

Study on the Basic Cost of Living and the Poverty Line June 2014

1. Statement of the problem

Oxfam has been addressing the issue of local poverty through research, policy advocacy, public education programmes and grants for local community projects since 1994. Oxfam was active in calling for the re-establishment of the Commission on Poverty (CoP). It has also asked the Government to formulate concrete poverty-alleviation policies and measures to tackle the structural problems of poverty in Hong Kong since 2004. After years of concerted efforts by Oxfam and other organisations, in 2013 the Government announced it would develop an official poverty line in the Policy Address, demonstrating its commitment to poverty. The CoP announced Hong Kong's first official poverty line at the Poverty Summit on 28 September 2013. The official poverty line is set at 50 per cent of the median household income by household size and is based on the concept of relative poverty. This is in line with Oxfam's policy recommendation.

The official poverty line is easily measurable and simple for the public to understand. Yet, it is at best a rough threshold for measuring the population at risk of poverty. Some organisations and scholars have questioned the poverty line for its lack of theoretical basis and public consensus. The Government claims that it has adopted international standards in developing the official poverty line, but international poverty thresholds vary. The Organisation for Economic Co-operation and Development sets the poverty line at 50 per cent of the median household income while the European Union sets the threshold at 60 per cent.

Doubts have also been raised about how accurately the results of this methodology reflect poverty in Hong Kong. The official income-based poverty line may distort the size of poor one- and two-person households since elderly households which do not receive monthly incomes are also included in the measurement. This would result in a lower poverty threshold in both household sizes. In addition, the poverty line does not take household expenditure into account. Thus, it is unable to determine the number of families which cannot meet a minimum standard of living in Hong Kong.

To check the accuracy of the official poverty line, Oxfam conducted a study to develop a

(www.povertyrelief.gov.hk/pdf/2012 Poverty Situation Chi.pdf) (Chinese version)

Oxfam. 8 March 2004. Position paper on poverty alleviation measures to the Legislative Council panel on welfare services. (www.legco.gov.hk/yr03-04/chinese/panels/ws/papers/ws0308cb2-1609-10c-scan.pdf) (Chinese version only)

² C.Y. Leung. 18 January 2013. 2013 Policy Address: Seek Change Maintain Stability Serve the People with Pragmatism (Paragraph 95). (www.policyaddress.gov.hk/2013/chi/p95.html)

³ Hong Kong Poverty Situation Report 2012.

poverty threshold based on food budgets from October 2013 to February 2014, referencing methodology that the United States uses. By determining the costs required to ensure a nutritious diet for different demographic groups, the study has established a poverty line that is based on consumption. The 2013 poverty line ⁴ can now be compared to the absolute poverty thresholds in this study to assess its accuracy.

By establishing this consumption-based poverty line, Oxfam hopes to help the Government measure the size of the poor population in Hong Kong more accurately. Only by fostering a better understanding of the characteristics of people living in poverty can the Government analyse the situation, formulate appropriate policies, and assess their effectiveness.

2. Literature review

There has been heated debate over how poverty should be defined. One question is whether poverty is absolute or relative in nature. Relative poverty describes an individual's or group's wealth relative to another. It is often expressed as a percentage of the population with an income less than a fixed proportion of the median income. Relative poverty applies in the case of Hong Kong's poverty line, which has been set at 50 per cent of the median household income.

On the other hand, absolute poverty is defined as the absence of the means to satisfy a bundle of basic needs. The budget standards method is one major approach used for measuring absolute poverty. Under this approach, a researcher defines a basket of necessary daily items, such as food, housing, clothes, fuel and social activities, then conducts a price check for them and draws up a minimum weekly budget. People whose household incomes fall below the standard budget are considered to be poor. Nonetheless, it is difficult to define what non-food items are necessities and there is no public consensus on this. Disagreements may arise over the items selected.

Indeed, both approaches have strengths and limitations. Some scholars have attempted to develop integrated approaches to measure poverty in alternative ways. Mollie Orshansky, an economist from the US, took part in setting the country's official poverty line in 1963. She recognised a major limitation in the budget standards approach: that it is difficult to arrive at a public consensus on what non-food items to include. Only food items are generally accepted as essential. People who are unable to purchase enough food items to meet basic nutritional requirements are considered to be poor.

Thus, Orshansky decided to forgo the budget standards approach to develop the poverty line. She calculated only the minimum cost for food, then referenced Engel's Law to

⁴ The 2013 poverty line as described here is not an official government poverty line. For this study, Oxfam requested median incomes by household size for 2013 from the Census and Statistics Department and then devised a 2013 poverty line from those figures. These statistics may differ from the official 2013 poverty line.

⁵ Mollie Orshansky described her approach as a way to measure the "relatively absolute" poverty. See Orshansky, M., "Commentary: The Poverty Measure", *Social Security Bulletin*, Vol. 51, No. 10, October (1988), p. 23 (http://www.ssa.gov/policy/docs/ssb/v51n10/v51n10p22.pdf).

estimate the basic cost of living per household (i.e. the poverty line).⁶

Orshansky established the first poverty thresholds in the US using the following procedures:⁷

- (a) First, she designed a seven-day food menu which includes not only sufficient calorific content, but also sufficient variety to meet recommended nutritional goals.
- (b) Using the 1962 Economy Food Plan created by the US Department of Agriculture (USDA), Orshansky calculated the average minimum cost for 19 different demographic groups.⁸
- (c) Next, she made use of the results obtained in (b) to estimate the minimum weekly food costs for households of different sizes (from one person to seven people or more).⁹
- (d) Engel's Law was applied to estimate the basic costs for households of different sizes on a weekly basis. A further statistical analysis was conducted based on the USDA's 1955 survey of food consumption of households. The average proportion of income spent on food for all households in a week (including meals at home and outside dining) was 33 per cent. The cost of non-food items was estimated by inverting the average food cost. This is called a multiplier. The weekly household cost was three times the minimum food cost (100/33).
- (e) Since 1963, the US has been using Orshansky's approach in estimating the number of households living in poverty. Poverty alleviation measures were also implemented to guarantee a basic standard of living for all households. The poverty thresholds are adjusted annually according to the consumer price index, with 1963 serving as the base year for adjustment.¹¹

⁶ German statistician Ernst Engel compared the expenditure patterns of families at different income levels and found that lower-income families spent a higher proportion of their income on food. When household income increases, the proportion of income spent on food decreases. He further stated that the proportion of expenditure used on food is the best measure of the material standard of living of a population.

These 19 groups were: children of both genders (5 groups): aged below 1, 1-3, 4-6, 7-9 and 10-12; girls (2 groups): aged 13-15 and 16-19; boys (2 groups): aged 13-15 and 16-19; women (6 groups): aged 20-34, 35-54, 55-74, 75 or above, pregnant and breast-feeding women; men (4 groups): aged 20-34, 35-54, 55-74 and 75 or above.

The approach for estimating the weekly minimum food costs for households of different sizes is as follows: In total, 124 household combinations were made based on 4 variables, namely household size, farm or non-farm family, whether the head of family was male or female, and the number of children in the family. Seven groups were divided according to household size (from one person to seven or more people). Minimum food costs for the 124 combinations were calculated, and then they were adjusted according to the respective weightings of each combination to arrive at weekly minimum food costs for different household sizes.

¹⁰ According to 1955 survey of food consumption of households conducted by the United States Department of Agriculture, households comprising three people or more spent 33 per cent of their income on average on food (including meals at home and dining out). That figure was lower for one- and two-person households. Nonetheless, Orshansky adopted the 33 per cent proportion for all households in the US for simplicity and administrative reasons.

11 Taking a four-person, non-farm household as an example, the poverty line in 1963 was US\$3,128 per year.

⁷ See Orshansky, M., "Counting the Poor: Another Look at the Poverty Profile", *Social Security Bulletin*, Vol. 28, No. 1, January (1965), pp. 3-29 (http://www.ssa.gov/policy/docs/ssb/v28n1/v28n1p3.pdf); Fisher, Gordon M., "The Development and History of the Poverty Thresholds", *Social Security Bulletin*. Vol. 55, No. 4 (1992), pp. 3-14 (http://www.ssa.gov/history/fisheronpoverty.html); United States Department of Agriculture, "Family Food Plans and Food Costs", *Home Economics Research Report No. 20*, November (1962) (http://aspe.hhs.gov/poverty/familyfoodplan.pdf).

3. Research methodology

By referencing the US approach to setting the poverty line, this study attempts to develop absolute poverty thresholds based on food plans at minimum cost. Three steps were taken in this study:

- (a) Nutritionally balanced menus for people of different ages were designed through consultations with registered nutritionists, questionnaire surveys and small-group interviews.
- (b) The lowest average prices available for the foods in these menus were determined.
- (c) Based on information from the Census and Statistics Department, the overall basic cost of living for households of different sizes was determined, and based on these figures, a poverty line which is the subject of this study– was created.

Detailed procedures are as follows:

3.1 Developing daily nutritional guidelines for different age groups

Advice was sought from registered dietitians at the United Christian Nethersole Community Health Service to determine nutritional guidelines for five age groups, namely children aged two to six, children aged six to 12, youths aged 12 to 18, adults aged 18 to 60 and elderly people aged 60 or above. As shown in Table 1 below, the nutritional guidelines indicate the amount of grains and cereals, fruit and vegetables, meat, poultry, fish, dry beans and dairy products that an individual should consume per day. Based on the daily recommended nutritional intake, a seven-day food menu was designed for the five groups mentioned above.

Table 1: Daily nutritional guidelines for different age groups

	Infants (2-6)	Children (6-12)	Youths (12-18)	Adults (15-59)	Elderly (60 or above)
Grains and cereals	1.5 – 3 bowls of rice; or 2.5 – 5 bowls of macaroni; or 4 – 8 slices of bread	1.5 – 4 bowls of rice; or 2.5 – 7 bowls of macaroni; or 4 – 10 slices of bread	rice; or 5 – 10	3 – 6 bowls of rice; or 5 – 10 bowls of macaroni; or 8 – 15 slices of bread	3 – 4 bowls of rice; or 5 – 7 bowls of macaroni; or 8 – 10 slices of bread
Vegetables	2 – 6 catty	4 – 6 catty	6 – 8 catty	6 – 8 catty	6 – 8 catty
Fruit	1 portion	1 – 2 portions	2 portions	2 – 3 portions	2 – 3 portions
Meat, fish, dry beans and eggs	1.5 – 3 taels	3 – 5 taels	5 – 6 taels	5 – 6 taels	4 – 5 taels
Dairy products	2 portions	2 portions	2 portions	1 – 2 portions	1 – 2 portions
Oil, salts and	Eat less (no recommended intake as many dishes and foods contain oil, salt and sugar)				
sugar					

Sources: Advice sought from registered dietitians; the StartSmart@school.hk campaign (http://www.startsmart.gov.hk/en); Centre for Nutrition Policy and Promotion, United States Department of Agriculture (www.cnpp.usad.gov).

3.2 Understanding food consumption in low-income families and designing a seven-day food menu

Table 3.1 only states the daily recommended nutritional intake without suggesting what concrete food items should be consumed. Therefore, this study explored the food consumption patterns of low-income families through questionnaires and focus group interviews, where respondents were asked about the dishes they often cooked at home and their food purchase patterns. Based on the first-hand data, 27 food items, including fruit and vegetables, meat, poultry and dairy products, biscuits and grains were selected. Seven-day food menus were designed for each of the different age groups according to the nutritional guidelines.

3.3 Price verification for all food items on the menu

Three major channels were used for checking prices from 22 to 28 February 2014: the Census and Statistics Department, ParknShop and Wellcome Supermarket, and wet markets and Kai Po Food Supermarkets nearby. The food prices were obtained from the Census and Statistics Department and two major supermarkets through online research.

The prices of the selected food items were also checked at wet markets and Kai Po Food Supermarkets in six of 18 districts in Hong Kong. Due to resource limitations and in order to take price differences into account, the price-check locations were determined through systematic sampling. We first ranked poverty rates across districts in descending order, then six were selected through systematic sampling. The second, fifth, eighth, 11th, 14th and 17th district on the list were chosen for the price checks, namely Kwun Tong, Yuen Long, Yau Tsim Mong, Tsuen Wan, Tai Po and Central and Western District. Price checks were conducted in the most popular wet markets and Kai Po Food branches close to them in each district. 12

The lowest average cost for every food item was used to calculate the minimum total food costs for the five age groups mentioned above. Table 2 shows the prices for the 27 food items.

Table 2: Minimum average cost of 27 selected food items (February 2014)

Food items	Average price (\$) from Census and Statistics Department (January 2014)	ParknShop/ Wellcome average price(\$) (February 2014)	Wet market/ Kai Po Food Supermarket average price(\$) (February 2014)	Lowest average price(\$) (February 2014)
(1) Rice				
Long grain rice (1 kg)	10.6	10.9	9.5	9.5
(2) Noodles				
Macaroni (454 g)		8.9	8.8	8.8
Rice noodles (454 g)		8.2	7.6	7.6
(3) Meat				
Golden threadfin bream (1 tael)	4.0		2.5	2.5
Grass carp (1 tael)	1.7	2.0	1.9	1.7

¹² The six wet markets include Shui Wo Street Market in Kwun Tong, Mong Kok Market in Yau Tsim Mong, Tai Po Market in Tai Po, Tin Chak (Allmart) Chinese Market in Tin Shui Wai, Yuen Long, Chung On Street Market in Tsuen Wan, and Shek Tong Tsui Market in Central and Western District.

Food items	Average price (\$) from Census and Statistics Department (January 2014)	ParknShop/ Wellcome average price(\$) (February 2014)	Wet market/ Kai Po Food Supermarket average price(\$) (February 2014)	Lowest average price(\$) (February 2014)
Fresh lean pork meat (1	40.0	35.0	34.2	34.2
catty)				
Fresh pork ribs (1 catty)		40.5	39.5	39.5
Frozen chicken wings (1 lb)		23.3	18.5	18.5
Ham (1 piece)		1.4	2.0	1.4
(4) Fresh vegetables				
Chinese white cabbage (1 catty)	-	-	11.8	11.8
Choy sum (1 catty)	11.1	18.9	11.4	11.1
Chinese lettuce (1 catty)	9.6	-	6.2	6.2
Broccoli (1 catty)	-	-	9.8	9.8
Eggplant (1 catty)	-	-	8.8	8.8
Chinese long beans (1 catty)	-	-	15.9	15.9
Tomatoes (1 catty)	10.1	6.0	9.1	6.0
(5) Fresh fruit				
Oranges (1 piece)	4.1	4.2	3.0	3.0
Apples (1 piece)	3.8	3.9	3.6	3.6
(6) Bread				
White bread (8 slices)		12.2	8.5	8.5
Raisin bread (1 piece)			4.7	4.7
(7) Grains & dairy products				
Instant oatmeal (1000 g)		20.6	20.1	20.1
Low-fat milk (1000 ml)		18.4	-	18.4
Fortified soy milk (1000 ml)		10.9	-	10.9
(8) Biscuits				
Crackers (100 g)		4.4	8.4	4.4
Soda crackers (100 g)		5.0	5.3	5.0
(9) Others				
Eggs (1 piece)	1.6	1.2	1.0	1.0
Chinese mushrooms (1 tael)			3.0	3.0

3.4 Minimum monthly food costs for a nutritious diet by age group

Based on the recommended daily values shown in Table 1, seven-day food menus which guarantee nutritious diets were designed. Then, the **minimum monthly cost of food for the five age groups** was calculated with reference to the price data in Table 2 (please refer to Table 3). However, to align these with the age groups in the Government's 2011 Population Census (children aged 15 or below, adults aged 15 to 64, and elderly people aged 65 or above), this study has recategorised the five age groups into three. Infants and children have been recategorised as "children", and the cost of food for them has been obtained by taking the average for each of those groups. By the same token, youths and

adults were combined to form an "adult" group, and the food cost has been calculated by taking the average of their two costs. The "elderly" group remains unchanged (see Table 3).

Table 3: Minimum monthly food costs for 5 age groups (outside dining spending excluded)

	Infants (age 2-6)	Children (age 6-12)	Youth (age 12-18)	Adults (age 18-60)	Elderly (age 60 or above)
Minimum monthly food expenditure (\$)	1,002	1,202	1,626	1,638	1,025
(7)	_	hildren ge 2-12)		Adults e 12-60)	Elderly (age 60 or above)
Minimum monthly food cost (\$)		1,102		1,632	1,025

3.5 Minimum monthly food cost by household size

Typical combinations that make up households of different sizes and their respective weightings were estimated based on statistics obtained from the 2011 census. ¹³ (For example, elderly households constitute 30 per cent of all one-person households in Hong Kong. The remaining 70 per cent are non-elderly adult households. Two-adult households constitute 70 per cent of two-person households. The remaining 30 per cent comprise elderly members.) The minimum monthly food costs for each household size (one- to five-person) were then calculated based on the weightings of different household combinations (see the second column of Table 4). There are two important points to note:

- (a) There are two major kinds of one-person household: those with one adult below 60 and those with one elderly person. By contrast to the below-60 group, many of whom frequently engage in physical activity due to work, retired elderly people consume fewer calories and smaller portions. For this reason, this study suggests that the basic costs for these two kinds of one-person household should be analysed separately.
- (b) The minimum food costs for different age groups have been calculated based on the nutritional guidelines. They do not take into account the fact that food cost per person decreases in larger households because of bulk purchases. In this regard, an adjustment in the food cost is needed to reflect the real picture (see the third column of Table 4).¹⁴

13 Census and Statistics Department. 2011 Population Census (www.census2011.gov.hk/pdf/main-report-volume-l.pdf) and Thematic

Census. Main Report: Vol. ematic Report: Older Pers

Persons

(www.census2011.gov.hk/pdf/older-persons.pdf).

The adjustment was conducted as follows: No adjustment was needed for the one-person household food cost since no resources can be shared among other household members. For households comprising two to five people, an adjustment was made based on the per capita food expenditure of the lowest quartile by income from the "Household Expenditure Survey and the Rebasing of the Consumer Price Indices 2009/10" by Census and Statistics Department (www.statistics.gov.hk/pub/B10600082010XXXXB0100.pdf). Households with two, three, four and five

Table 4: Minimum monthly food cost by household size (after adjustment)

Household size	Minimum monthly food cost according to nutritional guidelines (\$)	Adjusted minimum monthly food cost (\$)
1	(Adult) 1,632	(Adult) 1,632
	(Elderly) 1,025	(Elderly) 1,025
2	2,991	2,483
3	4,474	3,490
4	6,104	4,334
5	7,416	4,672

3.6 Basic cost of living per month by household size

The minimum spending required to maintain a nutritious diet for households of different sizes is shown in section 3.5. Next, the study used the Census and Statistics Department's "2009/2010 Household Expenditure Survey and the Rebasing of the Consumer Price Indices" to estimate the basic cost of living per month for households of different sizes (i.e. the poverty line). The results are as follows:

- (a) Two- to five-person households spend approximately 27.5 per cent of their monthly income on food. ¹⁵ In other words, the basic cost of living for such households would be 3.64 times their monthly food expenditure (100/27.5).
- (b) As for one-person households, since there are no other family members to share the living expenses (e.g. food, rent) this study estimates their monthly spending patterns separately from two- to five-person households. The household expenditure survey states that on average, one-person households spend 22.3 per cent of their monthly income on food. In other words, the basic cost of living for a one-person household would be 4.5 times the monthly food expenditure (100/22.3).

Table 5: Basic cost of living per month (poverty line) by household size

Household size	Minimum monthly food costs (\$)(A)	Basic cost of living per month (\$) (B)
1	(Adults) 1,632	(Adults) 7,344 【(A) x 4.5】
	(Elderly) 1,025	(Elderly) 4,613【(A) x 4.5】
2	2,483	9,083 【(A) x 3.64】
3	3,490	12,704 【(A) x 3.64】
4	4,334	15,776 【(A) x 3.64】
5	4,672	17,006 【(A) x 3.64】

4. Research findings

Table 5 shows the basic cost of living per month for households of different sizes. These

members spend 0.83, 0.78, 0.71 and 0.63 times more on food per capita than one-person households, respectively.

¹⁵ *Ibid.* Food accounts for 26.2, 29.1, 28.6 and 27.5 per cent of monthly expenditure for households comprising two, three, four and five members, respectively, and 27.5 per cent on average for all these households taken together.

values form consumption-based poverty thresholds which can be used to estimate the number of households that fail to meet a minimum standard of living in Hong Kong.

The consumption-based poverty thresholds for one-person households comprising adults below 60 on the one hand and elderly people on the other exceed the 2013 poverty line by 93.3 and 21.4 per cent respectively. The poverty threshold for two-person households is higher than the 2013 poverty line by 6.9 per cent. For three-to five-person households, the thresholds are slightly higher than the 2013 poverty line, by up to 3.1 per cent. Detailed results are shown in Table 6.

Table 6: Comparison between the basic-cost-of living poverty line and the 2013 poverty line

Household size	Poverty line derived from the basic cost of living (\$)(A)	2013 poverty line (\$)(B)	Difference (%) (A)-(B)/(B)
1	(Adults) 7,344	3,800	93.3
	(Elderly) 4,613	3,800	21.4
2	9,083	8,500	6.9
3	12,704	12,700	0.0
4	15,776	15,550	1.5
5	17,006	16,500	3.1

5. Analysis and conclusion

Oxfam started calling for the establishment of a fair poverty line in Hong Kong in 2005. On 28 September 2013, the CoP adopted the organisation's policy recommendation and announced Hong Kong's first official poverty line based on the concept of relative poverty, setting the threshold at 50 per cent of the median household income. Yet, scholars and the public have questioned the accuracy of the poverty diagnosis produced using this threshold.

This study attempts to establish alternative poverty thresholds by referencing the approach the US used, identifying the minimum cost of food per month to ensure a nutritious diet and estimating the monthly household income needed to maintain a minimum standard of living in Hong Kong. It is a tool to assess the accuracy of the 2013 poverty line.

The consumption-based poverty line reflects the minimum monthly costs required for households of different sizes to maintain a nutritious and healthy diet and buy non-food items. The study finds that the 2013 poverty line has seriously underestimated the number of poor one- and two-person households. For poor households of three persons or more, the study's findings align with the 2013 estimation.

Oxfam, the Hong Kong Social Security Society and the Alliance concerning CSSA. 14 January 2005. Position paper submitted to the Legislative Council subcommittee to study the subject of combating poverty. LC Paper No. CB(2) 869/04-05(02)

^{(&}lt;u>www.legco.gov.hk/yr04-05/chinese/hc/sub_com/hs51/papers/hs510114cb2-632-02-c.pdf</u>) (Chinese version only).

There are two major reasons behind the underestimation. First, the official poverty line adopts an income-based approach without considering household consumption patterns. Since elderly households without monthly incomes are included in both one- and two-person households, the median household incomes for these groups are suppressed. Secondly, when looking at consumption patterns, the major living expenses in one-person households (such as food and rent), cannot be shared among other household members. Thus one-person households have a greater per capita expenditure than larger households.

This study looks into the general expenditure patterns of households instead of income. Therefore, this study reflects more accurately the size of the poor population, and the number of households which fail to meet the minimum standard of living in Hong Kong. Last but not least, Oxfam hopes the study can assist the Government in measuring the poor population more accurately and formulating poverty alleviation policies.

Appendix 1: Minimum cost of food per month by household size and combination

Household	Household	Weighting	Weighting	Monthly food	
size	combinations		("others"	expenditure	
			excluded)	(\$)	
1	1 adult	0.70	0.70	1,632	
	1 elderly	0.30	0.30	1,025	
	Avera	ge food cost for	1-person household	1,450	
2	2 adults	0.66	0.69	3,264	
	1 adult, 1 elderly	0.16	0.17	2,658	
	2 elderly	0.13	0.14	2,051	
	Others	0.05			
	Avera	ge food cost for	2-person household	2,991	
3	3 adults	0.44	0.44	4,896	
	2 adults, 1 child	0.28	0.28	4,366	
	1 adult, 2 elderly	0.10	0.10	3,683	
	2 adults, 1 elderly	0.17	0.17	4,290	
	Others	0.01			
	Avera	ge food cost for	3-person household	4,474	
4	4 adults	0.37	0.39	6,529	
	3 adults, 1 child	0.27	0.29	5,999	
	2 adults, 2 children	0.16	0.17	5,469	
	3 adults, 1 elderly	0.14	0.15	5,923	
	Others	0.06			
	Average food cost for 4-person household 6,104				
5	5 adults	0.14	0.15	8,161	
	4 adults, 1 child	0.26	0.27	7,631	
	3 adults, 2 children	0.28	0.29	7,101	
	4 adults, 1 elderly	0.20	0.21	7,554	
	3 adults, 2 elderly	0.07	0.07	6,947	
	Others	0.05			
	Avera	ge food cost for	5-person household	7,416	

^{*}Some totals may not add up due to rounding.