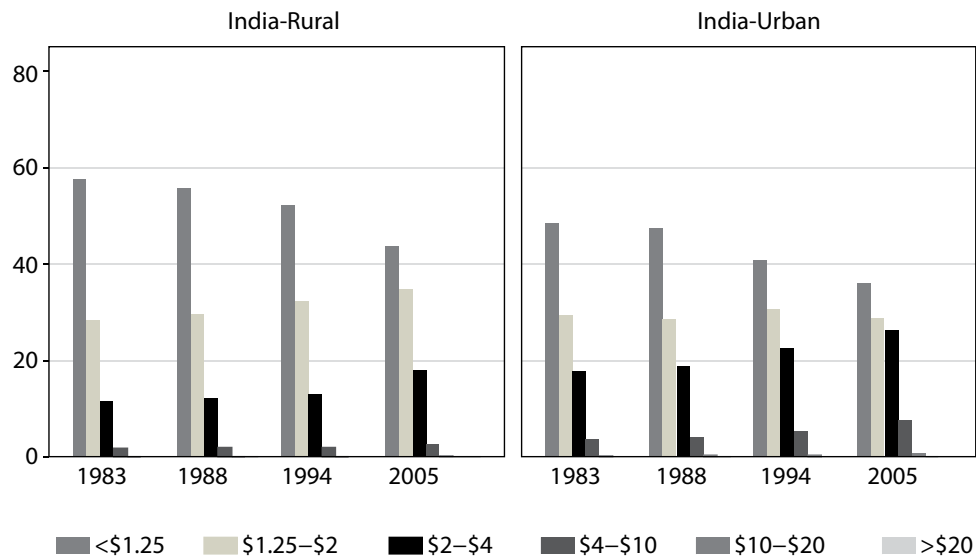

Source: Author's estimates.

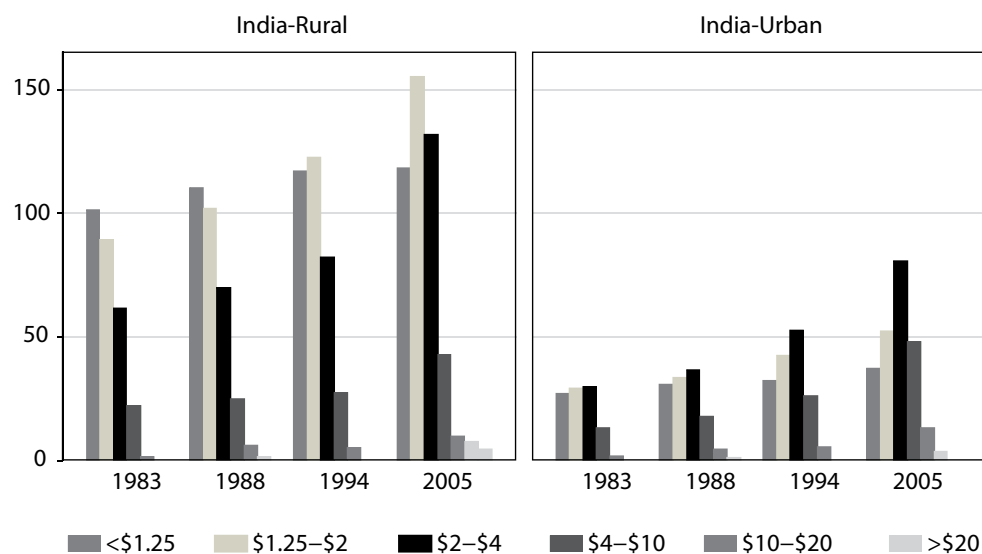**Figure 9: Total Annual Expenditures by Expenditure Class among Middle Class, 1990–2008 (2005 PPP $, billion)**
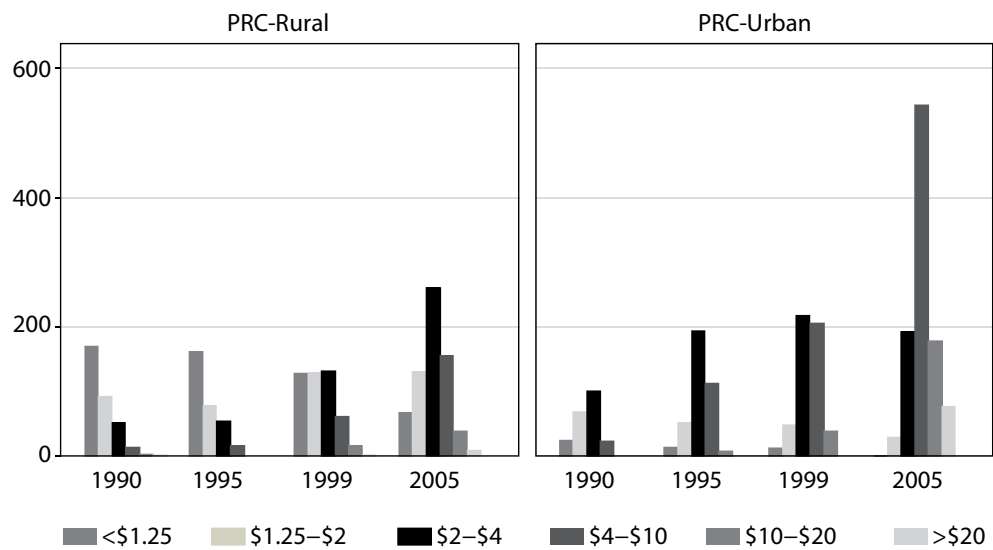
PPP = purchasing power parity.
Source: Author's estimates.

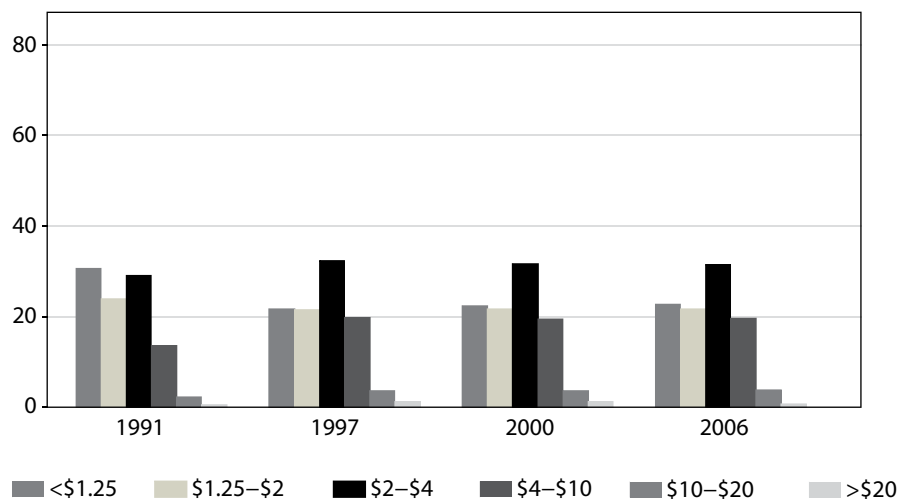**Figure 10: Distribution of Expenditure Classes among Middle Class, 1990–2008 (percent)**

Source: Author's estimates.

Figure 11: Total Annual Expenditures by Expenditure Class among Middle Class, 1990–2008 (2005 PPP $, billion)
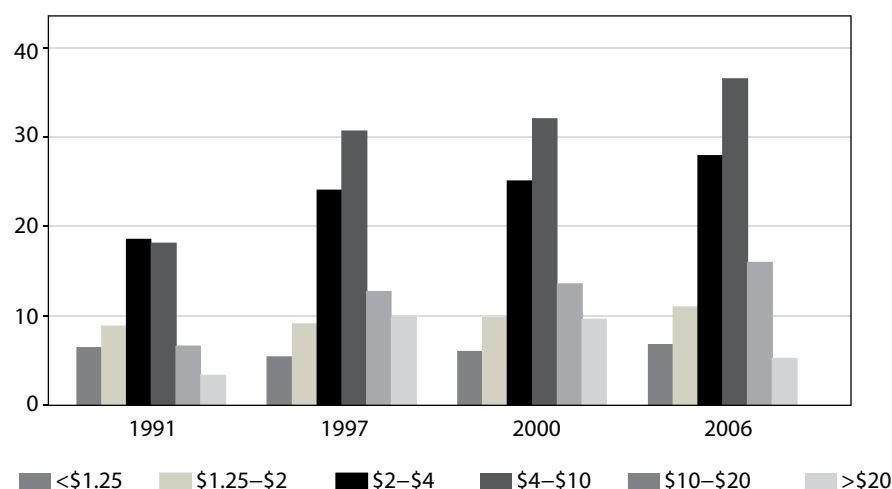

PPP = purchasing power parity.
Source: Author's estimates.

Figure 12: Distribution of Expenditure Classes in the Philippines (percent)

Source: Author's estimates.

Figure 13: Total Annual Expenditures by Expenditure Class in the Philippines (2005 PPP $, billion)

PPP = purchasing power parity.
Source: Author's estimates.

VII. Projections for Asia's Middle Class in 2030

What strategies are needed to foster the growth and quality of the middle class in the near future is contingent on expected predictions of the evolution of the economy. A rough methodology of projecting the size of the middle class to the year 2030 is used based on various assumptions of inequality (i) using long-term historical growth rates in national account household consumption means over the period 1990–2008; and (ii) using the average yearly rate of household per capita consumption growth for all household survey data between 1990–2008.[5] Population projections for 2030 from the United Nations World Population Prospects: The 2008 Revision Population Database are used to compute both the population size and expected total annual expenditures of the middle class in 2030.

There are many problems with relying on historical or even recent historical data to project up to 2030. One of the primary problems is that this data does not accurately take into account changes in the structure of economies due to the recent global financial crisis that may significantly affect future growth rates. Moreover, the survey means are

---

[5] This is a fairly strong assumption given that it is documented that there has been a growing divergence between the national accounts household per capita consumption means and the household survey consumption means. However, since data obtained from surveys is sometimes fairly sparse, national accounts are used and it is assumed that the household survey consumption means will follow the same trend. The PRC is one of the few countries lacking national accounts means, and in this case the latest survey data available is used to develop the trend between 2000 and 2005. A lower growth scenario is investigated, where the trend of the divergence between the national accounts mean and the survey mean is estimated for different regions. While this potentially mitigates or dulls some of the overall growth patterns, a marked increase in middle class numbers is still observed.

subject to measurement error. The problem with the projections themselves is that they assume that the distribution of incomes remains roughly the same when in fact this is rarely the case. However, knowingly proceeding with the problems of these projections, Table 6 shows the average rate of growth used in our projections for the developing Asian countries. These rates based on national accounts data range from a low of –1% in Nepal to a high of 16% in Armenia and Turkmenistan. In comparison, the growth rates based on PovcalNet survey means show that there is a wide degree of variance between the growth rates reflected in the survey means versus the growth rate reflected in national accounts. In fact, the growth rate in per capita consumption of survey means for Armenia is –3% while Nepal has a growth rate of 6%. Thus, it is possible that projections using these growth rates may at most provide reasonable upper bounds on potential middle class size in the future, assuming that growth rates from the past 18 years are reasonable assumptions for future growth rates, and that inequality does not increase. The projections also look at how changing inequality can potentially affect the growth of the middle class under scenarios of (i) neutral growth whereby income distribution of incomes remains the same as the 2005 income distribution, (ii) pro-poor growth where people in lower income classes are able to capture more of the increased economic growth, and (iii) pro-rich growth where people in higher income distributions capture an increasing amount of the income. In particular, since there are decile distributions for all of developing Asia, the distribution is altered in the case of pro-poor growth such that ld_new = ld_old*(1.12-0.02*d) for d=1…9. In our equation *ld* represents the cumulative percent of income that decile *d* holds, while for pro-rich growth the distribution is altered such that ld_new = ld_old*(0.88+0.02*d) for d=1…9. In general, while the Gini coefficient rises and falls, it is in general less than the change in the Gini between 1990 and 2005, indicating that these scenarios are probably conservative estimates of total reasonable inequality changes over this 25-year time period.

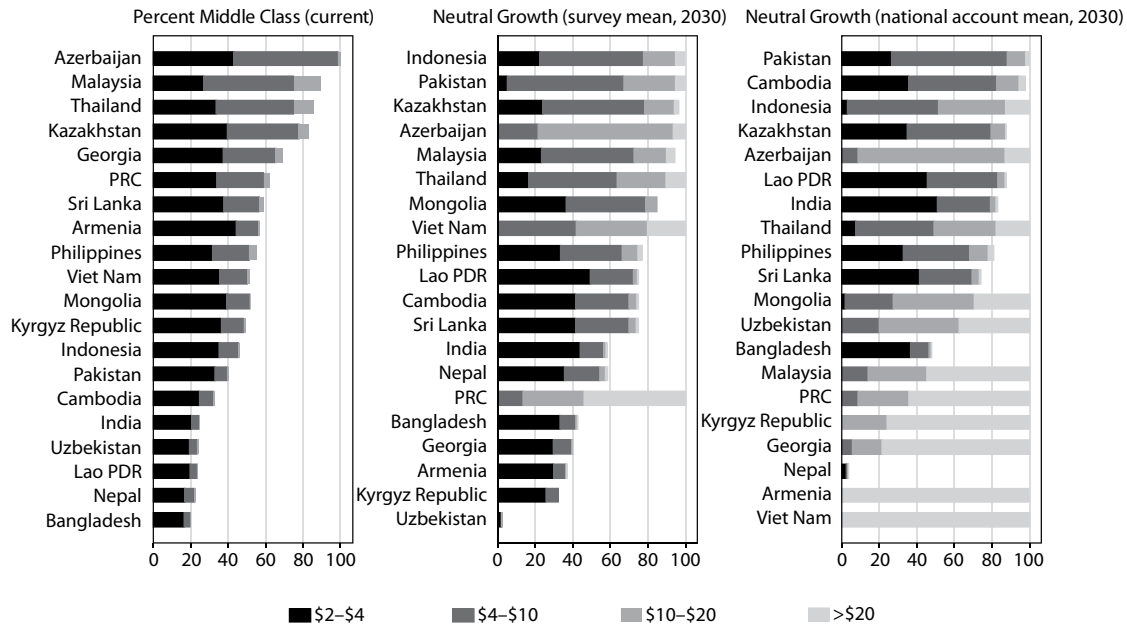**Table 6: Average Yearly Growth Rates of per Capita Consumption/Expenditure**

Economy	National Account Mean Private per Capita Consumption, 1990–2008 (percent)	PovcalNet Survey Mean Household per Capita Consumption/ Expenditure, 1990–2008 (percent)
Armenia	16	−3
Azerbaijan	6	5
Bangladesh	1	1
Cambodia	4	2
China, People's Rep. of	8	7
Georgia	9	−4
India	3	1
Indonesia	6	3
Kazakhstan	−1	1
Kyrgyz Republic	9	−3
Lao PDR	3	2
Malaysia	5	−1
Mongolia	7	1
Nepal	−1	6
Pakistan	4	6
Philippines	2	2
Sri Lanka	3	3
Tajikistan	24	10
Thailand	3	2
Turkmenistan	16	24
Uzbekistan	7	−7
Viet Nam	18	6

Note: All growth rate changes are based on adjusted amounts using 2005 PPP $.
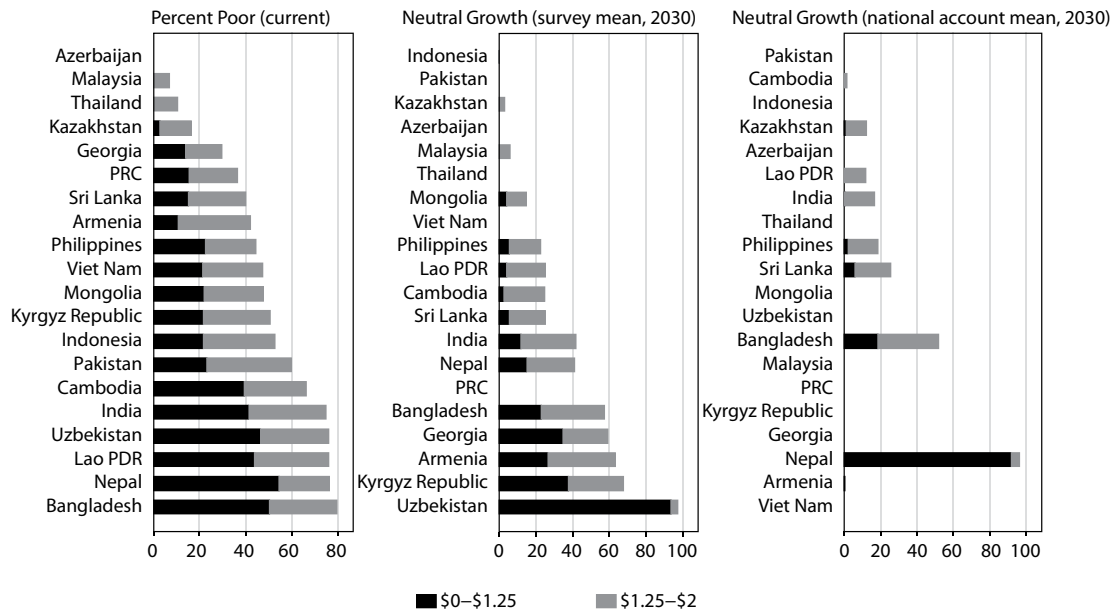Sources: PovcalNet database and World Development Indicators database.

Figures 14 and 15 show how the middle class and the poor classes have changed between 2008 and 2030 based on the two different trends. In general, the national accounts trends provide a much more optimistic picture with very few individuals left in poverty by 2030 with the exception of the Philippines, India, Indonesia, and Bangladesh, respectively. However, if survey means are used, many countries tend to have a sizable impoverished population in 2030. In this projection scenario based on survey means, the PRC, Indonesia, Thailand, Viet Nam, and Azerbaijan, respectively, have eliminated all people living under poverty, which seems overly optimistic given that marginal decreases in poverty reduction become increasingly more difficult. In general, the pro-poor scenario and pro-rich scenarios alter the outcomes in both cases with the almost complete disappearance of poverty from the Asia and Pacific region by 2030 under the pro-poor scenario and using national account per capita consumption growth trends.

Figure 14: Developing Asia

Percent Middle Class (current) · Neutral Growth (survey mean, 2030) · Neutral Growth (national account mean, 2030)

Legend: ■ $2–$4   ■ $4–$10   ■ $10–$20   □ >$20

Source: Author's estimates.

Figure 15: Developing Asia

Percent Poor (current) · Neutral Growth (survey mean, 2030) · Neutral Growth (national account mean, 2030)

Legend: ■ $0–$1.25   ■ $1.25–$2

Source: Author's estimates.

Tables 7 and 8 show the size and annual consumption expenditures of the different classes under a neutral distribution growth pattern for both survey means and national accounts means. Assuming the survey means are correct, by 2030 annual consumption expenditures of developing Asia at $32 trillion will be greater than the estimated $30 trillion in consumption expenditures by OECD countries. The growth in consumption expenditures is in part driven by population growth. Still, developing Asia will account for about 42% of global expenditures in 2030, whereas in 2008 it only accounted for about 20% of global expenditures, and thus will become one of the foremost consumers globally. While the developing middle class will still comprise 59% of the population, it is the growth of consumers that have moved out of the middle class and into the upper class that will really drive consumption and will create a rebalancing of the global economy toward Asia.

Table 7: Summary Statistics of Population, Class Size, and Total Expenditures by Region for 2030 Survey Means

Region	Total Population (million)	Percent of Population			Total Annual Income/Expenditures (2005 PPP $ billion)			
		Poor (<$2 per person per day)	Middle ($2–$20 per person per day)	High (>$20 per person per day)	Poor (<$2 per person per day)	Middle ($2–$20 per person per day)	High (>$20 per person per day)	Total
Developing Asia	4211.9	20	59	21	436	6640	25393	32469
Developing Europe	347.2	1	69	30	3	868	2100	2970
Latin America and the Caribbean	633.6	7	56	37	19	1180	5312	6512
Middle East and North Africa	346.1	16	80	3	22	602	130	754
OECD	803.9	0	8	92	0	334	29801	30135
Sub-Saharan Africa	738.4	45	50	5	126	705	2033	2864

PPP = purchasing power parity.
Source: Author's estimates.

Table 8: Summary Statistics of Population, Class Size, and Total Expenditures by Region for 2030 National Account Means

Region	Total Population (million)	Percent of Population			Total Annual Income/Expenditures (2005 PPP $ billion)			
		Poor (<$2 per person per day)	Middle ($2–$20 per person per day)	High (>$20 per person per day)	Poor (<$2 per person per day)	Middle ($2–$20 per person per day)	High (>$20 per person per day)	Total
Developing Asia	4211.9	10	62	28	231	6642	31352	38224
Developing Europe	347.2	0	29	71	0	407	7982	8389
Latin America and the Caribbean	633.6	5	60	34	11	1331	4153	5496
Middle East and North Africa	346.1	12	73	15	18	732	697	1447
OECD	803.9	0	7	93	0	318	24378	24696
Sub-Saharan Africa	738.4	44	52	4	130	677	482	1289

PPP = purchasing power parity.
Source: Author's estimates.

# VIII. Varying Assumptions for Measuring the Middle Class

Our measure of the size of the middle class is ultimately only as good as the measure of household consumption and distribution captured by the household surveys. In this context, a potentially serious concern is that through the years, estimates of consumption based on household expenditure surveys have increasingly diverged from those based on national accounts (i.e., those based on household surveys versus the national accounts estimates of private consumption expenditures) for a number of countries. This is potentially indicative of limitations in survey methods. In particular, the surveys may not capture a large amount of actual household consumption and therefore may have limited ability to adequately capture the true consumption amounts especially for households on the tail ends of the distribution. However, it is substantially difficult to alter the survey distributions without making strong assumptions regarding the actual true distribution.

Ravallion (2003) discusses the divergence issue by analyzing the ratio of survey mean to the mean per capita private consumption. In particular, he finds strong regional effects, and those differences are exacerbated in income surveys more so than expenditure surveys. Deaton (2003) emphasizes that there are biases in the ability of survey data to capture the rich population and therefore may give a skewed perspective on poverty as well as inequality. Still, the general conclusion seems to indicate that surveys are better in their ability to adequately capture the poor. Banerjee and Piketty (2005) looked at the top 1% of income earners in India between the years of 1956–2000 based on tax records. Their findings suggest that inadequacies in the ability of surveys to capture the high-income earners can only explain about 20%–40% of the reason why survey means have diverged from national accounts means. While the high tendency is to use consumption expenditures, Sala-i-Martin (2002) opts against using national accounts consumption data or even household consumption data, as it implicitly assumes that everyone in the economy consumes and saves the same fraction of their income. He argues instead that using income poverty is a better measure of consumption poverty than any household or national account measures of consumption.

As a result of this divergence, the distribution of consumption is reestimated based on national account estimates of private consumption while assuming that the shape of household consumption distribution is correctly captured by the surveys. This provides a more optimistic scenario of the size of the middle class as the national account means are in general greater than the survey means in Asia. Undoubtedly there are still limitations to using this variation as surveys may miss out on people at the tail ends of the distribution both in the low-income and high-income areas as they are not accurately assessing the basket of goods that these people may consume. The correct measure will affect the performance against a benchmark and will show how well countries are meeting their objectives such as the Millennium Development Goals for poverty reduction.

A comparison of using national accounts versus survey means assuming the distribution from survey data is correct raises the percentage of middle class in developing Asia by as much as 20%. For developing Asia, it raises the percentage of middle class by as much as 20% for a number of countries and substantially changes the rankings of countries that have the greatest percentage of middle class as seen in Figure 16. Moreover, differences in the rates at which the national accounts and survey consumption means have diverged will also tend to significantly change the magnitude of increase in the size of the middle class a country has achieved between 1990 and 2008 as seen in Figure 17. It is clear that the divergence is not uniform across countries and substantially changes the ranking of middle class size and growth between the different countries. The use of survey means in general provides a more conservative estimate than the use of national accounts means as the true mean. However, it is maintained that the survey means are probably a more accurate reflection of current per capita consumption means than those reflected in the national accounts.

Figure 16: Developing Asia's Middle Class (percent)
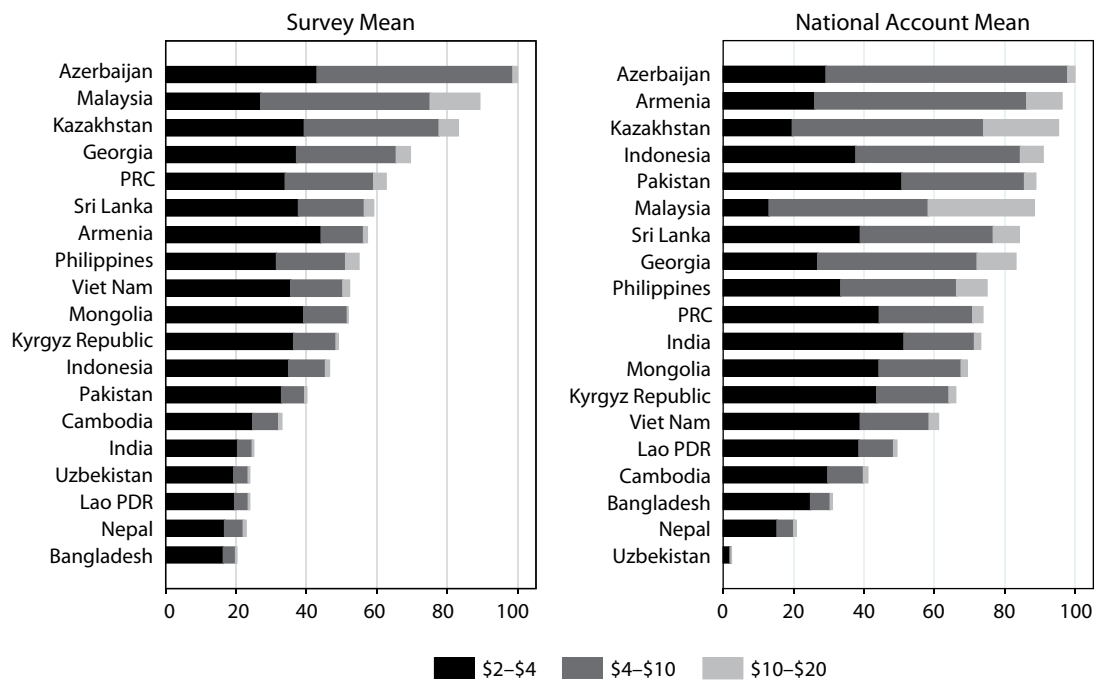
Note: Distributions based on income/consumption expenditures from PovcalNet database.
Source: Author's estimates.

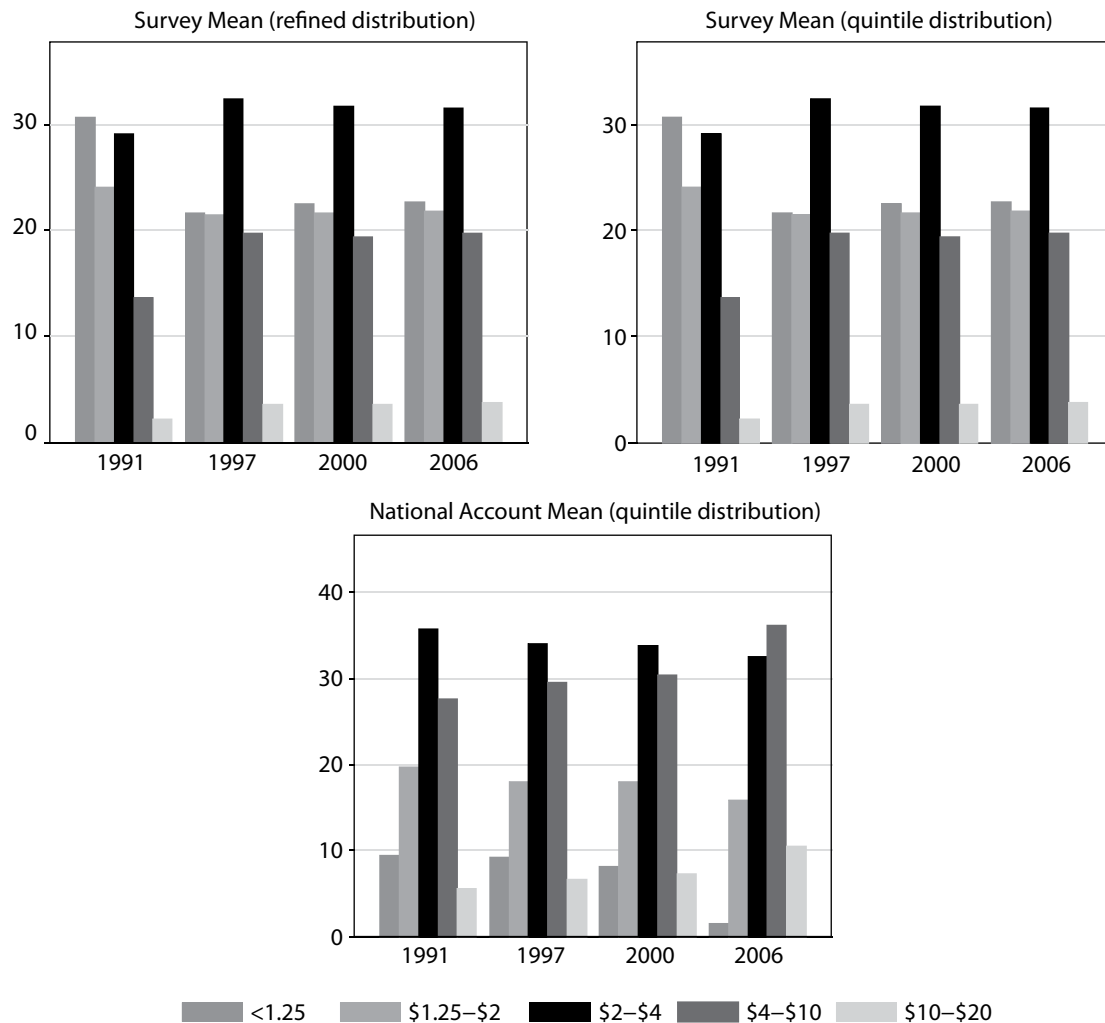**Figure 17: Developing Asia's Middle Class (percent change)**
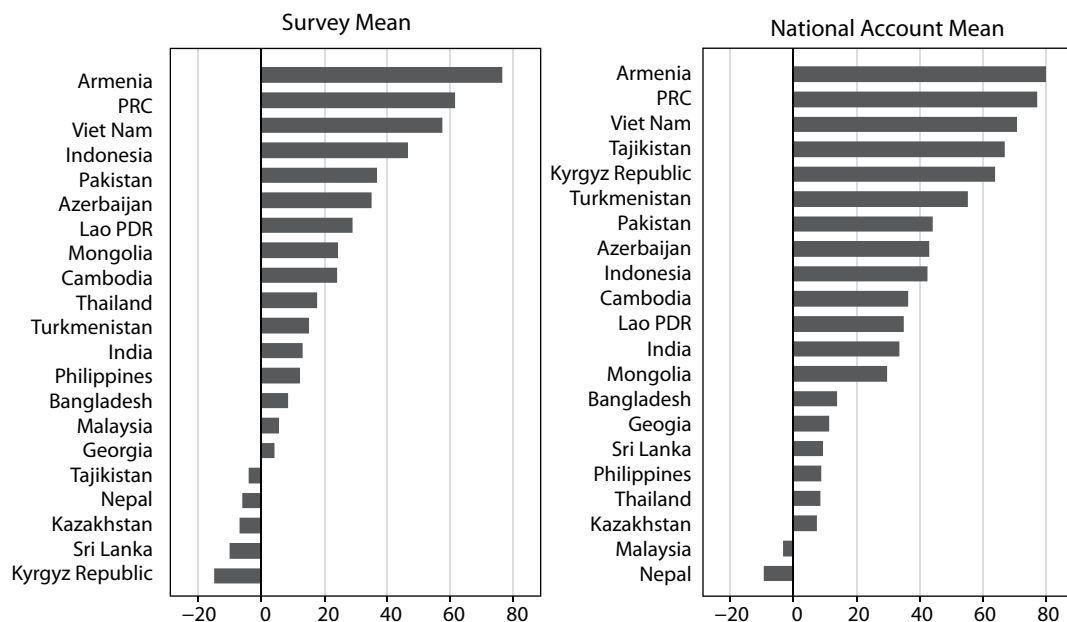
Note: Distributions based on income/consumption expenditures from PovcalNet database.
Source: Author's estimates.

Figure 18 looks closer at not only using the different means for the Philippines, but at using a more refined distribution for the Philippines data. The majority of the data used the decile distributions for countries to make it easier to compute regional aggregates even when more refined distributional data was available. As can be seen, the more refined distributions do little to change the resulting conclusions on the percentage of impoverished, and therefore are not seen as considerable sources of error.

A secondary concern is the value of the 2005 PPPs. Deaton (2010) has raised the issue that the world is much less impoverished than is assessed by the 2005 PPP of $1.25. He argues that incorrect weightings and measurements of the basket of goods may preclude one's ability to accurately measure poverty. However, as refining the PPP measures to more accurately reflect the regional consumption baskets will not change the overall conclusions on country rankings reached, it is merely noted that this is another potential problem that could alter the accuracy of the resulting conclusions.

Figure 18: Philippines

Survey Mean (refined distribution)

Survey Mean (quintile distribution)

National Account Mean (quintile distribution)

| <1.25 | $1.25–$2 | $2–$4 | $4–$10 | $10–$20 |

Note: Distributions based on income/consumption expenditures from PovcalNet database.
Source: Author's estimates.

Finally, suppose that relative measures of the middle class were used as opposed
to an absolute measure. Such measures will more closely approximate inequality and
consensus than the simple absolute measure that is used in this paper. In particular,
consider if instead the middle class was defined as held by the middle 60% of the
income/expenditure distribution; with consumption expenditures between 75%–125% of
median consumption of their country and above $2 per person per day; or households
within consumption expenditures between 75%–125% of median consumption of
developing Asia. The median consumption of the 21 countries of developing Asia was
obtained by weighting the expenditure curves from the balanced panel of data by each
country's respective population. This method resulted in a median value in 2008 based

on survey means of $69 per month or $2.2 per person per day leading to bounds of $1.65–$2.75, while the national accounts means resulted in monthly median expenditures of $106 or $3.5 per person per day and bounds of $2.6–$4.4 per person per day.

Figure 19 shows that the definition matters substantially not only for the size of the middle class, but also the relative ranking in middle class size for developing Asia in 2008. In particular Azerbaijan and Nepal are first and last, respectively, in terms of an absolute size of the middle class using the middle 60% of the consumption/expenditure share. Malaysia ranks second in absolute terms, comes in 10th under middle 60% of consumption/expenditure share and 18th under the 75%–125% of median expenditures, is at least above the $2 per day definition, and is 9th under the 75%–125% of the median expenditures of developing Asia. This shows that using these various measures will substantially change conclusions regarding which countries have a sizable and healthy middle class, and change the rankings in terms of those with the largest middle class versus the smallest. Given that the overall purchasing power of individuals and how this compares across countries and time is of greater concern, it is believed that using an absolute definition of middle class is still the most appropriate and transparent approach for the analysis.

Figure 19: Variations in Middle Class Definitions, 2008 (percent)
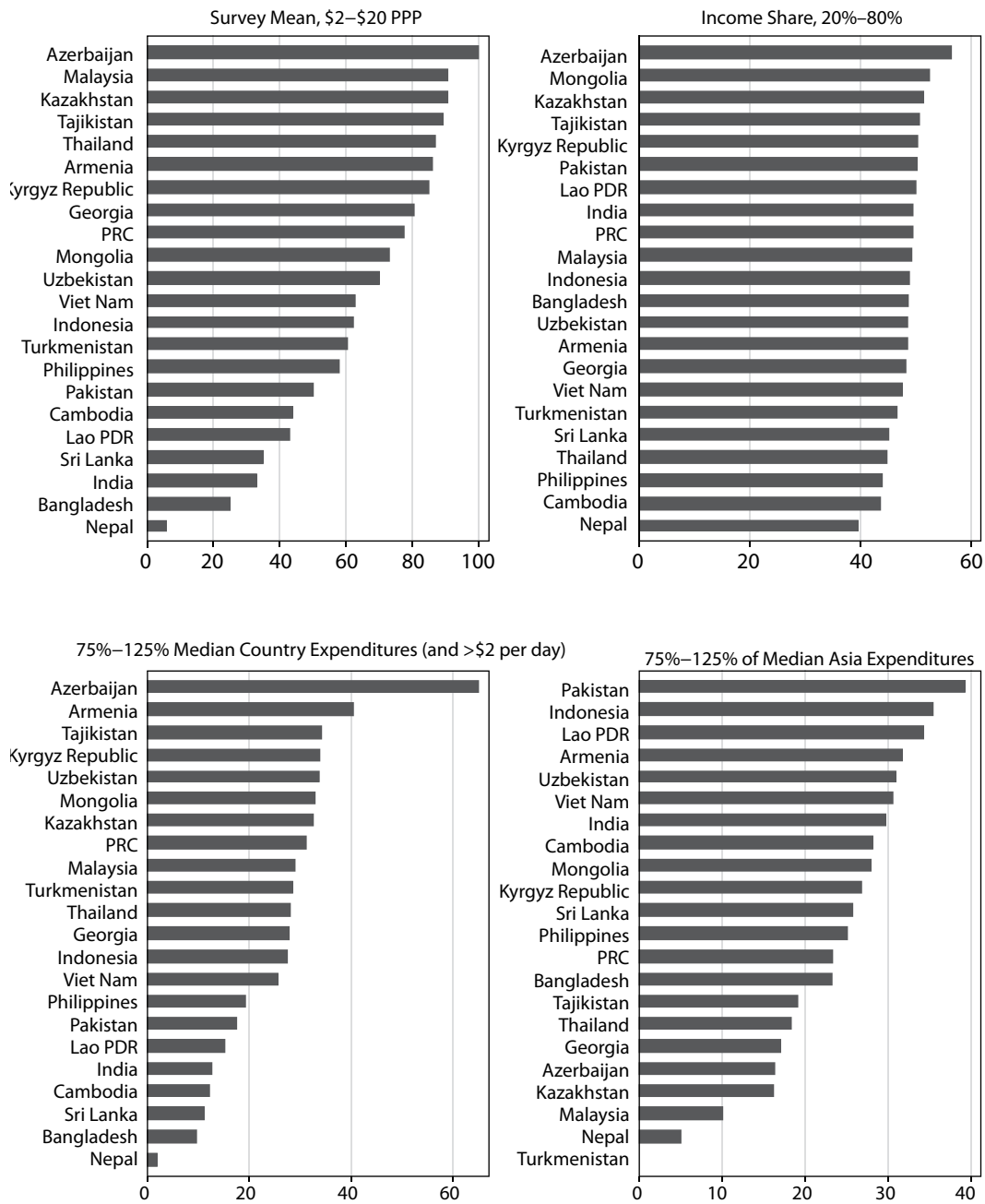
PPP = purchasing power parity.
Source: Author's estimates.

IX. Conclusion

This paper provided conservative estimates of the extent of poverty reduction and growth of the middle class in developing Asia based on an absolute definition of the middle class. Not surprisingly, the PRC's population and considerable achievements in terms of economic growth over the past 20 years have propelled most of the gains toward poverty reduction in the region and comprises the greatest growth in purchasing power. In contrast, many other countries have made little inroads or progress into poverty reduction. India still confronts a substantial problem both in percentage share and total population who still remain in poverty, but has slowly been making progress in reducing poverty. However, if it is able to develop growth that increases the size of its middle class, India will comprise a substantial share of the purchasing power in Asia. While in the Philippines there is a much higher share of the population in the middle class, it has been bypassed by many countries due to its lack of progress in reducing poverty.

In general, developing Asia continues to hold much of the world's poor. Moreover, it is extremely vulnerable to falling back into poverty as the bulk of the middle class are living on $2–$4 per day. In general, many countries within Asia have seen a high amount of stagnation in terms of poverty reduction and still have a considerable share of poor. While the PRC, India, and Indonesia have made some progress, they continue to hold a large portion of the impoverished in the region. However, assuming that progress within the region continues at its current rate, the projections show a substantial decrease in poverty within the region and large movements into the lower-middle class by 2030. This will ultimately have large implications not only in terms of the creation of new product markets, but the amount of constraints on resources and environmental impacts that may arise out of this new middle class. However, there is substantial need for additional research to sort out and determine the mechanisms through which the Asia and Pacific region can continue to build a stable and sustainable middle class that continues to reduce poverty in the region.

References

ADB. 2007. *Inequality in Asia*. Asian Development Bank, Manila.

———. Various years. *Key Indicators*. Manila.

Banerjee, A., and E. Duflo. 2008. "What is Middle Class About the Middle Classes Around the World?" *Journal of Economic Perspectives* 22(2):3–28.

Banerjee, A., and T. Piketty. 2005. "Top Indian Incomes: 1995–2000." *The World Bank Economic Review* 19(1):1–20.

Birdsall, N. 2007. *Reflections on the Macro Foundations of the Middle Class in the Developing World*. Working Paper No. 130, Center for Global Development, Washington, DC.

Birdsall, N., C. Graham, and S. Pettinato. 2000. Stuck in a Tunnel: Is Globalization Muddling the Middle? Brookings Institution Center Working Paper No. 14, Washington, DC.

Black, D. 1948. "On the Rational of Group Decision Making." *Journal of Political Economy* 56:23–34.

Bussolo, M., R. E. De Hoyos, and D. Medvedev. 2009. "The Future of Global Income Inequality." In A. Estache and D. Leipziger, eds., *Stuck in the Middle: Is Fiscal Policy Failing the Middle Class?* Washington, DC: Brookings Institution Press.

Bussolo, M., R. E. De Hoyos, D. Medvedev, and D. van der Mensbrugghe. 2007. Global Growth and Distribution: Are China and India Reshaping the World? World Bank Policy Research Working Paper No. 4392, Washington, DC.

Datt, G. 1998. Computational Tools for Poverty Measurement and Analysis. FCND Discussion Paper No. 50, International Food Policy Research Institute, Washington, DC.

Deaton, A. 2003. Measuring Poverty in a Growing World (Or Measuring Growth in a Poor World). NBER Working Paper 8922, National Bureau of Economic Research, Cambridge.

———. 2010. "Price Indexes, Inequality, and the Measurement of World Poverty." Paper presented at the AEA Meetings, 17 January, Atlanta.

Easterly, W. 2001. "Middle Class Consensus and Economic Development." *Journal of Economic Growth* 6(4):317–35.

Kharas, H. 2010. The Emerging Middle Class in Developing Countries. Working Paper No. 285. OECD Development Centre, Paris.

Kharas, H., and G. Gertz. 2010. *The New Global Middle Class: A Cross-Over from West to East. China's Emerging Middle Class: Beyond Economic Tranformation*. Washington, DC: Brookings Institution Press. Forthcoming.

Marx, K., and F. Engels. 1848. *Manifesto of the Communist Party*. Available: www.marxists.org/archive/marx/works/1848/communist-manifesto/index.htm.

Mulgan, R. G. 1977. *Aristotle's Political Theory: An Introduction for Students of Political Theory*. Oxford: Clarendon Press.

Ravallion, M. 2003. "Measuring Aggregate Welfare in Developing Countries: How Well Do National Accounts and Surveys Agree?" *The Review of Economics and Statistics* 85(3):645–52.

———. 2009. "The Developing World's Bulging (But Vulnerable) Middle Class." *World Development* 38(4):445–54.

Ravallion, M., S. Chen, and P. Sangraula. 2008. Dollar a Day Revisited. World Bank Policy Research Working Paper No. 4620, Washington, DC.

Sala-i-Martin, X. 2002. The Disturbing Rise of Global Income Inequality. NBER Working Paper 8904, National Bureau of Economic Research, Cambridge.

Shorrocks, A., and G. Wan. 2004. "Spatial Decomposition of Inequality." *Journal of Economic Geography* 5(1):59–81.

Stein, G., and A. Charters. 1990. *Three Lives*. New York: Penguin Classics. Available: www.amazon.com/gp/search?index=books&linkCode=qs&keywords=0140181849.

UNU-WIDER. 2008. World Income Inequality Database, Version 2.0c. World Institute for Development Economics Research, United Nations University, Helsinki.

About the Paper

Natalie Chun describes the middle class in developing Asia across countries and over time in terms of percentage share, population size, and purchasing power. Using an absolute definition of the middle class of consumption expenditures of $2–$20 per person per day (2005 purchasing power parity United States dollars [PPP $]), the paper finds that the middle class has grown dramatically in developing Asia, largely driven by the achievements in poverty reduction made by the People's Republic of China. However, much of the middle class in developing Asia remains vulnerable to falling back into poverty as they largely reside in the $2–$4 range (2005 PPP $). The poor in Asia still account for a large share of the global poor. Thus, there is a need for policymakers to focus on poverty reduction and build the middle class. There is also a need to focus on countries that not only have lagged behind in increasing the size of their middle class, but on countries where there are still considerably large populations of poor, such as India and the People's Republic of China.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.8 billion people who live on less than $2 a day, with 903 million struggling on less than $1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

<0102 4975>

Printed in the Philippines