3. Urban inequality

Summary

- Offsetting forces left urban inequality largely unchanged between 1993 and 2004. Trade and globalization tended to widen inequality of earnings, as wages for skilled workers rose rapidly. On the other hand, there were also equalizing forces from structural transformation of the urban economy: with increased trade and foreign direct investment, labor force participation has increased, and employment has shifted from low productivity agriculture and allied sectors to the higher value-added garment manufacturing and service sectors. The fastest growing sectors are intensive in unskilled labor, the most abundant asset of the poorest Cambodians.

- While urban inequality remained stable, it remains considerably higher than rural inequality, reflecting a more diversified set of economic opportunities that result in a wider spectrum of income. The other reason for higher inequality in urban areas is the greater importance of capital, which is relatively unevenly distributed in a poor country.

Chapter 2 showed that rural inequality rose between 1993 and 1997 and only edged upward modestly between 1997 and 2004. Consumption growth was concentrated in the extreme top end 1993-97, but widely shared among the rural majority 1997-04. The two factors that drove rural inequality were (i) between-quartile inequality and (ii) within richest quartile inequality. The latter rose rapidly, and constituted an increasing share of total rural inequality overtime. The causes of inequality were both spatial and social. Isolation or geography matters because spatial disparity contributes to the income gap between the rich (and connected) and the poor (and isolated). Individuals' initiative and investment matter because social disparity in terms of schooling, skills, and initiative contributes to both inequality within the rich and inequality between rich and poor.

This chapter examines why urban inequality remained essentially unchanged between 1993 and 2004, and remained higher than rural inequality. The first section explains ***what*** took place during the past decade by presenting inequality and consumption growth in sub-periods of 1993-97 and 1997-04. The second section analyzes the components of urban inequality, by examining between-quartile and within-quartile inequality. The third section presents ***why*** inequality remained at a higher level than rural inequality. The last section investigates ***how*** the urban economy was transforming in such a way that it resulted in falling inequality during this decade.

What happened to inequality?

This section presents what happened during the 1993-2004 period in terms of inequality and household consumption growth in urban Cambodia. Table 3.1 presents the Gini coefficients for real total consumption in years 1993, 1997 and 2004. Between 1993 and 1997, the Gini coefficient fell from 0.465 to 0.433. It remained unchanged between 1997 and 2004.

Table 3.1 Gini coefficients of consumption for comparable samples of *urban* areas (i.e., Phnom Penh and other urban), 1993, 1997 and 2004

	1993	1997	2004
total household real consumption	0.465 (.006)	0.433 (.008)	0.432 (.007)

Source: SESC 1993; CSES 1997; CSES 2004.
Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

The growth incidence curves in Figure 3.1 track the percent change in real consumption between two points in time for every percentile of the consumption distribution. Figure 3.1 presents three growth incidence curves for (i) the decade of 1993-2004; (ii) the sub-period of 1993-1997; and (iii) the sub-period of 1997-2004, respectively. The top panel shows that growth between 1993 and 2004 was widely shared, with the bottom half growing at a more rapid rate than the upper half of the distribution. The growth rate at the median of about 20 percent was significantly higher than the mean growth rate of 8 percent, suggesting an equalizing effect.

This fall in urban inequality between 1993 and 2004, as in rural areas, masks two sub-periods of very different changes. The consumption changes for each percentile during the earlier sub-period of 1993-1997 are plotted in the growth incidence curve in the middle panel of while those for 1997-2004 are represented in the bottom panel.

Sub-period 1993-1997: Negative, albeit equalizing, growth

Over 1993-1997, growth was negative for the entire distribution. (See chapter 1 on how this might be explained as an across-the-distribution under-reporting of consumption in 1997 due to political tensions in the survey month.) However, the losses in consumption were more substantial for the top half than for the bottom half. Starting from the 5^{th} percentile of the distribution, growth decreased monotonically. Growth was about zero for the poorest 20^{th} percentiles of the urban population, but about minus 25 percent for the richest urban quartile group. The period of 1993-1997 can be characterized on the basis of the SESC and CSES data as one of equalizing but falling welfare. Two striking features for the period of 1993-1997 are:

- Growth was recorded as negative for all households except for a few bottom percentiles of the urban distribution.
- Consumption losses were greater for the upper half than the bottom half.

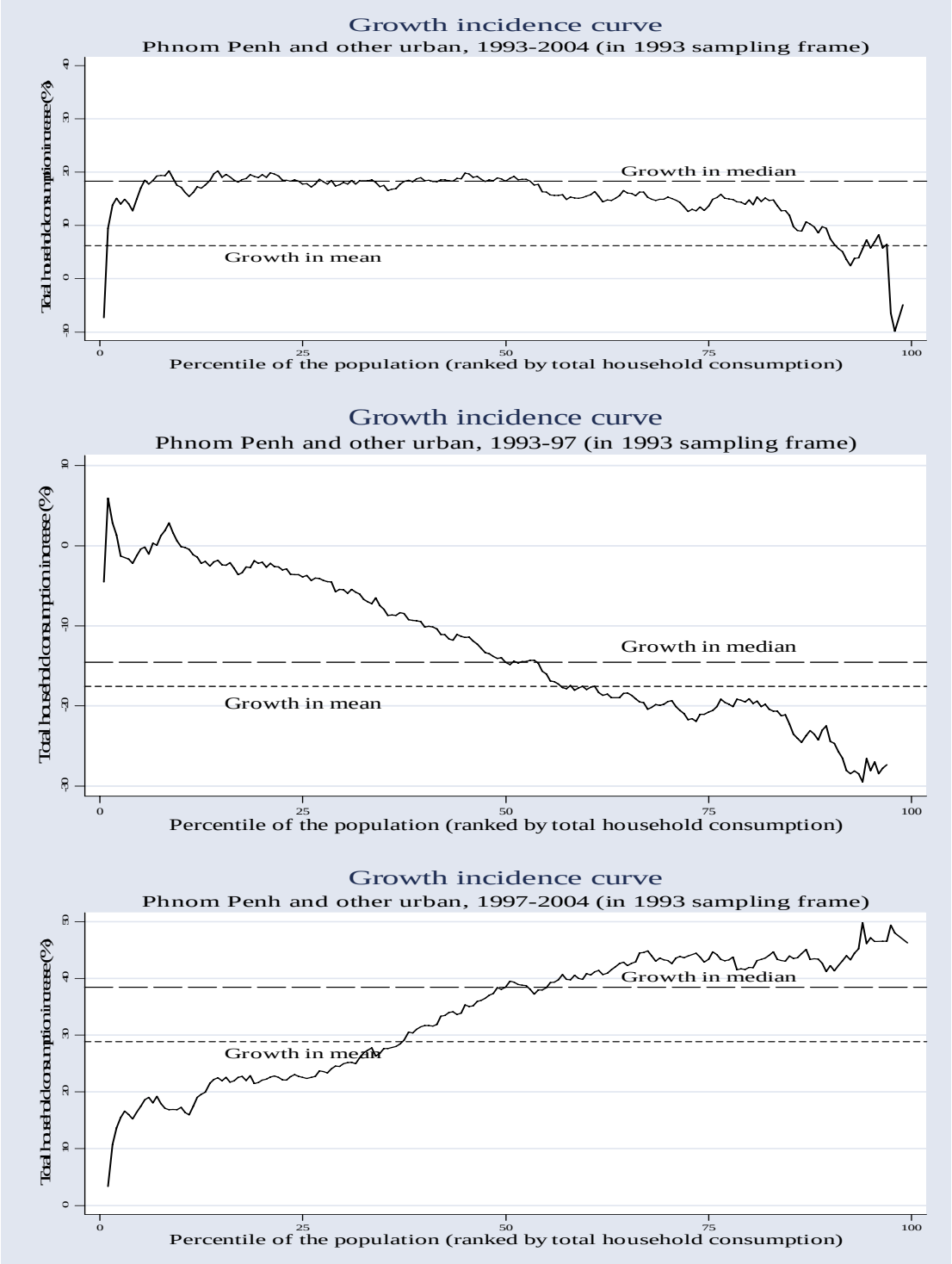
The implications of these features are a negative median and a negative mean growth rate; as well as a substantial, statistically significant, fall in urban inequality between 1993 and 1997.

Sub-period 1997-2004: sharing growth broadly

The changes in the second sub-period *appeared* to be an (opposite) mirror image of the first period. Despite the fact that growth in consumption rose almost monotonically from the lower to the higher percentiles, this period saw growth being broadly shared. While the bottom half experienced lower growth than the upper half, the differentials were not drastic. Growth at the median was about 40 percent, compared to growth in the mean at 30 percent.

Thus, the combination of different experiences in 1993-97 and 1997-04—that is, an earlier period of negative growth with more substantial consumption losses among the rich than then poor, and a subsequent period of broadly shared growth—has resulted in falling urban inequality, and broadly egalitarian growth of 20 percent for the median, and 8 percent for the mean, during the decade. The trend during 1993-2004 is promising, and suggests that something went right in the urban sector.

Figure 3.1 Changes in real consumption, percentile-to-percentile, for periods (i) 1993-2004, (ii) 1993-1997, and (iii) 1997-2004.



Source: SESC 1993; CSES 1997; CSES 2004.
Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

The components of urban inequality

The previous section discussed the changes in inequality during 1993-2004. This section explores the current state of urban inequality. A symmetric approach to rural inequality is used to analyze this question by dividing urban households into four quartile groups. Urban households are ranked by their household consumption within an urban-only distribution. The poorest quartile group comprises households from the 1st percentile through the 25th percentile and the second quartile group consists of households from the 26th percentile through the median. The third quartile group consists of households from the 51st percentile through the 75th percentile. The fourth and richest quartile group contains households from the 76th percentile through the 100th percentile.

The disparities among the rich contributed the most to inequality: gaps among the rest also contributed, albeit modestly

Table 3.2 presents the inequality measures of Gini coefficients for each of the quartile groups in years 1993, 1997 and 2004. As in rural areas, inequality in the richest quartile group was the highest in all three survey years. However, contrary to rural areas in which there was practically *equality* in the two middle rural quartiles, there was modest inequality in the two middle urban quartiles throughout these 11 years. Also in contrast to rural richest quartile, inequality within the urban richest quartile fell over time. The Gini coefficients for the urban richest quartile group were 0.33 in 1993 and 0.35 in 1997, but fell to 0.25 in 2004. In a similar manner to the rural poorest quartile group, inequality was modest within the group, and remained essentially unchanged throughout the decade.

Table 3.2 Gini coefficients of real household consumption by quartile groups, 1993, 1997 and 2004

Urban households in comparable sub-samples	1993	1997	2004
Quartile group 1: 1st - 25th percentiles	0.156	0.150	0.162
Quartile group 2: 26th percentile through median	0.087	0.068	0.103
Quartile group 3: 51st – 75th percentiles	0.090	0.075	0.091
Quartile group 4: 76th – 100th percentiles	0.332	0.345	0.247
Total	0.465	0.433	0.432

Source: SESC 1993; CSES 1997; CSES 2004.
Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

The drastic fall in inequality among the rich, and a negligible narrowing gap between rich and poor, lowered urban inequality

Table 3.3 presents a decomposition of urban inequality using the Theil Index. Total urban inequality is decomposed into within-quartile inequality for each of the four quartiles and between-quartile inequality *across* the four quartiles. For example, in 1993, of the total 0.449 points, between-quartile inequality contributed 0.289 points (64 percent) and within-inequality of the richest quartile contributed 0.153 points (36 percent). Table 3.3 reveals three findings:

- As in rural areas, within-quartile inequality was insignificant among the bottom three quartile groups (i.e., between the 1st percentile and the 75th percentile): their joint contribution to total urban inequality is essentially zero.
- In contrast to rural experiences, however, inequality within the richest quartile group became relatively less important over time. Its contribution to total urban inequality fell from 34 percent in 1993 to 22 percent in 2004.
- As in rural areas, between-quartile inequality remained the largest share in total urban inequality.

These results, as summarized in Figure 3.2, suggest that the gap between the rich and the poor groups (i.e., between-quartile inequality) is one of the two determinants of urban inequality. This gap is narrowing only negligibly and gradually over time.

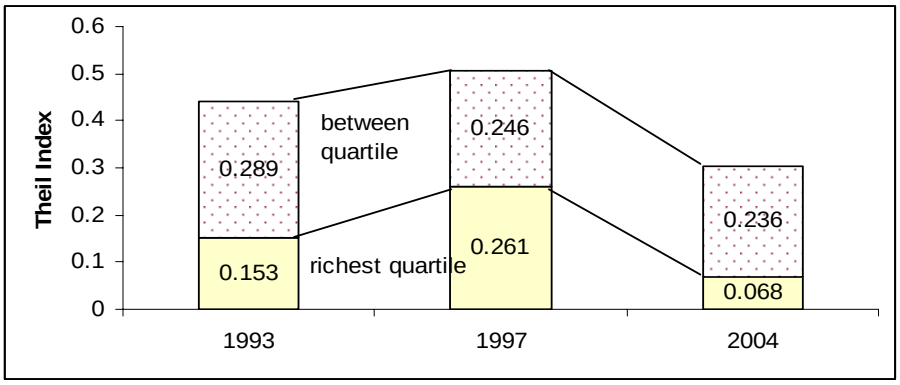
The other determinant of urban inequality is the inequality within the richest quartile group. This within-richest-quartile inequality fell drastically, especially during 1997-2004. This reversal of inequality among the richest during a period of high growth is an empirical puzzle which needs further research, beyond the scope of this report. Some potential explanations include (i) the classic case of truncation, i.e., the rich may not accurately reveal their full income and wealth information even if they are sampled in the survey; (ii) the measurement of welfare (consumption aggregate) can be sensitive to the imputation of services from durable goods. Consumption aggregates are originally computed to arrive at a basket of basic needs which are pertinent primarily to the patterns of livelihood of the bottom half of the population. Thus, consumption aggregates for the richest quartile may not be a true reflection of their consumption, wealth or welfare; (iii) there may be a divergence between income and consumption. Increasing inequality in income in the richest quartile and a falling inequality in consumption may be due to increased savings. The divergent trends are consistent with each other, provided that the rich are increasing savings and investments.

Table 3.3 Theil Indices: a decomposition of within-quartile and between-quartile inequality of household consumption, 1993, 1997 and 2004

Urban households in comparable sub-samples	1993	1997	2004
Quartile group 1: 1st - 25th percentiles	0.003	0.003	0.003
Quartile group 2: 26th percentile through median	0.001	0.001	0.002
Quartile group 3: 51st – 75th percentiles	0.003	0.002	0.003
Quartile group 4: 76th – 100th percentiles	0.153	0.261	0.068
Between Quartiles	0.289	0.246	0.236
Total Theil Index	0.449	0.513	0.312
Inequality in the Richest Quartile Group 4 as a % of Total **Urban** Inequality	34	51	22
Between Quartile Inequality as a % of Total **Urban** Inequality	64	48	76

Source: SESC 1993; CSES 1997; CSES 2004.
Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

Figure 3.2 A decomposition of Urban Theil Indices



Source: SESC 1993; CSES 1997; CSES 2004.
Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

Why did urban inequality remain higher than rural inequality?

The previous section shows that, as in rural areas, urban inequality is due to two components: between-quartile inequality, or the disparity between rich and poor; and inequality within the richest quartile. However, the evolution of these two components in urban areas differed from that in rural areas. This section examines why urban inequality remained significantly higher than rural inequality.

Urban inequality is higher due to a larger disparity between rich and poor

As a first, descriptive cut on the issue, Table 3.4 presents the mean per capita consumption levels of the poorest and richest quartile groups, in urban and rural areas, separately. The ratio of richest quartile's mean consumption to that of the poorest was about 7 in urban areas. This ratio increased from 3.2 to 4.4 times in rural areas, between

1993 and 2004. Thus, the rich-poor gap in urban areas is almost twice of that in rural areas. The following section, with additional analyses, shows that this disparity is a result of differentials in human capital and the greater diversity of opportunities in urban areas.

Table 3.4 Mean consumptions of richest and poorest quartiles, 1993, 1997 and 2004

Urban Areas	1993	1997	2004
mean consumption of poorest quartile	1,113	1,201	1,472
mean consumption of richest quartile	7,953	7,479	10,011
Ratio of consumption between richest and poorest quartile	7.1	6.2	6.8
Rural Areas	**1993**	**1,997**	**2004**
mean consumption of poorest quartile	987	843	1,041
mean consumption of richest quartile	3,198	3,570	4,534
Ratio of consumption between richest and poorest quartile	3.2	4.2	4.4

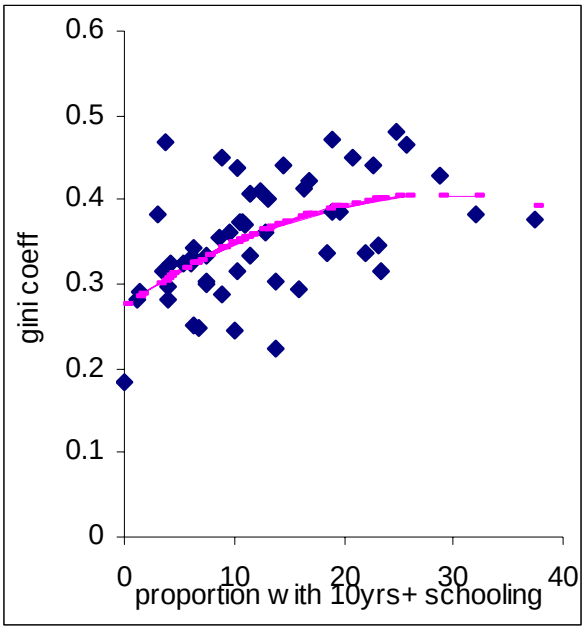
Source: SESC 1993; CSES 1997; CSES 2004.
Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

Urban inequality is higher because of greater human capital stock

Drawing from insights in Chapter 2, this section will examine whether education has a role in increasing the income or consumption gap between the rich and poor in urban areas.

The rural and urban samples of 1997 and 2004 have been pooled to examine the relationship between the education stock as measured by the population shares with at least 10 years of schooling and inequality. Figure 3.3 plots the proportion of provincial populations with at least 10 years of schooling on the x-axis and provincial Gini coefficient on the y-axis. The graph shows that there is a statistically significant quadratic relationship between inequality and education stock (in the population). The quadratic relationship suggests that inequality tends to rise as the economy is starting to accumulate education stock (human capital), as increasing proportions of households acquired higher education. This rising inequality is due to the increasing gap between those with human capital and those without. However, once the economy reaches a level at which it has a sufficiently high stock of human capital, inequality begins to taper off and starts to fall with any additional investments or increase in the proportion of the population that is educated. This unchanged or falling inequality is due to the closing gap between mean years of schooling or differential human capital in the population. In Cambodia the level of human capital is still relatively low, and increments of education stock would likely drive up inequality. In particular, urban areas have a larger stock of human capital or higher mean years of schooling than rural areas.

Figure 3.3 The relationship of inequality and education stock



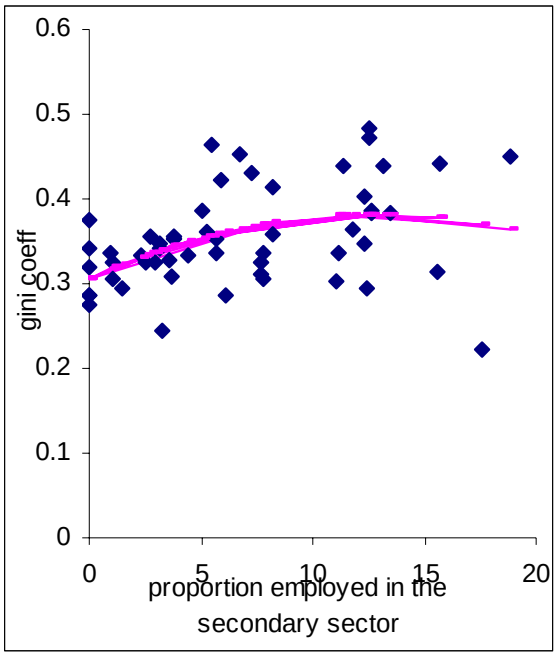
Source: SESC 1993; CSES 1997; CSES 2004.
Note: comparable samples refer to sub-samples from the identical (1993) sampling frame for each survey year.

Urban inequality is higher because of a more diverse economy

Also drawing from findings in Chapter 2 on rural areas, this section investigates whether a more diverse economy with a larger set of productive opportunities is affecting urban inequality, using population shares (by provinces) employed in the secondary sector (i.e. manufacturing and construction) as a measure of the extent of diversity of economic opportunities. Figure 3.4, based on pooled provincial data from 1997 and 2004, plots the population shares employed in the secondary sector on the x-axis and provincial inequality measured by Gini coefficient on the y-axis. There is a statistically significant quadratic relationship between inequality and diversity of economy. As the economy is starting to diversify, inequality tends to rise. Inequality continues to rise as the economy is diversifying—a consequence of some people getting richer sooner as a result of their participation in the modern sector of the economy—but inequality tapers off as structural transformation takes hold and gains are spread more widely in the economy.

The next section analyzes in greater depth and rigor this structural transformation in urban areas in Cambodia. It is argued that urban Cambodia has reached a level of diversity in its economic activities at which urban inequality has started to taper off. The observed fall in urban inequality is a result of the structural transformation, from an agrarian to a manufacturing- and services-based economy, driven by growth in the garment sector, construction, and tourism.

Figure 3.4 The relationship of inequality and population shares in the secondary sector (i.e., manufacturing, construction)



Source: SESC 1993; CSES 1997; CSES 2004.
Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

How did transformation of the urban economy influence inequality?

Cambodia, with approximately US$450 per capita income, is one of the poorest countries in the world. At this stage of development, its economy is moving along the path of diversification from subsistence agriculture. This transformation implies that the economy should be taking advantage of its abundant factor. Export-led growth in labor intensive sectors was the hallmark of early East Asian experiences that lifted many of Cambodia's neighbors from low to middle income status. As employment and value-added spread throughout the economy, it is anticipated that inequality falls (see Gill and Kharas 2006 on the East Asian experience over recent decades).

As is well-documented, garment manufacturing and tourism services are concentrated in urban areas, and both sectors, driving Cambodia's growth in the last decade, are intensive in unskilled labor. This section will investigate whether some structural transformation has taken place in Cambodian urban areas, similar to the experiences of other East Asian countries in their early stages of development, through promotion of unskilled labor-intensive sectors.

Wage employees: employment in hotel, restaurant, and personal services increased 3-fold

This section assesses the extent of structural transformation that has taken place in urban areas. Inequality of real wages (as measured by the Gini coefficients) in urban areas fell from of 0.456 to 0.415 between 1997 and 2004. During this period, real wages rose by 63 percent and the share of female workers in the labor force went up. The proportion of paid employees in hotel and restaurant and in social, community and personal services rose about three-fold (from 1.2 percent to 3.9 percent, and from 6.6 percent to 17 percent, respectively). The proportion of wage workers in agriculture about doubled while that in the civil service declined. Those in construction and manufacturing remained stable. The proportion of workers with tertiary education (i.e., class 12 or above) increased from 15 to 23 percent during these years (Table 3.5).

Table 3.5 Summary statistics of paid employees in urban areas, 1997 and 2004

	1997	2004
Gini Coefficient	0.456	0.415
Real monthly wage (Riel)	114,310	188,231
Male (%)	72.5	60.7
Industry during the past 7 days (%)		
Agriculture, hunting and forestry; Fishing	3.2	5.8
Mining and quarrying; Manufacturing; Electricity, gas, and water supply	12.6	17.8
Construction	8.9	9.2
Wholesale and retail trade; repair of motor vehicles, motorcycle and personal and household goods	5.1	3.4
Hotels and restaurants	1.2	3.9
Transport, storage and communications	7.2	3.1
Financial intermediation	2.8	0.8
Real estate, renting and business activities	1.1	0.7
Public administration and defense; compulsory social security	34.8	22.8
Education	8.1	9.9
Health	2.3	2.2
Other community, social and personal service activities	6.6	17.2
Extra-territorial organization and bodies	2.2	3.1
Highest grade level successfully completed (%)		
Class 3 or below	13.7	16.4
Class 4-6	17.4	18.6
Class 7-9	30.5	26.0
Class 10-12	23.8	16.3
Class 12 or above	14.6	22.7
Number of observations	1,425	3,267

Source: SESC 1993; CSES 1997; CSES 2004.
Note: Only comparable samples from the identical (1993) sampling frame are used for each survey.

Many moved from agriculture to higher value-added modern sectors

Regression results are presented in Annex 2. Table 3.6 summarized the main and year effects of education and industry from the decomposition of equation (7) in that

analysis. Details of the specific industry's effect can be found in the Annex. The results suggest that a significant portion of wage variation between 1997 and 2004 can be attributed to education and industry effects. The changes in returns to schooling attainment explain as much as 43 percent of wage variation. The changing composition of industry—as the labor force reshuffled from low productivity sector to higher value-added sectors—combined with the changing industry premium account for 22 percent of wage variation. These results suggest that a structural transformation has taken place in urban areas as employment in manufacturing and services absorbed a larger segment of the labor force; a significant number have also shifted from self-employment in (lower productivity) agriculture to be paid employees in higher value-added secondary or tertiary sectors.

Table 3.6 Effects of education and industry on wage differences between 1997 and 2004 for urban employees

	Main effects (changes in the stock of schooling attainment or composition of industry)	Year effects (changes in returns to schooling or in industry premia)	Total effects
education	**0.40%**	**43.1%**	**43.5%**
industry	**15.2%**	**6.9%**	**22.1%**

Source: CSES 1997; CSES 2004.

Thus the story of industrial and service sector growth in Phnom Penh and other urban areas to date appears to have tracked that of the East Asian miracle countries in their early stages of development. Because of the phenomenal growth in garment manufacturing, construction and tourism services, notably labor intensive sectors, in Cambodia's urban hubs, workers and especially the unskilled in the lower end of the distribution have benefited disproportionately. The country's general economic reform strategy, which includes globalization or opening up of the economy to trade and foreign direct investment, has transformed the livelihood opportunities of the urban population.

Returns to education reflect the relative supply and demand of skills

The effects or benefits of reform's consequential transformation of the urban economy are shown in Table 3.7. As recently as in 1997, the rate of return to schooling was flat across all levels of schooling among wage workers: returns to secondary and tertiary different rates of returns to schooling were distinguishable across categories. Workers with tertiary education experienced significantly higher returns than their secondary educated compatriots, who in turn gained significantly higher returns than their primary educated fellow countrymen.

The successively higher returns for higher levels of schooling observed in Cambodia in 2004 were consistent with the stylized facts of functioning labor markets in other developing countries. The Cambodian Government's economic reforms freed up market

forces that promote efficient reallocation of resources. Workers in 2004 could self-select through into jobs that value their particular comparative advantage (attributes, skills, etc). The higher returns to greater skills in Cambodia reflects increased demand for skills from globalization and technology, as in other open economies. Because paid employees only constituted half of the labor force, the results may not be representative of the reality in urban areas. Using household consumption as proxy for income for all urban households reveals very similar results (see Annex for details).

Table 3.7 Rates of return to various levels of schooling, 1997 and 2004

Highest grade level successfully completed (reference group: Class 3 or below)	1997	2004
Class 4-6	0.196	0.166
	(0.080)**	(0.050)***
Class 7-9	0.009	0.195
	(0.070)	(0.040)***
Class 10-12	-0.091	0.341
	(0.070)	(0.050)***
Class 12 or above	-0.079	0.473
	(0.080)	(0.050)***

Source: SESC 1993; CSES 1997; CSES 2004.
Note: These coefficients are obtained from running a standard Mincerian wage regression with dependant variable as logarithm of real wages, and other explanatory variables include age, gender, marital status (see details in ANNEX); standard error in parentheses; *** denotes significant at the 1% level; ** denotes significant at the 5% level;