

Demographics and Market Segmentation: China and India

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Overview

China and India are the two most populous countries and constituted about 38 percent of the World's population in 2005. However, they have followed different demographic courses in arriving at their current positions.

Both countries also have experienced substantial expansion of their markets for a range of commodities. However, dissimilar household composition and socioeconomic paths have affected household preferences in the two countries.

Overview

In this paper, we review macro demographic trends that have led to different demographic structures that have significant implications for productivity and household purchasing power and discretionary spending in the two countries.

Following the review of these macro demographic trends, we turn to an examination of household expenditures based on household surveys undertaken in 2005 and assesses similarities and disparities in household preferences for broad categories of goods and services in rural and urban areas, and also for households with varying levels of income.

Overview

This examination provides a basis for hypothesis building concerned with market growth for progressive commodities, in view of current demographic structures in the two countries and projected fertility and population growth.

Background

Table 1. China and India Demographic and Socioeconomic Indicators 2005

Indicator	China	India
Population (million persons) (2005)	1,313.0	1,134.4
Yearly population growth rate (%) (1975-2005)	1.2	2.0
Population age distribution (%) (2005)		
0-14	21.6	33.0
15-64	70.7	62.0
65+	7.7	5.0
Total fertility rate (no. child. per women) (2000-2005)	1.7	3.1
Life expectancy at birth (years) (2005)	72.5	63.7
Dependency rate (child & aged pop./pop. aged15-64) (2005)	0.41	0.61
Urban population (% of total) (2005)	40.4	28.7
Adult literacy rate (% of pop. 15 years & older) (1995-2005)	90.9	61.0
Female economic activity participation rate (15 years & older) (%) (2005)	68.8	34.0
Gross domestic product (billions PPPUS\$) (2005)	5,333.2	2,341.0
GDP per capita (PPPUS\$) (2005)	4,091	2,126
GDP p.c. PPPUS\$ yearly average growth rate (%) (1990-2005)	8.8	4.2
Gini index of income distribution (2005)	46.9	36.8

Data & Methods

Table 2. N of Households Sampled, China & India, 2005

Area	China	India
	No. Households Sampled	
Urban	54,496	45,346
Rural	68,190	79,298

Data & Methods

Both the Chinese and Indian surveys are large national probability and stratified samples to ensure comprehensive geographical and social representation and allow for the derivation of robust estimates.

The authors have made efforts to make the composition of the broad groups of commodities in the two countries close. However, it is likely that some differences between the compositions of these groups have persisted and some caution should be used in the comparison of the two countries.

Data & Methods

Table 3. Annual Household Expenditure in China and India 2005

Expenditure Category	Allocation of Household Expenditure	
	China	India
	%	%
Food	39.3	48.0
Housing, domestic fuel, light & power	11.5	12.4
Household appliances & services	5.2	4.0
Clothing & footwear	8.8	6.9
Transport & communication	11.7	7.5
Medical services	7.3	5.8
Education & culture	13.1	5.6
Other	3.1	9.7
All	100.0	100.0
Total Household expenditure	PPP US\$ 4,955	PPP US\$ 2,850

Data & Methods

Table 4. Ownership of Household Appliances and Motor Cycles in China and India 2005

Item	Number per 1,000 Households	
	China	India
Television sets	1,206	367
Refrigerators & freezers	595	120
Air conditioners & coolers	443	81
Motor cycles	327	127

Data & Methods

Table 5. Household Expenditure in Urban Areas on Food and Durable Goods as a Proportion of Total Expenditure in China and India 2005

Household Expenditure Group	Food and Durables as % Total Expenditure				Arc Elasticity	
	China		India		China	India
	Lowest Quintile	Highest Quintile	Lowest Quintile	Highest Quintile		
Food	45.9	30.5	55.9	32.3	0.709	0.571
Durables	1.2	3.3	1.7	6.2	1.468	1.601

Data & Methods

Table 6. Ownership of Household Appliances and Vehicles in Urban Areas In China and India 2005

Item	Units Owned per 1,000 households				Ratio Highest Quintile/ Lowest Quintile	
	China		India		China	India
	Lowest Quintile	Highest Quintile	Lowest Quintile	Highest Quintile		
Television sets	1,127	1,624	362	795	1.441	2.196
Air conditioners & coolers	271	1,525	46	420	5.627	9.130
Refrigerators & Freezers	783	1,102	28	647	1.407	23.107
Motor cars	5	109	2	162	21.800	81.000
Motor cycles	181	273	26	501	1.508	19.269

Data & Methods

Table 7. Average household size and average annual household expenditure in urban and rural areas in China and India 2005

Area	China	India
	Average household size (persons)	
Urban	2.96	4.36
Rural	4.08	4.88
Rural/Urban ratio	1.38	1.12
	Average annual household expenditure	
Rural/Urban ratio	0.44	0.56
	Average annual household expenditure per capita	
Rural/Urban ratio	0.32	0.52

Data & Methods

Table 8. Household Expenditure Allocation in Urban and Rural Areas: China and India 2005

Expenditure Category	China		India		Ratio of proportions Rural/Urban	
	Urban	Rural	Urban	Rural	China	India
	%	%	%	%		
Food	37	45	41	53	1.23	1.31
Housing, domestic fuel, light & power	10	14	15	10	1.43	0.68
Household appliances & services	6	4	4	4	0.79	0.88
Clothing & footwear	10	6	6	7	0.57	1.17
Transport & communication	12	10	10	6	0.78	0.54
Medical services	8	7	5	6	0.87	1.21
Education & culture	14	12	9	4	0.84	0.44
Other	3	2	10	10	0.63	1.02
All	100	100	100	100		

Data & Methods

Table 9. Expenditure Patterns of Urban households by Income Quintiles in China and India 2005

Expenditure category	Quintiles					Arc Elasticity
	1st	2nd	3rd	4th	5 th	
<i>China Urban</i>	Percentage of Total Household Expenditure					
Food	46	42	39	36	31	0.71
Housing, domestic fuel, light & power	12	10	10	10	10	0.89
Household appliances & services	4	5	5	6	7	1.30
Clothing & footwear	9	10	11	11	10	1.06
Transport & communication	8	10	11	11	17	1.38
Medical services	7	7	8	8	7	1.00
Education & culture	12	13	14	14	15	1.13
Other	3	3	3	4	4	1.28
<i>India Urban</i>						
Food	56	51	47	42	32	0.57
Housing, domestic fuel, light & power	14	14	15	15	15	1.07
Household appliances & services	2	2	3	4	6	1.60
Clothing & footwear	8	8	7	7	6	0.76
Transport	2	3	4	6	9	1.66
Medical services	4	5	5	5	6	1.22
Education & culture	4	5	7	9	10	1.53
Other	11	11	12	13	16	1.23

Data & Methods

Table 10. Expenditure Patterns of Rural Households by Income Quintiles in China and India 2005

Expenditure category	Quintiles					Arc Elasticity
	1st	2nd	3rd	4th	5 th	
	Percentage of Total Household Expenditure					
<i>China rural</i>						
Food	51	50	48	45	39	0.69
Housing, domestic fuel, light & power	13	13	14	14	17	1.23
Household appliances & services	4	4	4	4	5	1.23
Clothing & footwear	6	6	6	6	6	1.06
Transport & communication	7	8	9	10	12	1.49
Medical services	7	7	6	6	7	0.96
Education & culture	10	11	11	12	12	1.49
Other	2	2	2	2	2	1.39
<i>India rural</i>						
Food	60	59	57	55	46	0.75
Housing, domestic fuel, light & power	12	11	11	10	9	0.78
Household appliances & services	2	2	2	3	6	1.70
Clothing & footwear	9	9	8	8	7	0.74
Transport	2	2	2	3	6	1.84
Medical services	3	4	5	6	9	1.69
Education & culture	2	2	3	3	5	1.76
Other	11	11	11	11	12	1.11

Data & Methods

Table 11. Ownership of Household Appliances and Vehicles in Urban and Rural Areas, China and India 2005

Item	Units Owned per 1,000 Households					
	China		India		Ratio Rural/Urban	
	Urban	Rural	Urban	Rural	China	India
Television sets	1,348	1,058	661	256	0.78	0.39
Refrigerators & freezers	974	201	319	44	0.21	0.14
Air conditioners & coolers	807	64	213	31	0.08	0.15
Motor cars	34	na	46	8	na	0.17
Motor cycles	250	407	260	77	1.63	0.30

DISCUSSION

The discussion of findings must be guarded because of the constraints arising from the nature of the data used and should be viewed as preliminary findings. The authors are concerned with the possible inconsistencies in definitions in the two countries.

The lack of standard errors of the estimates is another concern in assessing the significance of differences. Nevertheless, the large stratified probability samples used and the consistency of most findings with empirical evidence from other countries and generic theoretical frameworks are indications of the usefulness of these preliminary findings.

DISCUSSION

China and India are two large markets by any standards, if for no other reason than their large populations. However, their development has taken place against different demographic trends that have influenced their demographic structures. China has been favored in terms of lower population growth (with implications for growth in income per capita) and an age structure with a lower proportion of dependent children and a higher proportion in the more economic productive age of 15-64 years.

It is also apparent that productivity in China could also have benefited from a higher literacy rate of its adult population and female participation in the formal economic sector.

DISCUSSION

The comparison of the two countries shows consistent findings that support the tenet of the importance of rising income per capita in the growth of markets for non-food items, especially in relation to more progressive commodities such education services, transport and communication, and consumer durables.

DISCUSSION

Chinese households with a higher income spend proportionally less on food and more on these progressive commodities. Within each of the two countries, urban households also spend a lower proportion of their expenditures on food and a higher proportion on these items.

Ownership of household appliances in the two countries supports the notion of considerable segmentation of markets for progressive commodities between urban and rural areas and between different income groups.

DISCUSSION

In China, the large market penetration of television sets both in urban and rural areas might have been affected by government policies that favored access to these appliances as a means of providing information. Similarly, the high market penetration of motor cycles and low penetration of motor cars might also reflect government priorities.

Household preferences in the two countries show substantial similarities regarding progressive commodities but China's propensity to spend more on education is striking. The differences in literacy rates in the two countries could be partly affected by government policies but could also suggest relative household concern with education.

DISCUSSION

The higher proportion of expenditure on clothing and footwear in China could be partly due to the larger proportion of China's population living in colder climates.

CONCLUSION

Different paths of demographic and socioeconomic development have led to greater household purchasing power in China than India. This has affected the nature of their markets for the range of consumer goods and services.

These markets reflect household preferences for progressive goods and services as their discretionary income rises and spend a lower proportion of the household budgets on basic commodities such as food.

CONCLUSION

The Engel indices (*expenditure on food as a proportion total household expenditure*) **indicate that households in China have greater discretionary purchasing power than India's and households in rural areas in both countries with higher Engel indices also have lower discretionary spending on progressive commodities.**

Although this is a preliminary examination guarded by the constraints in the data used, it is clear that in both countries the markets are highly segmented in terms of income groups, and there also are substantial differences between urban and rural segments, partly because of differences in household income.

CONCLUSION

In both countries, household discretionary spending on appliances, transport and communications and education and culture (e.g., recreation) reflect this segmentation.

The segmentation of markets for these progressive commodities is supported by market penetration in terms of ownership of household appliances such as television sets, refrigerators and air conditioners, and also motor cars and motor cycles, which is usually greater in urban than rural areas and households in the higher income quintiles.

CONCLUSION

The relatively high Engel indices (expenditure on food as a proportion total household expenditure) in the two countries in comparison with those of more developed countries indicate the potential for future growth in the markets for progressive commodities in China and India.

CONCLUSION

This may especially be the case with India, which is expected to slow down its population growth, reduce the proportion of dependent children in its population, and raise the proportion of people in more economically productive ages and possibly in women participation in the formal productive sector.

This should enhance growth in productivity and income per capita and lead to higher household discretionary spending on progressive commodities.

Questions?