2.   Asia's Emerging Middle Class: Past, Present, And Future

A.   Defining the Middle Class

Unlike poverty, which can be defined in absolute terms based on caloric requirements, there is no standard definition of the middle class. Different researchers use different criteria—some absolute, others relative. This report uses an absolute approach defining the middle class as those with consumption expenditures of $2–$20 per person per day in 2005 PPP $.[6]

Easterly (2001) and others have defined the middle class as those in the second, third, and fourth quintile of the distribution of per capita consumption expenditure, while Birdsall, Graham and Pettinato (2000) have defined it to include individuals earning between 75% and 125% of a society's median per capita income.

Other researchers have also defined the middle class in absolute terms. Banerjee and Duflo (2008) have used two alternative absolute measures—individuals with daily per capita expenditures of $2–$4 and with daily per capita expenditures of $6–$10. By excluding individuals who would be considered rich in the poorest advanced countries (Portugal) and poor in the richest advanced societies (Luxembourg), Kharas (2010) comes up with daily expenditures of $10–$100 per person, after adjusting household distribution data with national accounts means, as the criterion for a "global middle class".

Ravallion (2009) has distinguished the "developing world's middle class" from the "Western world middle class." To define the former, he uses the median value of poverty lines for 70 national poverty lines as the lower bound ($2 per person per day) and the US poverty line ($13) as the upper bound. 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) and Italy ($20).

Finally, Birdsall (2007) has used a hybrid definition that combines the absolute and the relative approaches. According to her, the middle class includes individuals who consume the equivalent of $10 or more per day, but who

fall below the 90th percentile in the income distribution.[7] Her rationale for using the absolute global threshold for the lower bound is that people with consumption below this level are just too poor to be middle class in any society, while her rationale for using the relative and local threshold is to exclude people who are rich in their own society.

The above definitions are all based on consumption expenditure or income. However, the middle class can also be defined in other ways. Historically, in feudal Europe, the middle class represented the group falling between the peasantry and the nobility. Sociologists have typically defined the Western middle class on the basis of education and occupation in a white-collar job.

Since the objective of this chapter is to estimate the size of the middle class across the developing Asian countries considered, over time, it generally uses an absolute approach. In particular, its $2–$20 range of defining the middle class is divided into three groups. The lower-middle class—consuming $2–$4 per person per day—is very vulnerable to slipping back into poverty at this level, which is only slightly above the developing-world poverty line of $1.25 per person per day used by Ravallion, Chen, and Sangraula (2008). The "middle-middle" class—at $4–$10—is living above subsistence and able to save and consume nonessential goods. The upper-middle class consumes $10–$20 per day (roughly the poverty lines of Brazil and Italy, respectively).

The analysis uses a variety of data sources to create the income/consumption distributions and determine the size of the middle class in the different countries. For developing countries, the World Bank's PovcalNet database is the primary source of the distribution data. For OECD and high-income countries in Asia, it uses decile and quantile distributions compiled by the UNU-WIDER World Income Inequality Database (WIID). It applies mean income or consumption expenditure levels from either household surveys or national accounts to these distributional data to estimate the share and size of the middle class. (See Appendix 1 for details of the data and estimation procedures.)

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6   Throughout the chapter, the income ranges refer to 2005 PPP $ per person per day, except where otherwise noted.

7   Birdsall (2010) changes the definition of the middle class to exclude only the top 5% (as opposed to 10%) of the income distribution.

B.   The Size and Growth of Developing Asia's Middle Class

Developing Asia's middle class ($2–$20) has grown dramatically relative to other world regions in the last couple decades (Tables 2.1 and 2.2).[8, 9] While it made up only 21% of the population of the developing Asian countries in 1990 (using survey data), it more than doubled to 56% by 2008; up more than three-fold from 565 million in 1990 to 1.9 billion in 2008 in absolute terms. During the same period, developing Asia's aggregate annual

Which countries are driving this clear and burgeoning middle-class growth? The five countries with the largest middle class by population shares are Azerbaijan, Malaysia, Thailand, Kazakhstan, and Georgia; the five smallest are Bangladesh, Nepal, Lao People's Democratic Republic (Lao PDR), Uzbekistan, and India (Table 2.3). Yet, in absolute size, India's middle class is very large compared to other countries given its massive population. Only in the People's Republic of China (PRC) is the middle class larger, as seen in the panels on population and consumption expenditures.[10]

Table 2.1 **Summary Statistics of Population, Class Size, and Total Expenditures by Region** (1990 and 2008 Based on Household Survey Means)								
	Total Population (million)	**Population (%)**			**Aggregate annual income/expenditures (2005 PPP $ billion)**			
Region		**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	2,692.2	79	21	0	843	721	42	1,605
Developing Europe	352.3	12	84	4	23	638	141	802
Latin America and Caribbean	352.5	20	71	9	31	641	480	1,153
Middle East and North Africa	162.3	18	80	2	16	247	39	303
OECD	639.0	0	24	76	0	735	9,636	10,371
Sub-Saharan Africa	274.8	75	24	1	70	109	44	224
2008								
Developing Asia	3,383.7	43	56	1	696	3,285	350	4,331
Developing Europe	356.6	2	87	11	4	974	425	1,403
Latin America and Caribbean	454.2	10	77	13	22	1,008	924	1,953
Middle East and North Africa	212.8	12	86	3	14	365	66	445
OECD	685.4	0	16	84	0	542	12,617	13,159
Sub-Saharan Africa	393.5	66	33	1	100	206	69	376

Notes: **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/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, Korea, 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.

Source: PovcalNet Database.

expenditure/income increased more than four-fold, from $721 billion to $3.3 trillion, about three-quarters of the region's total. Figure 2.1 presents the global trends more vividly, showing the growth in the relative and absolute size of the middle class, as well as the growth in middle-class spending, over 1990–2008 for different world regions. (See Appendix Table 1 for a list of countries included in the regional aggregations.)

As can be seen in Table 2.3 the lower-middle class constitutes the predominant share of the middle class in most of the 21 countries considered here, with the exception of relatively affluent countries such as Azerbaijan, Malaysia, and Thailand. In the PRC, the daily consumption expenditure of more than half of the middle class is in the lower $2–$4 bracket, while in South Asia's Bangladesh, Nepal, India and Pakistan, the vast majority of the middle class (75% or more) falls into this group. With the exception of Malaysia and Thailand, the population share of the upper-middle class is miniscule in most of the countries considered.

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8   Table 2.1 reports the total population, the size of the middle class, and the aggregate monthly income/expenditure of the middle class for major world regions in 1990 and 2008 using household survey means, while Table 2.2 shows the same information using national accounts means. This comparison shows how the size and share of the middle class may change if we are concerned that the survey means understate consumption and the true consumption values are better reflected by national accounts per capita private consumption means which are higher, especially in Asia.

9   While most of our numbers focus on survey means in the remainder of this section, general conclusions do not change, although sometimes rankings between countries do change depending on the amount of the departure between survey means and the national accounts means.

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10 Note that using the PRC CHIPS data versus PovcalNet database on the rural PRC results in a substantially larger middle-class population and smaller proportion in poverty. This may in part be due to the poor reliability of the PovcalNet data for the rural household distribution. In addition, Indonesian urban population using SUSENAS data versus the PovcalNet database shows a substantially smaller number in poverty.

Table 2.4 also indicates that Armenia, the PRC, and Viet Nam have made the greatest progress in increasing the population share of the middle class in recent years, with the share of the middle class in the total population increasing 60–80 percentage points. However, in absolute numbers, the PRC stands significantly above every other country. It added more than 800 million people to the middle class during 1990–2008 and increased aggregate annual middle-class spending by more than $1.8 trillion. India comes a second, with 205 million joining the middle class and $256 billion in additional middle-class annual expenditures.

How do the above size estimates compare with others in the literature? Kharas (2010), who defines a global middle class as those households with daily expenditures from $10 to $100 per person in purchasing power parity, estimates about 1.8 billion people in the global middle class, mostly in North America (338 million), Europe (664 million) and Asia (525 million). However, because

Table 2.2 **Summary Statistics of Population, Class Size, and Total Expenditures by Region** (1990 and 2008 National Account Means)								
		Population (%)			Aggregate annual income/expenditures (2005 PPP $ billion)			
Region	Total Population (million)	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	2,692.2	69	31	0	765	1,102	86	1,952
Developing Europe	352.3	3	92	5	7	867	175	1,049
Latin America and Caribbean	352.5	18	66	16	27	640	1,568	2,235
Middle East and North Africa	162.3	14	83	2	13	263	38	314
OECD	639.0	0	19	81	0	603	10,451	11,053
Sub-Saharan Africa	274.8	74	24	2	66	118	74	257
2008								
Developing Asia	3,383.7	17	82	1	315	4,924	551	5,790
Developing Europe	356.6	0	68	32	0	965	1,454	2,419
Latin America and Caribbean	454.2	6	70	24	14	1,041	1,749	2,803
Middle East and North Africa	212.8	8	85	7	8	489	191	688
OECD	685.4	0	10	90	0	386	15,264	15,650
Sub-Saharan Africa	393.5	67	31	3	95	210	166	472

Notes: Please see note at bottom of Table 2.1 for a list of countries in each region.
Source: World Development Indicators, household tabulated distribution data from PovcalNet Database, UNU-WIDER World Income Inequality Database.

Figure 2.1 **Change in Size of Middle Class By Region**
(1990–2008, based on household survey means)
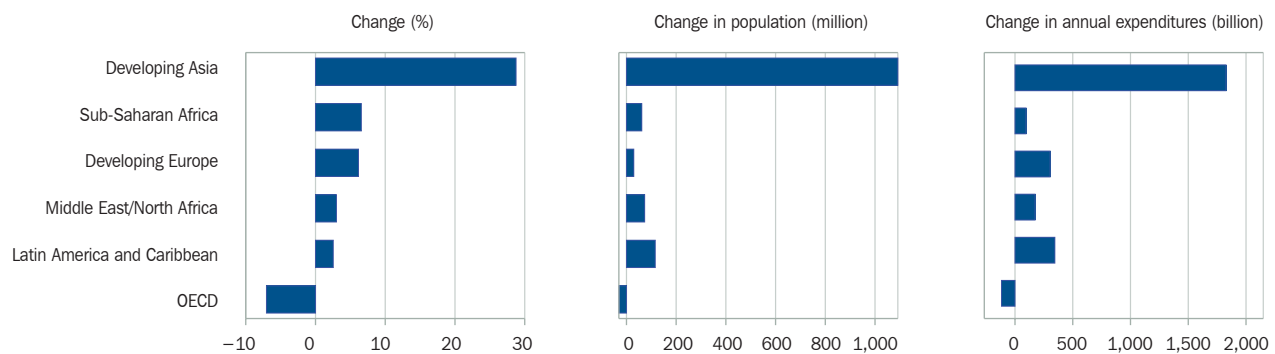
Note: Developing Asia = Armenia, Azerbaijan, Bangladesh, Cambodia, People's Republic of China, Georgia, India, Indonesia, Kazakhstan, Kyrgyz Republic, Lao PDR, Malaysia, Mongolia, Nepal, Pakistan, Philippines, Sri Lanka, Tajikistan, Thailand, Turkmenistan, Viet Nam.
Developing Europe = Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Russian Federation, Turkey, Ukraine.
Latin America and Carribean = Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Honduras, Jamaica, Mexico, Nicaragua, Peru, Uruguay, Venezuela.
Middle East and North Africa = Djibouti, Egypt, Iran Jordan, Morocco, Tunisia, Yemen.
OECD = Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Korea, 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, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Senegal, South Africa, Swaziland, Tanzania, Uganda.
Source: Chun (2010).

Table 2.3 **Size of Middle Class by Country, Most Recent Survey Year** (based on household survey means)

Country	Survey Year	% of Population					Total Population (million)					Annual Expenditures (billion)				
		$2–$4 (2005 PPP $)	$4–$10 (2005 PPP $)	$10–$20 (2005 PPP $)	Total	$20+ (2005 PPP $)	$2–$4 (2005 PPP $)	$4–$10 (2005 PPP $)	$10–$20 (2005 PPP $)	Total	$20+ (2005 PPP $)	$2–$4 (2005 PPP $)	$4–$10 (2005 PPP $)	$10–$20 (2005 PPP $)	Total	$20+ (2005 PPP $)
Azerbaijan	2005	43.00	55.66	1.34	100.00	0.00	3.61	4.67	0.11	8.39	0.00	4.38	8.74	0.48	13.60	0.00
Malaysia	2004	27.05	48.10	14.13	89.28	3.44	6.81	12.12	3.56	22.49	0.87	7.36	27.74	17.11	52.21	8.43
Thailand	2004	33.50	41.69	10.63	85.82	3.46	21.87	27.21	6.94	56.02	2.26	23.25	60.66	33.47	117.38	27.65
Kazakhstan	2003	39.40	38.30	5.44	83.14	0.28	5.87	5.71	0.81	12.39	0.04	6.28	12.10	3.84	22.22	0.32
Georgia	2005	37.19	28.35	4.00	69.54	0.88	1.66	1.27	0.18	3.11	0.04	1.75	2.66	0.85	5.26	0.38
PRC	2005	33.97	25.17	3.54	62.68	0.68	442.82	328.18	46.16	817.16	8.86	233.72	311.96	95.57	641.25	37.27
Sri Lanka	2002	37.75	18.70	2.68	59.13	0.80	7.18	3.55	0.51	11.24	0.15	7.28	7.38	2.44	17.10	1.90
Armenia	2003	44.16	12.07	1.10	57.33	0.35	1.35	0.37	0.03	1.75	0.01	1.33	0.73	0.16	2.22	0.19
Philippines	2006	31.49	19.65	3.80	54.94	0.70	27.43	17.11	3.31	47.85	0.61	27.97	36.54	15.98	80.49	5.21
Viet Nam	2006	35.53	14.81	1.93	52.27	0.15	29.89	12.46	1.62	43.97	0.13	30.01	25.61	7.74	63.36	0.97
Mongolia	2005	39.22	12.40	0.27	51.89	0.00	1.00	0.32	0.01	1.33	0.00	1.00	0.63	0.03	1.66	0.00
Bhutan	2003	30.61	16.69	2.90	50.20	0.97	0.19	0.10	0.02	0.31	0.01	0.19	0.22	0.09	0.50	0.08
Kyrgyz Republic	2004	36.36	12.05	0.60	49.01	0.00	1.85	0.61	0.03	2.49	0.00	1.84	1.24	0.12	3.20	0.00
Indonesia	2005	34.96	10.46	1.16	46.58	0.26	77.10	23.07	2.55	102.72	0.58	37.71	22.98	5.87	66.56	3.86
Pakistan	2005	32.94	6.56	0.62	40.12	0.15	51.31	10.22	0.97	62.50	0.23	49.13	20.25	4.59	73.97	2.49
Cambodia	2004	24.72	7.41	0.91	33.04	0.33	3.39	1.02	0.12	4.53	0.05	3.32	2.06	0.60	5.98	0.86
India	2005	20.45	4.15	0.45	25.05	0.10	223.82	45.41	4.90	274.13	1.14	117.11	44.39	10.96	172.46	9.95
Uzbekistan	2003	19.34	4.11	0.45	23.90	0.13	4.94	1.05	0.12	6.11	0.03	4.71	2.11	0.55	7.37	0.48
Lao PDR	2002	19.60	3.88	0.41	23.89	0.02	1.10	0.22	0.02	1.34	0.00	1.04	0.43	0.11	1.58	0.01
Nepal	2004	16.74	5.30	0.85	22.89	0.38	4.45	1.41	0.23	6.09	0.10	4.32	2.91	1.09	8.32	2.40
Bangladesh	2005	16.38	3.48	0.39	20.25	0.05	25.08	5.33	0.60	31.01	0.08	23.82	10.74	2.87	37.43	0.64

Notes: PRC = People's Republic of China; Lao PDR = Lao People's Democratic Republic
Source: Chun (2010).

Table 2.4 **Changes in the Relative and Absolute Size of the Middle Class, and Change in Aggregate Monthly Expenditure of the Middle Class, by Country,** (1990–2008, based on household survey means)

Country	Percentage point change in population share	Change in population (million)	Change in yearly expenditures (million $)
Armenia	76.5	2.3	3.6
Azerbaijan	35.1	3.1	4.5
Bangladesh	8.3	18.5	24.3
Cambodia	24.0	4.0	5.8
PRC	61.4	844.6	1,825.0
Georgia	4.0	0.0	1.3
India	12.8	205.0	256.0
Indonesia	46.3	113.7	168.1
Kazakhstan	-6.7	-2.2	-19.8
Kyrgyz Republic	-14.9	-0.1	0.0
Lao PDR	28.9	1.9	2.4
Malaysia	5.6	6.5	22.3
Mongolia	24.4	1.0	1.9
Nepal	-5.8	-0.6	-0.5
Pakistan	36.5	65.9	80.5
Philippines	12.0	23.6	48.3
Sri Lanka	-10.1	-0.9	-0.4
Tajikistan	-3.9	0.3	-0.5
Thailand	17.6	17.2	55.3
Turkmenistan	15.2	0.9	9.0
Viet Nam	57.4	49.3	77.2

Notes: PRC = People's Republic of China; Lao PDR = Lao People's Democratic Republic
Source: Chun (2010).

per capita middle-class spending varies greatly across countries, the spending shares of the global middle class differ significantly from their population shares (Figure 2.2). For instance, according to Kharas' estimates, North America accounts for 18% of the world's middle class, but 26% of global middle-class spending. Conversely, the global population share of Asia's middle class (28%) is larger than its share of global consumption expenditure (23%).

Using $2–$13 per person per day, Ravallion (2009) estimates the global middle class at 2.6 billion in 2005, 806 million of whom are from the PRC and 264 million from India. More importantly, he finds that 1.2 billion people were added to this middle class from 1990 to 2005; the PRC and India together accounted for 62% of this increase. At 62% of the population in 2005, the share of the middle class in the PRC is much greater than in India (24%), under Ravaillon's definition.

Finally, Birdsall's (2007) hybrid definition of the middle class—individuals consuming the equivalent of $10 or more per day but who fall below the 90th percentile in the income distribution—produces some unusual results. According to her estimates, neither rural nor urban India has a middle class. The rural PRC, too, ends up with no middle class, but she estimates 38% of the urban population in the PRC belongs to the middle class. These results appear inconsistent with reality in these countries.

Figure 2.2 **Share of Different World Regions in Global Middle Class and Global Middle Class Consumption** (2009, %)
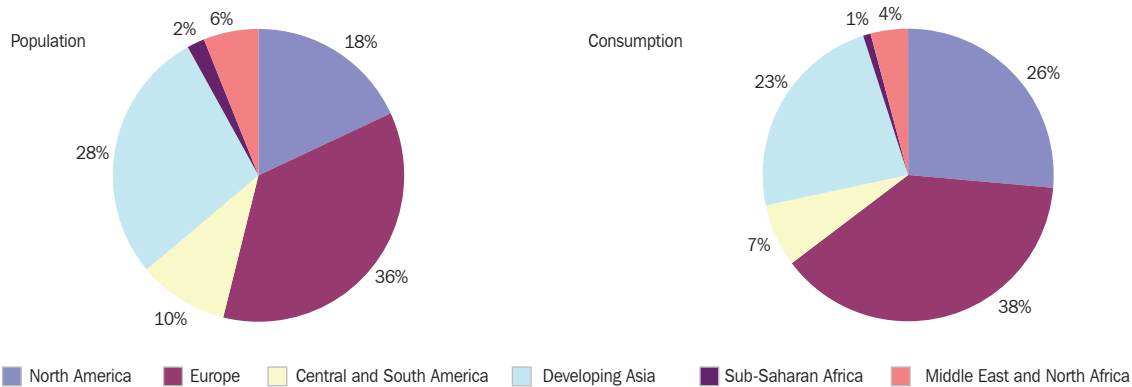
Note: For a list of the countries please see Figure 2.1 or Appendix Table 1.
Source: Kharas (2010).

C.   Results from Household Surveys in Selected Countries

The data used in the previous section are based on household survey means applied to income/expenditure distributions available from the PovcalNet database of the World Bank. In this section, we use household survey data from selected Asian developing countries (including the three largest) to discuss the size and growth of the middle class. This allows us to examine more specific details on item-wise consumption and how household characteristics differ with changes in consumption. The examination is further used to extrapolate how potential changes in the data may change our estimates of the size of the middle class.

People's Republic of China: As can be seen in Table 2.5[11, 12]—which shows the population distribution by per capita income in 1995, 2002 and 2007, using data from the Chinese Household Income Project (CHIP)[13]—poverty

Table 2.5 **Population Distribution** (%) **by Income Per Person Per Day** (2005 $ PPP, %) **PRC**

Per capita income class	National			Urban			Rural		
	1995	2002	2007	1995	2002	2007	1995	2002	2007
<$1.25	23.9	11.9	1.7	3.0	1.9	0.1	44.6	21.7	2.8
$1.25–$2	20.5	16.5	5.1	13.4	5.4	1.0	27.8	26.3	8.3
$2–$4	37.7	34.0	23.4	54.9	30.8	9.4	22.5	36.9	34.1
$4–$6	12.4	18.7	21.5	20.5	28.8	16.1	3.5	9.9	25.7
$6–$10	4.8	13.9	25.5	7.1	24.7	33.0	1.4	4.0	19.8
$10–$20	0.7	4.7	18.7	0.9	8.0	32.8	0.3	1.0	7.9
>$20	0.0	0.4	4.1	0.1	0.5	7.5	0.0	0.2	1.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
$2–$20	55.6	71.3	89.1	83.5	92.3	91.3	27.7	51.8	87.4

Note: PRC = People's Republic of China
Source: Staff estimates, CHIPS 1995, 2002, 2007.

decreased and the middle class increased dramatically from 1995 to 2007. The share of the population with daily incomes of $6–$10 surged from just 4.8% to 25.5%, and with incomes of $10–$20 from a mere 0.7% to 18.7%. The data show that the rightward shift of the income distribution was not limited to the urban areas. Indeed, rural areas also saw a very sharp increase in the proportion of the population earning $6–$10 and $10–$20 per person per day. (See Box 1 on the PRC's rural middle class.)

The CHIPS data suggest that the middle class increased from about 56% of the population in 1995 to 89% in 2007. Still, the most dramatic increase in the relative size of the middle class occurred in the rural areas, where the middle class went from 28% of the population in 1995 to 87.5% in 2007. Indeed, by 2007, the relative size of the middle class was not all that different in the rural areas (87.5%) from the urban areas (91.3%). At 89%, the estimated size of the middle class from the CHIPS data is significantly larger than the size estimated from the PovcalNet database (and discussed in the previous section). The discrepancy may be related in part to the sensitivity of the sample population to the chosen purchasing

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11 Chinese Household Income Project Survey from 1995 (CHIP2) and 2002 (CHIP3) are publicly available through the Inter-university Consortium for Political and Social Research (ICPSR). See Riskin, Zhao, and Li (1995) and Li (2002). Unpublished data for CHIP4 is kindly provided by the Chinese Academy of Social Sciences.

12 The urban sample consists of 6,931 households in 1995, 6,835 in 2002, and 10,000 households in 2007. The rural samples consists of 7,998, 9,200 and 10,000 households respectively across the years.

13 CHIP surveys, conducted by the Chinese Academy of Social Sciences, cover rural and urban households. In the initial round of CHIPS in 1988, both rural and urban samples covered all provinces. For 1995 and 2002, rural households are sampled in all the provinces in the first two rounds, while urban households are sampled in about half of the provinces. But the provinces in the urban sample account for more than 50% of the population. As such, while it is not exactly nationally representative, amid publicly available household surveys, it thus far has the widest coverage and is indicative of broad patterns and trends. For the latest round in 2007, both rural and urban households are sampled from 16 administrative regions covering more than 60% of the population.

Box 1   **Driving Rural Middle Class Growth: Township and Village Enterprises in the PRC**

Township and Village Enterprises (TVEs) in the People's Republic of China (PRC)—a term in use since 1984 referring to enterprises owned by rural entities, individually or collectively—have grown to become an important factor in the development of the rural middle class (Box Table 1.1).

Box Table 1.1				
Employment and the Rise of TVEs in the Rural Areas, 1980–2008 (million)				
	Employment	**Urban**	**Rural**	**TVE**	**TVE as % of rural**
1980	423.6	105.3	318.4	30.0	9.42%
1985	498.7	128.1	370.7	69.8	18.83%
1990	647.5	170.4	477.1	92.7	19.42%
1995	680.7	190.4	490.3	128.6	26.24%
2000	720.9	231.5	489.3	128.2	26.20%
2005	758.3	273.3	484.9	142.7	29.43%
2008	774.8	302.1	472.7	154.5	32.69%

Source: National Bureau of Statistics of China. 2009. China Statistical Yearbook 2009 (http://www.stats.gov.cn).

Indeed, TVEs play an important role in the Chinese economy overall, their aggregate industrial output reaching 5.88 trillion yuan (CNY) in 2008, or 45.5% of national industrial output. TVE exports were worth about 3.51 trillion, 40% of the PRC's foreign exchange earnings in 2007, and contributed CNY877 billion in tax revenue in 2008.

Without TVEs, the rural middle class would be small even today, despite the rapid economic growth of the past three decades. This is primarily because of the dual price system, which required enterprises to sell a portion of their production quotas at state-set prices while the remainder was sold at market prices, and urban-biased policies that have prevailed over the last sixty years. Traditional farming cannot generate sustainable income growth or asset accumulation. But commercial farming has not been possible given the very small land/population ratio and the rigid household registration system. In 2008, for example, there were 122 million hectares of arable land but still a large rural population of 715.8 million, despite significant urbanization in recent years.

TVEs have allowed farmers to make better use of productive inputs, including labor and capital, thereby improving returns. TVEs have also helped rural residents move into non-farming activities and reap the benefits of industrialization and globalization. Their importance to middle class development is evident in the fact that better-developed localities usually have more TVEs. Among the PRC's richest provinces, the rural areas of Jiangsu, Zhejiang, and Guangdong, for example, are well known for the dominance of TVEs. Indeed, the southern areas of Jiangsu, where TVEs are more prominent, are richer.

TVEs promote middle class growth in several ways. First, as stated, they generate a significant share of GDP, particularly rural GDP. In 2008, the value-added of TVEs amounted to CNY8.41 trillion, 71% of the rural economy or 28% of national GDP. Many TVEs are also engaged in processing and marketing of agricultural products, facilitating farmers' access to market, and permitting them to specialize in certain products, thus helping raise incomes.

Second, TVEs provide jobs, employing 155 million, or 29% of the rural labor force by 2008, up from 28 million farmers and 9.2% in 1978. Productive jobs are crucial for poverty reduction and formation of the middle class. TVE job creation has helped expand the arable land/farming population ratio, allowing farmers to achieve economies of scale and increase income.

Third, TVEs represent a major source of local government revenue, helping to fund local infrastructure and social development, both of which are crucial for expansion of the middle class. Over the last three decades, TVE investment in rural infrastructure, building construction, and research and development has amounted to CNY432 billion. Many TVEs also donate funds for establishing rural schools and heath facilities.

Fourth, TVEs offer a platform for the formation and development of entrepreneurs, themselves a core component of the middle class. Finally, TVE growth has brought about a boom in small towns and cities, which in turn has promoted service industry growth.

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power parity (PPP), and the use of income rather than expenditures. Given that the bulk of rural households are in the $2–$4 groups, if we raise the rural PPP from 2.98, which is used by PovcalNet, to the national PPP of 4.07, then the rural middle class becomes significantly smaller and closer to the PovcalNet numbers. It is obvious from Figure 2.3 that most of the addition to the middle class in the PRC occurred at the lower end ($2–$4) in the rural areas and in the middle range ($4–$10) in the urban areas. The CHIP data suggest that in 2002 the Chinese middle class ($2–$20) comprised 868 million people and would exceed 1 billion by 2007.

India: The population share of the middle class increased from about 29% in 1993–94 to 38% in 2004–05, as seen in the National Sample Survey (NSS), a periodic and nationally representative household survey (Table 2.6). The increase was roughly similar in rural and urban areas (about 8–9 percentage points). Most of the increase was in the group with daily consumption of $2–$4.
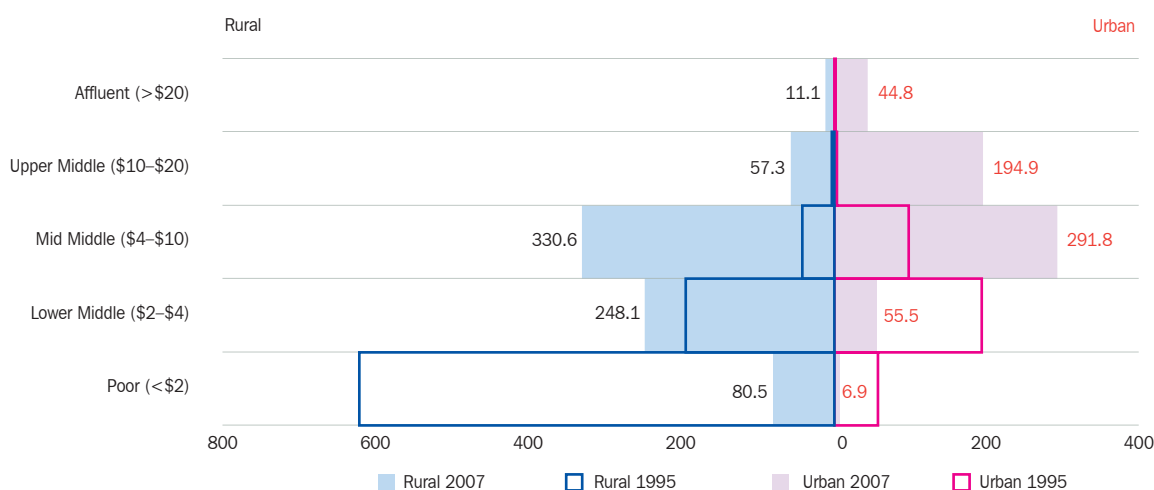
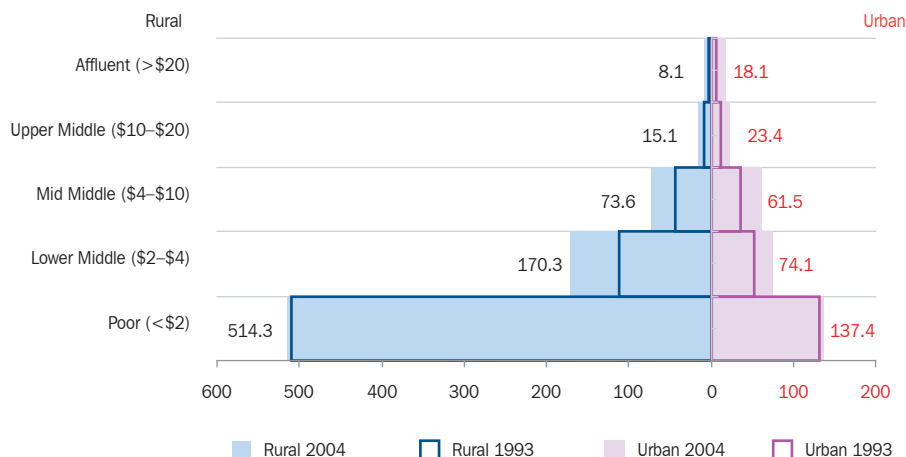| Table 2.6 **Population Distribution** (%) **by**						
Expenditure Per Person Per Day (2005 $ PPP) **India**						
Per capita expenditure class	**National**		**Urban**		**Rural**	
	1993–94	**2004–05**	**1993–94**	**2004–05**	**1993–94**	**2004–05**
<$1.25	46.5	36.3	34.0	26.0	51.0	40.5
$1.25–$2	23.6	23.2	20.8	17.7	24.5	25.4
$2–$4	18.0	22.3	22.1	23.6	16.5	21.8
$4–$10	8.7	12.3	15.2	19.6	6.4	9.4
$10–$20	2.1	3.5	5.0	7.4	1.1	1.9
>$20	1.1	2.4	2.9	5.8	0.5	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
$2–$20	28.8	38.1	42.2	50.6	24.0	33.1

Source: Bhandari (2010).

As seen in Figure 2.4, showing the absolute size of the different consumption groups, most of the addition to the middle class, occurred in groups with consumption levels of $2–$4 (rural areas) and $4–$10 (urban areas). The NSS data suggest that in 2004–05 the Indian middle class comprised 418 million people out of a total population of 1.1 billion.

Figure 2.3 **Size of the Chinese Middle Class** (1995–2007, million)

Rural   Urban

	Rural	Urban
Affluent (>$20)	11.1	44.8
Upper Middle ($10–$20)	57.3	194.9
Mid Middle ($4–$10)	330.6	291.8
Lower Middle ($2–$4)	248.1	55.5
Poor (<$2)	80.5	6.9

800 600 400 200 0 200 400

■ Rural 2007   ☐ Rural 1995   ■ Urban 2007   ☐ Urban 1995

Source: Staff estimates based on CHIP Surveys 1995 and 2007 data.

Figure 2.4 **Size of the Indian Middle Class** (1993–2004, million)

Rural   Urban

	Rural	Urban
Affluent (>$20)	8.1	18.1
Upper Middle ($10–$20)	15.1	23.4
Mid Middle ($4–$10)	73.6	61.5
Lower Middle ($2–$4)	170.3	74.1
Poor (<$2)	514.3	137.4

600 500 400 300 200 100 0 100 200

■ Rural 2004   ☐ Rural 1993   ■ Urban 2004   ☐ Urban 1993

Note: Uses NSS/NAS adjustment as described in Bhandari (2010).
Source: Bhandari (2010).

Indonesia: The population share of the middle class increased from about 25% in 1999 to 43% in 2009, as seen in data from SUSENAS, a nationally representative and annual household survey, with a consumption module every three years (Table 2.7). The increase was roughly similar in rural and urban areas (about 15–18 percentage points).

In absolute size, the Indonesian middle class roughly doubled over the ten years – from 45 million to 93 million (Figure 2.5).

Table 2.7 **Population Distribution** (%) **by Expenditure Per Person Per Day** (2005 $ PPP) **Indonesia**

Per capita expenditure	National		Urban		Rural	
	1999	**2009**	**1999**	**2009**	**1999**	**2009**
<$1.25	42.2	24.6	23.4	12.2	53.5	33.7
$1.25–$2	32.8	32.4	32.4	25.5	32.9	37.5
$2–$4	20.1	30.9	33.0	40.0	12.4	24.3
$4–$6	3.5	7.5	7.6	13.2	0.9	3.3
$6–$10	1.2	3.3	2.8	6.5	0.2	0.9
$10–$20	0.3	1.1	0.6	2.2	0.0	0.3
>$20	0.0	0.2	0.1	0.3	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
$2–$20	25.0	42.7	44.0	62.0	13.6	28.7

Source: Staff estimates, SUSENAS 1999 and 2009 data.

Figure 2.5 **Size of the Indonesian Middle Class** (1999 and 2009, million)
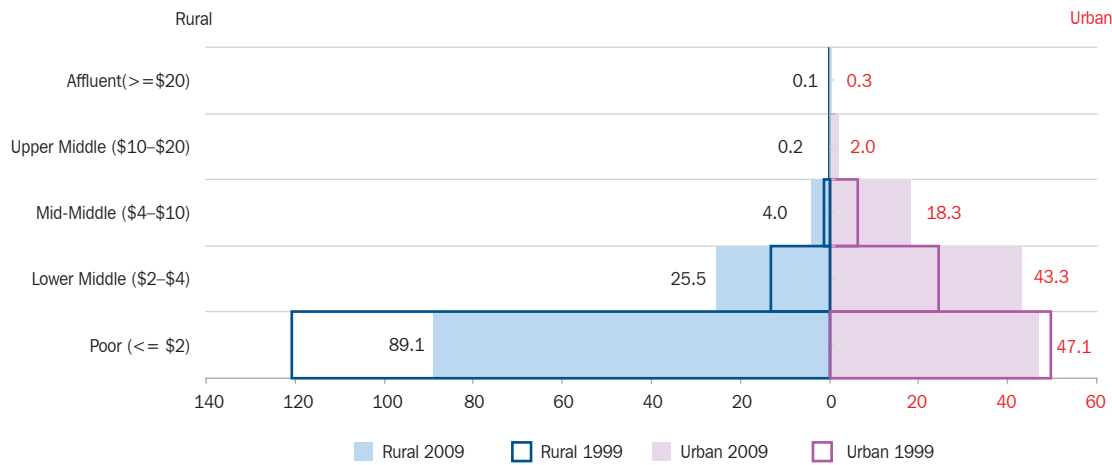
Source: Staff estimates based on SUSENAS 1999 and 2009 data.

Philippines: The middle-class population ($2–$20) increased from 44% of the population in 1988 to 54% in 2006 (about 45 million people), according to household survey data, a moderate and unsurprising increase given laggard growth in the economy (Table 2.8). The increase meant that about 21 million people were added to the middle class during the 18-year period, the vast majority of whom were added to the $2–$4 and $4–$10 consumption groups (Figure 2.6).

Table 2.8 **Population Distribution** (%) **by Expenditure Per Person Per Day** (2005 $ PPP), **Philippines**

Per capita expenditure class	National		Urban		Rural	
	1988	2006	1988	2006	1988	2006
<$1.25	28.8	21.8	11.5	8.1	39.5	35.2
$1.25–$2	27.4	23.7	20.6	16.9	31.5	30.2
$2–$4	29.2	30.7	39.5	36.6	22.9	25.0
$4–$6	8.5	11.8	15.6	17.9	4.2	5.8
$6–$10	4.4	8.1	8.7	13.5	1.7	2.8
$10–$20	1.5	3.4	3.5	5.9	0.2	0.8
>$20	0.0	0.6	0.7	1.1	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
$2–$20	43.8	53.9	67.9	73.8	30.0	34.5

Source: Staff estimates, FIES 1988 and 2006.

As can be seen, the results are markedly different depending on the country and on whether one uses income or expenditure-based data. In general, the data show that the middle-class populations in these countries are generally skewed toward the lower end of the distribution and are potentially very vulnerable to slipping back into poverty.

D. The Role of Perception

Whether one belongs to the middle class is often a question of perception. The World Values Surveys (WVS), conducted for several Asian countries over the last decade,[14] have collected information on whether respondents consider themselves as belonging to one of five social classes: lower, working, lower-middle, upper-middle, or upper. The surveys also ask individuals to place themselves in their country's relative income distribution. Figure 2.7 presents a plot of these two variables against each other for seven countries to examine where the (self-identified) middle class in a country perceives itself to be within that country's distribution. We define the middle class to include the self-identified lower-middle class and upper-middle class.

Figure 2.7 shows wide variation across countries in individual notions of what constitutes the middle class. At one extreme is India, where 20% of the (self-identified) middle class places itself in the third income decile of the country's income distribution and only 4% places itself in the eighth decile.[15] At the other extreme is Viet Nam, where 2% of the middle class places itself in the third income decile and as much as 17% in the eighth decile. Assuming people's perceptions of where they lie on the income continuum are broadly correct (which certainly may not be the case), the WVS data suggest that, compared to middle-class Indians, more middle class

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14 See www.worldvaluessurvey.org.

15 Since very few of the middle class identified themselves as falling into the bottom or the top two income deciles, we only show the distribution of the middle class across the middle six deciles in Figure 2.7.

Figure 2.6 **Size of the Philippine Middle Class** (1988–2006, million)
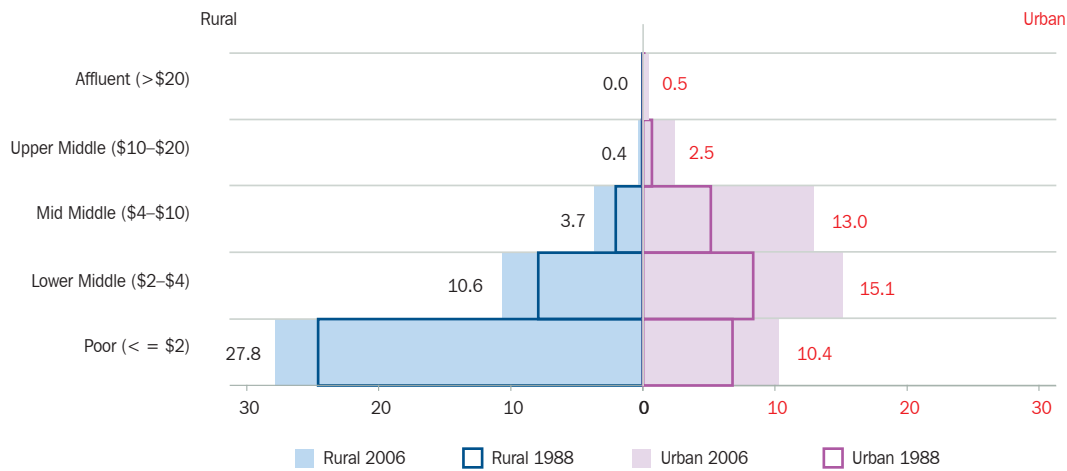
Source: Staff estimates based on 1988 and 2006 FIES.

Figure 2.7 **Self Identification as Middle Class** (2001–07)

Distribution of individuals identifying themselves as middle class across self-identified income deciles
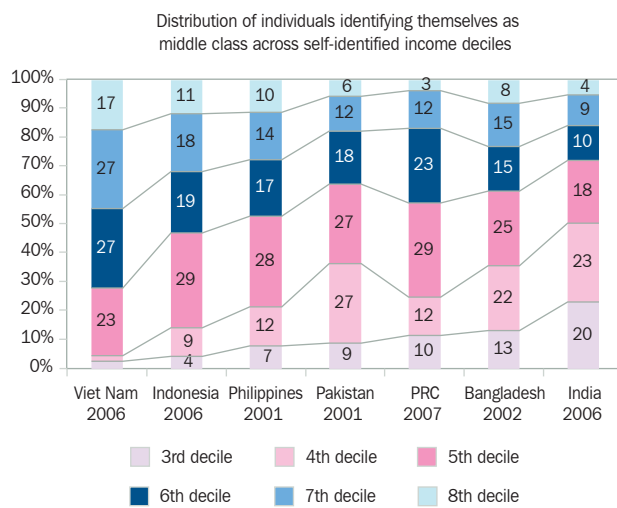
Note: PRC = People's Republic of China
Source: Staff estimates from unit record data of various World Values Surveys.

A plot of the income distribution of the (self-identified) middle class in each country for the two years reveals a marked distributional shift to the right over time (Figure 2.8). Significantly more of the middle class in both countries in 2006–07, but especially in the PRC, placed itself in a higher income decile than in 1990. This suggests that the middle class in both countries has become more prosperous over time—or at least feels more prosperous—due to rapid economic growth.

From the analysis we can conclude, first, that there is really no single, universally accepted definition of what constitutes a middle class. Nor is there a need for one. The definition should depend on the purpose at hand. If the objective is to determine whether the emerging Asian middle class can supplant the US and European middle classes as the next major driver of the global economy, it makes sense to use an absolute income approach. Alternatively, if the objective is to compare the characteristics of the middle class in a country to those of the poor or the rich, or to study the middle class in a particular country over time, a relative approach or an approach based on non-income characteristics might be appropriate.

Second, it is clear that no matter what definition one uses, there is a sizeable middle class in Asia—one that has grown rapidly in the last two decades. Even though this middle class has significantly lower income and spending relative to the Western middle class, the growth in expenditures by the Asian middle class has been remarkable. Naturally, there are large differences across countries. There has been a dramatic increase in the size and spending of the PRC's middle class, especially in the

Vietnamese consider themselves to be prosperous relative to their fellow citizens. This may reflect the fact that, due to rising prosperity, widening inequality, and increasing consumerism, middle-class Indians feel poorer than they really are or they have a more liberal definition of what constitutes the middle class than other countries, which is less associated with measures of income. (See Box 2 on the historical foundations of the Indian middle class.)

The WVS data are available over two time-periods, separated by 16–17 years, for both the PRC and India.

urban areas, while, in India, the growth of the middle class has been considerably more tepid. Because of its large population, however, the absolute size of the Indian middle class is formidable. Even in the Philippines, with far slower economic growth than other countries, the middle class has grown significantly over the last two decades.

Box 2 Elite Formation in Colonial India

The foundations of India's middle class were laid in the mid 19th century under British colonial administration, primarily using the colonial educational system. This supplanted the traditional system with a wide network of institutions designed to train people to help run the state (Dharampal 1970).

However the Indian middle class is more than a colonial creation. More than 600 Indian kingdoms of varying sizes had set up large administrative systems that were not as colonial. In addition, in rural areas, there was a significant middle class that depended on the feudal system. A large trading and commercial class also existed across rural and urban areas that had a very different orientation from either those in administration or that were part of the feudal system. Finally, a small but highly respected section of society was involved in the business of knowledge and education. The resulting motley group united around a common ideal of respect for knowledge and western education in which, more significantly, the middle classes retained a pride in traditional identity and respect for heritage.

This combination of traditional and colonial in India's elite creation is well recognized. "The British made the initial impact, but the graft was so successful because the men they had shaped, fashioned their own culture and identity and even invented new values out of the old materials they had at their disposal…an intelligentsia in the true sense of the word…a middle class socialized in their parents'
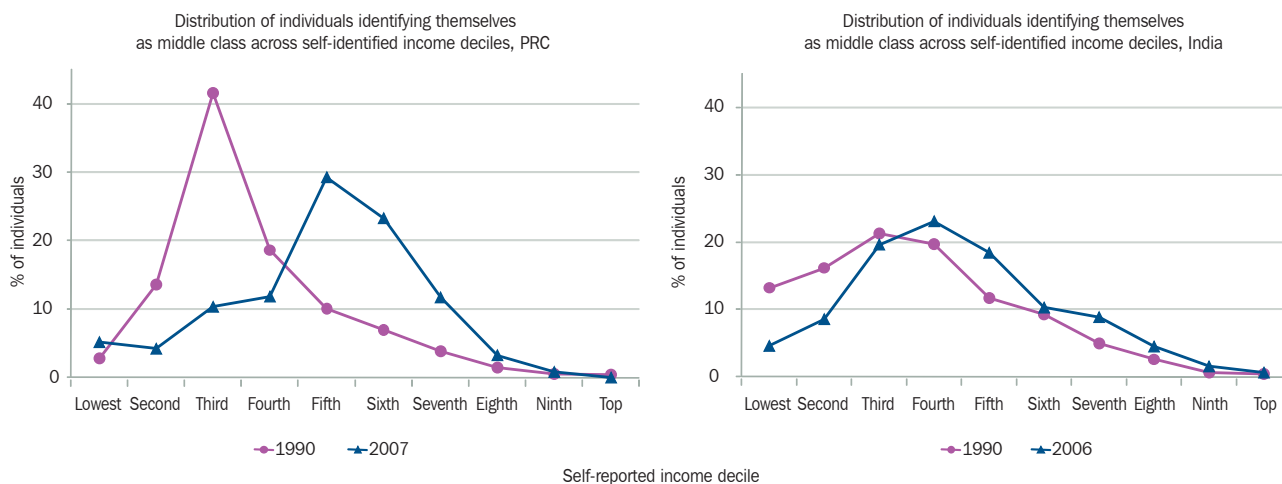
traditions but western educated and equipped" (Jaffrelot and van der Veer 2008).

The British intention is reflected in a quote from Thomas Babington Macaulay, an important political leader in his time: "It is impossible for us…to attempt to educate [all] the people. We must at present do our best to form a class who may be interpreters between us and the millions whom we govern; a class of persons, Indian in blood and color, but English in taste, in opinions, in morals, and in intellect." [1] In other words, four defining characteristics were embedded in the education system designed by the colonialists: (i) use of English, (ii) homogenous structure, (iii) exclusion of the masses, and (iv) desk-oriented.

These characteristics are largely retained in the current education system. [2] It is remarkable how, even to this day and despite India's federal structure and varying languages and culture, [3] the character of education is so uniform. Schools across the country have similar content taught in a similar manner, with the similar objective of creating a group of people who can help administer governments or companies. There is little focus on vocational education or imparting manual skills. Moreover, English remains an important mode of entry into centers of excellence and, largely, the language of higher and professional education.

1   From Thomas Babington Macaulay, "Minute of 2 February 1835 on Indian Education," Macaulay, Prose and Poetry, selected by G. M. Young (Cambridge MA: Harvard University Press, 1957), pp. 721-24,729.
2   Education was an important element of colonial rule in India, and just about all Indian leaders, spiritual or political, from Mohandas Gandhi to Jawaharlal Nehru, wrote extensively about the need to create a new education more in line with India's past and emerging requirements (Bhandari 2010). Though some lip service was paid to the thoughts of these leaders, independent India retained the colonial education system and its four defining characteristics.
3   Education is a state subject under the constitution of India and state governments are responsible for all key aspects of providing education.

Figure 2.8 **Self Identification as Middle Class, PRC and India**

Distribution of individuals identifying themselves as middle class across self-identified income deciles, PRC

Distribution of individuals identifying themselves as middle class across self-identified income deciles, India

Self-reported income decile

Note: PRC = People's Republic of China
Source: Staff estimates from unit record data of World Values Surveys.

E.   Projections of the Size of the Asian Middle Class[16]

Developing Asian economies are at very different stages of middle class emergence, as seen in Figures 2.9 and 2.10. These present the business-as-usual scenario for middle class growth in share and absolute size of the middle class, assuming no shocks and taking consensus forecasts for real gross domestic product (GDP) (G1).[17] In some countries, now approaching middle-income majorities, over 75% of the population will be in this category by 2030, even after accounting for inflation. In the intervening years, baseline GDP growth is expected to more than double the share of those with income of $2 or more per day in the largest countries (India and the PRC) and to increase it even more so in other countries. Some lower-income countries, such as Lao PDR and Cambodia, will see an even greater share in growth for this income group—evidence of the pro-poor nature of economic growth in the region and the benefits of integration. Other countries, like Timor Leste and Uzbekistan, will likely see only modest enlargement of the middle class, unless complementary policies are put in place to support more rapid and inclusive growth, such as more extensive infrastructure development and trade facilitation.

Countries with greater per capita endowments of energy resources (such as Kazakhstan) can expect to benefit substantially from sustained regional growth. Countries with majorities already at or above the $2 middle income level (Malaysia and Thailand) will manage a sustained enlargement of these groups, one that modestly outpaces population growth.

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16 This section surveys historical income distribution data from 23 Asian and Pacific countries (all can be seen in Figure 2.1), fitted econometrically to lognormal distributions. This data is then calibrated to a dynamic global computable general equilibrium (CGE) model to project regional economic growth out to 2030 under different policy scenarios. (See Appendix 2 for a further discussion of data and methodology.) While the base for the middle-class shares relies on a different set of data that starts with substantially smaller percentages of middle-class populations than those based on the PovcalNet data, these projections provide the means to examine what is expected in terms of economic growth, the size of the middle class, and the role Asia will have in the global economy. Moreover, it provides the means to examine policies that are potentially meaningful in promoting middle class and fostering economic growth.

17 Baseline real GDP growth rates for each country over 2010–2030 are drawn from a database of consensus estimates assembled by the World Bank for its annual Global Economic Prospects reports (e.g. World Bank: 2009, Table 2.5, p.66). These are assembled from econometric estimates based on official national data, OECD Development Assistance Committee sources, and the IMF.

Figure 2.11 compiles the projected income distributions in 2010, 2020, and 2030 for the countries considered. Based on the World Bank consensus baseline growth rates (G1), we see steady but varied progress across the Asian region. The projected growth of the middle class is expected to bring significant changes to aggregate real household expenditures during 2010–2030 for different subregions, as seen in Table 2.9. This shows the considerable shift in global demand expected amid expectations that demand growth in Asia, more specifically developing Asia, will be greater relative to the western OECD countries. That is, Asia will increasingly become a bigger, more dominant entity in overall consumption demand.

Table 2.9 Percentage Change in Aggregate Real Household Expenditures between 2010–2030 for Baseline Consensus Growth Scenario

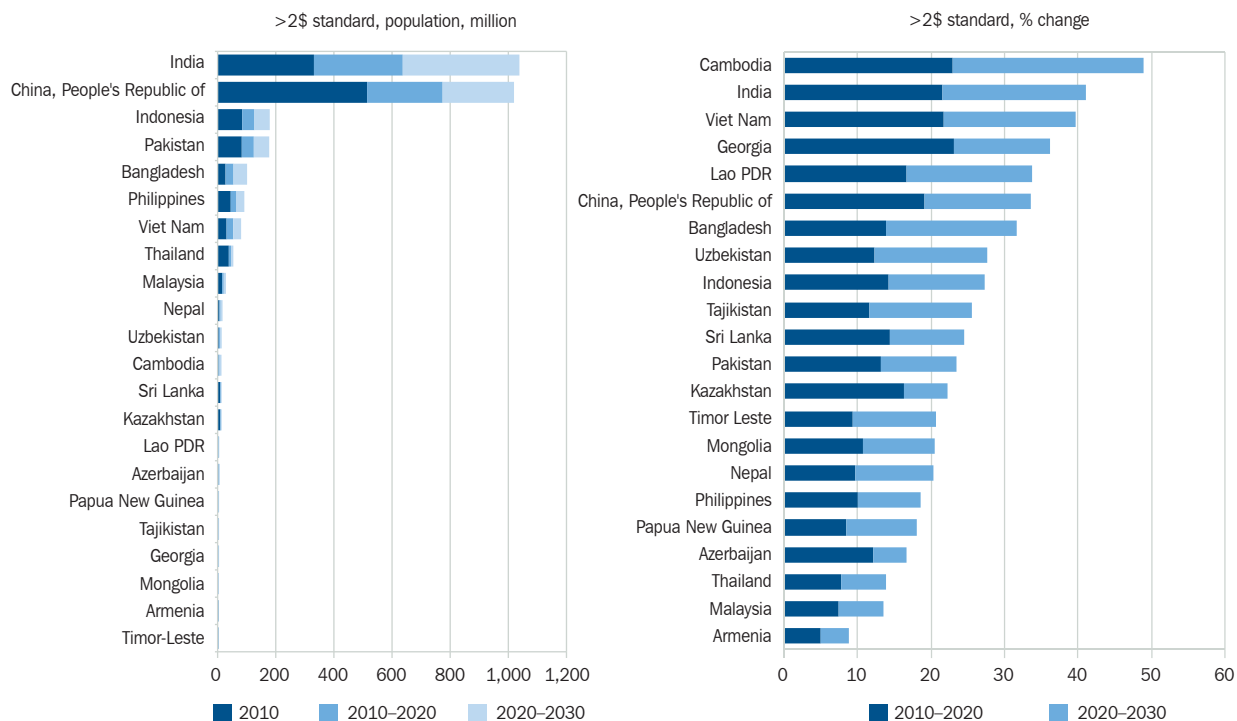|	Developing Asia	Other Asia	W. OECD	ROW
Crops	145	-17	8	86
Livestock	247	111	58	126
Energy	231	177	95	152
Other Minerals	225	121	49	112
Processed Food	152	82	42	90
Textile, Apparel	152	30	20	74
Light Manufactures	226	120	55	117
Heavy Manufactures	195	101	44	102
Utilities	215	122	45	95
Other Services	209	26	24	77
Total	195	43	30	88

Notes: Other Asia = Hong Kong, China; Japan; Republic of Korea; Singapore; Taipei,China), W. OECD = western OECD economies, ROW = rest of the world.

Source: Roland-Holst, Sugiyarto and Loh (2010).

To expand perspective beyond consensus growth trends, it is useful to see how the baseline trends could change depending upon external influences or policy actions on the level and composition of Asian economic growth over the next two decades. We consider two scenarios: (i) where Asia faces substantially higher energy prices as energy demand grows and (ii) a combined scenario that incorporates higher energy prices with optimistic expectations of improvements in technology that mitigate higher energy prices and increase agricultural and labor productivity. The factors are summarized as follows:
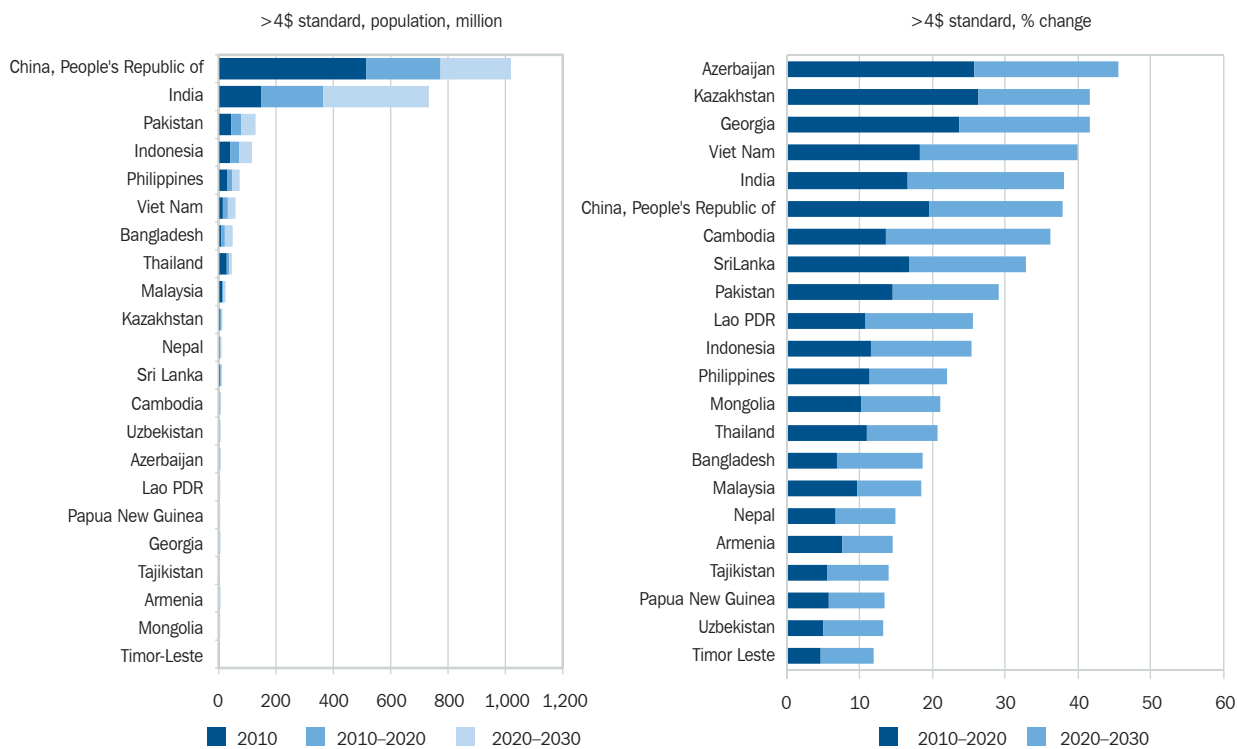
- Fuel price escalation (P)—Emerging Asian growth has been accompanied by very strong dynamics in global energy markets, and long-term conventional energy prices are subject to considerable uncertainty. To shed some light on the region's growth vulnerability to more pessimistic price trends, we include a counterfactual scenario in which global fossil fuel prices are 50% higher by 2030.

- Energy efficiency (E)—Improvements in energy efficiency have been shown to be a potent catalyst for

Figure 2.9 **Middle Class Emergence to 2030** (>$2.00 income per person per day)

>2$ standard, population, million

>2$ standard, % change

Legend: ■ 2010 ■ 2010–2020 ■ 2020–2030

Legend: ■ 2010–2020 ■ 2020–2030

Note: Lao PDR = Lao People's Democratic Republic
Source: Roland-Holst, Sugiyarto and Loh (2010).

Figure 2.10 **Middle Class Emergence to 2030** (>$4.00 income per person per day)

>4$ standard, population, million

>4$ standard, % change

Legend: ■ 2010 ■ 2010–2020 ■ 2020–2030

Legend: ■ 2010–2020 ■ 2020–2030

Note: Lao PDR = Lao People's Democratic Republic
Source: Roland-Holst, Sugiyarto and Loh (2010).

Figure 2.11 **Baseline Income Distributions for Consensus Real GDP Growth Trends** (% of population in each income group)

■ <$1.25   ■ $2–$4   ■ $4–$6   ■ $6–$10   ■ $10–$20   ■ >$20
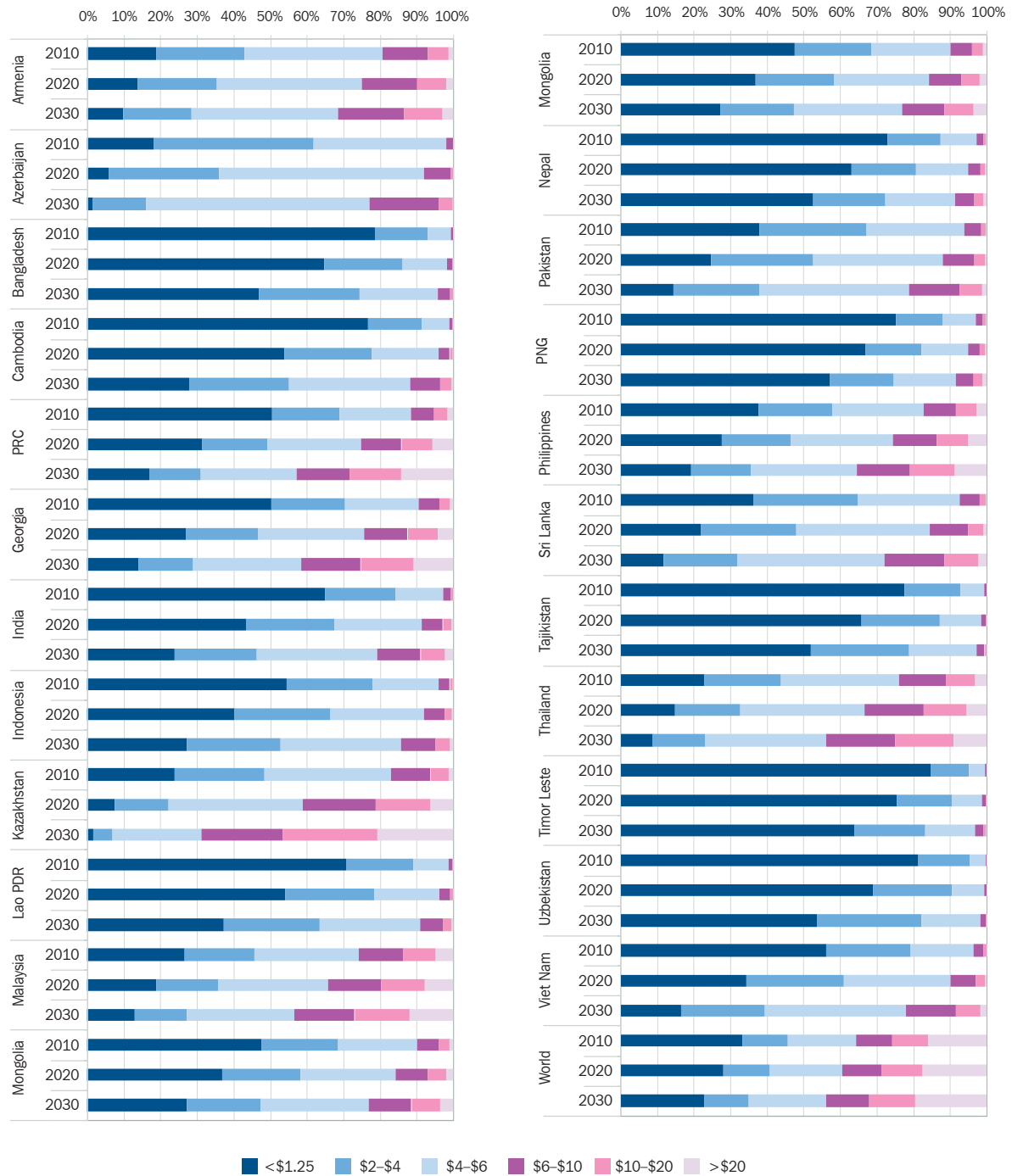
Notes: PRC = People's Republic of China; Lao PDR = Lao People's Democratic Republic; PNG = Papua New Guinea
Source: Roland-Holst, Sugiyarto and Loh (2010).

economic growth, as well as an important mitigation strategy against higher energy costs and greenhouse gas emissions. To see these effects, we consider a scenario with 1% average annual efficiency improvements across each national economy.

• Agricultural productivity growth (A)—Agro-food products are critical to both basic livelihoods and economic growth potential because they are tied directly to the income of the world's poor rural majority and dominate the poor's expenditures. To

assess the importance of this sector, we include a counterfactual with total factor productivity growth in agriculture of 1% per year from 2010 to 2030.

- Skill intensive growth (S)—Increasing labor productivity is key not only to superior aggregate growth, but also to more extensive growth benefits across the population. To assess these benefits, in this counterfactual we assume 1% annual labor productivity growth of all individuals to 2030.

Table 2.10 shows the first macroeconomic results for the baseline consensus growth rates under fuel price escalation (G1P) and the combined scenario (G1PEAS) measured against the baseline G1. The three most salient features of these GDP estimates are: the varied nature of the results across countries, strong synergies with the combined policies, and decisive pro-poor impacts.[18]

Table 2.10 **GDP Results** (% change from baseline G1 in 2030)		
	G1P	G1PEAS
Bangladesh	-9.37	17.50
PRC	-6.73	17.69
Georgia	-1.61	3.06
Other Asia	-0.97	0.46
Indonesia	-7.51	22.75
India	-9.00	21.29
Kazakhstan	-14.37	14.62
Cambodia	-10.50	20.54
Lao PDR	-11.39	33.26
Sri Lanka	-5.84	24.65
Malaysia	-7.10	20.98
Pakistan	-9.35	17.08
Philippines	-6.04	21.05
Thailand	-6.48	19.00
Viet Nam	-9.45	15.57
Rest of Asia	-7.18	17.70
Total	-5.39	12.54

Notes: PRC = People's Republic of China; Lao PDR = Lao People's Democratic Republic; Other Asia = Hong Kong, China; Japan; Republic of Korea; Singapore; Taipei,China
Source: Roland-Holst, Sugiyarto and Loh (2010).

Sustained increases in fuel prices have a harmful effect on all the regional economies, even when two decades are allowed for adjustment. Energy efficiency mitigates these effects, but only partially. The extent of this benefit depends on the country's prior energy intensity and its domestic energy substitution capacity. For example, both the PRC and Thailand have high initial energy intensity, but the PRC has ample alternative fuel supplies. Thailand, by contrast, benefits more from energy efficiency because it has fewer or higher cost alternative supplies.

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18 Overall, simulation results are robust with respect to differences in alternative values around the median parameters, and what variation they exhibit is consistent with economic intuition and the results interpretation that follows.

The mitigating effect of a 1% increase in agricultural productivity has limited benefits against higher energy prices. However, a large portion of the growth is driven by the assumption of skill-intensive growth where labor productivity growth is 1% per year. There are two primary reasons for this. First, labor is arguably still the most important factor of production in most of Asia (in terms of value added), and productivity growth in this factor can offset higher costs from just about any other source. Second, the Keynesian benefits of labor productivity growth, in terms of direct income increases for households with high expenditure propensities, have a strong growth dividend in what is still a region of low average incomes and commensurately high expenditure propensities.

There are strong synergies from projected increases in price efficiency, agricultural productivity, and skill productivity for every economy. These result from combining savings in two essential commodity categories, food and fuel, with higher real incomes from a wage stimulus. The effects, compounded over twenty years, more than compensate for higher energy prices and yield double-digit growth dividends in most of the region's economies over 2030 GDP values.

The pro-poor aspect of the combined policies is strong and consistent with intuition. Although every country benefits from rising labor productivity, those who benefit most are those with the lowest initial levels of productivity and real wages. These countries see the greatest relative benefit because their human capital is most in need of improvement and because their competitiveness improves most as a result of increased labor productivity that results from policies that promote human capital development. These countries represent the low hanging fruit for the realization of Asia's human potential. It has long been recognized that labor is the prime resource of the emerging Asian economies, and skill-intensive development is clearly the superior strategy to realize its long-term growth aspirations.

For the sake of comparison, Table 2.11 presents analogous scenario results for real aggregate household consumption. The most significant insight from this table has not to do with the qualitative results, which mirror GDP in sign across every country and scenario, but with the magnitudes. Both the negative and positive effects have wider extremes in terms of real consumption, which would make the events examined here much more sensitive politically. Negative energy price effects on GDP can be offset by structural adjustment that transfers resources to other activities, but they hit purchasing power more directly. At the other extreme, the benefits of higher wages may accelerate aggregate growth through

Table 2.11 **Real Aggregate Consumption Results** (% change from baseline G1 in 2030)		
	G1P	G1PEAS
Bangladesh	-13.20	19.01
PRC	-15.38	22.44
Georgia	-9.04	2.91
Other Asia	-3.29	0.33
Indonesia	-7.13	26.86
India	-14.20	25.36
Kazakhstan	-13.34	19.36
Cambodia	-18.73	23.63
Lao PDR	-9.93	44.09
Sri Lanka	-7.56	30.09
Malaysia	-11.95	27.47
Pakistan	-12.42	17.09
Philippines	-9.42	23.51
Thailand	-8.70	21.95
Viet Nam	-7.83	19.66
Rest of Asia	-8.07	23.63
Total	-10.03	15.08

Note: PRC = People's Republic of China; Lao PDR = Lao People's Democratic Republic; Other Asia = Hong Kong, China; Japan; Republic of Korea; Singapore; Taipei,China

Source: Roland-Holst, Sugiyarto and Loh (2010).

the compounding of multiplier effects, but the original impetus for this is higher disposable income and a very direct increase in expenditure. Because productivity growth also lowers domestic real prices, and more so when initial productivity is lower, poorer countries benefit more in terms of real purchasing power.

Our findings are generally optimistic; suggesting that Asia can continue and even accelerate established patterns of poverty reduction and livelihood advancement. For example, we find that using a >$2/day PPP standard, Asia can rise to a majority (55%) share of the global middle class by 2030, from 25% in 2010. Even by a higher standard of >$4/day, Asia will represent 39% of global middle class income. The results suggest that about one billion people will be added to an Asian $2 middle class of 2.7 billion over the next 20 years. This process will be

uneven across the region, depending significantly upon initial conditions. The PRC and India will, of course, provide the largest number of new middle class, and this will reshape regional and global markets in their image.[19] At the same time, however, smaller countries will see faster or slower emergence depending on the eligibility of their resource base and labor forces for recruitment into higher value added supply chains.

The emergence of the Asian middle class is expected to be a dominating force globally, but external events and policy responses may inevitably have a substantial impact on just how large the gains will be. In particular, energy price vulnerability is an important risk to regional growth. Energy efficiency measures can provide insurance against this risk. Additionally, agricultural productivity growth can improve both the incomes of Asia's poor rural majority and the purchasing power of urban dwellers. Policies that promote energy efficiency and agricultural productivity (reducing food costs)—saving households and enterprises money—can be a potent source of new demand and job creation.

The projections show that skill development, especially in the lower-income regional economies, is possibly the most critical prerequisite for realizing the vast human and economic potential of the Asian region. Higher incomes, a larger middle class, and the self-sustaining prosperity they generate, can only be built on the foundation of a skilled and productive labor force that generates significant value added and higher income, channeling this into sustained long-term expenditure, savings, and investment.

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19 Kharas (2010) has also projected the growth of the global middle class in 145 countries over 2009–30, using a model of global economic trends. The projections are based on several assumptions, including that inequality in each country (especially in the middle of the population) remains unchanged over time. There are four drivers of economic growth in his model: a technological advance of 1.3% per year for all countries (representing an advancement of knowledge worldwide); rapid technological catch-up in a group of fast-growing countries (with poorer countries growing faster than rich ones); capital accumulation; and country-specific demographic changes in the working-age population. Kharas' model suggests that the size of the global middle class will increase from 1.8 billion people in 2009 to 3.2 billion in 2020 and 4.9 billion by 2030, with Asia accounting for 85% of the growth. By 2030, Asia is projected to account for two-thirds of the global middle class—more than double its 2009 share (28%). Even more provocative are Kharas' projections of the shares of different countries in global middle-class consumption: by 2050, India is projected to account for 30% of the total and the PRC for 20%. The share of the US and Japanese middle classes in global consumption is projected to be miniscule, at only about 5% combined. While these projections, based as they are on highly aggregated and stylized models, cannot be taken as precise forecasts, especially over such long periods of time as 40 years, they indicate the tectonic shifts in global spending patterns likely to take place over the coming decades if countries in Asia—particularly the PRC and India—are able to sustain rapid economic growth rates.