

## Example 2: Consumer Price Index and Weighted Mean

### Worksheet 1: Budget of Expenditure

1. Please fill in the personal expenditure record for each item last week in the table below:

Items	Expenditure record (last week)
transport	
lunch	
snacks	
sporting goods	
entertainment	

(**Note:** The expenditure patterns of individual students are different. The items spent are also different. The above table is for reference only. The expenditure items can be changed.)

Cross-curricular learning: Based on your learning in “Module 1.3 Financial Education” of the “Citizenship, Economics and Society (Secondary 1-3)” curriculum, can you state the advantages of keeping a regular record of our expenditure?

**Answer:** Keeping a regular record of our expenditure helps us understand our spending habits better, so that it is easier to control our spending. For cutting expenditure, we may start with big items that take up a larger portion of our total expenditure and those that are relatively less important.

2. Please fill in your personal expenditure record for the same item this week in the table below:

Item	Expenditure record ( this week)
transport	
lunch	
snacks	
sporting goods	
entertainment	

3. Calculate the week-on-week (%) change of each item expenditure and record your answers in the table below:

Item	Expenditure week-on-week (%) change
transport	
lunch	
snacks	
sporting goods	
entertainment	

4. Calculate your total expenditure week-on-week (%) change.

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5. Find the weights of expenditure item week-on-week (%) change, and use the weighted mean to calculate your total expenditures week-on-week (%) change.

Item	Expenditure (last week)	Expenditure (last week) weights	Expenditure (this week)	Expenditure week-on- week (%) change	Weights of each expenditure item 1 week-on-week (%) change
transport					
lunch					
snacks					
sporting goods					
entertainment					
Total					

**Some reflections...**

When you receive pocket money from your parents and start planning your spending, can you feel the effort your parents put into earning income and appreciate their contribution to the family?

## Worksheet 2: Weighted mean

(Note: According to the current Senior Secondary Economics Curriculum, students only need to measure the general price level with the Consumer Price Index (CPI), and are not required to construct the Consumer Price Index.)

1. What is inflation and what is deflation?

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Cross-curricular learning: Students can watch the following short video to review the basic concepts of inflation learned in the “Citizenship, Economics and Society (Secondary1-3)” curriculum.



EDB Educational Multimedia(EMM):

[https://emm.edcity.hk/media/淺談經濟概念:本地生產總值、失業、通脹/0\\_0swt7sot?st=71&ed=115](https://emm.edcity.hk/media/淺談經濟概念:本地生產總值、失業、通脹/0_0swt7sot?st=71&ed=115)

CPI measures changes over time in the price levels of consumer goods and services generally purchased by households. When CPI's value increases, it reflects the rises of the general price level and the cost of living, and vice versa.

Refer to **“Introduction to the Consumer Price Index”** compiled by the Census and Statistics Department at the following website:

[https://www.censtatd.gov.hk/en/data/stat\\_report/product/B8XX0021/att/B8XX0021.pdf](https://www.censtatd.gov.hk/en/data/stat_report/product/B8XX0021/att/B8XX0021.pdf)

2. Suppose there is a Student A. His expenditure record of transport, snacks, and entertainment this week and last week is as follows:

Item	Expenditure record (last week)	Expenditure record ( this week)
transport	\$80	\$ 100
snacks	\$120	\$ 100
entertainment	\$450	\$ 500

If the expenditure of last week is the base period (100), calculate the expenditure index for each item this week in the table below.

item	Expenditure weights	index
transport (example)	0.0588	$\frac{100}{80} \times 100 = 125$
snacks	0.0882	
entertainment	0.3309	

3. Calculate a weighted expenditure index for the group (transport, snacks, entertainment).

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4. From “**Introduction to the Consumer Price Index**”, try to list two main points about CPI.

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5. Suppose there are only three commodities in the CPI, namely clothing and footwear, transport, and food, and their respective weights (i.e. weighting) and indices are shown in the table below:

Commodity	Weights	Base period index	Index for 2021	Indices for 2022
clothing and footwear	30%	100	110	120
transport	20%	100	105	115
food	50%	100	130	180

Calculate CPI in 2021, CPI in 2022 and year-on-year (%) change (*R*) of CPI.

CPI for 2021 is

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CPI for 2022 is

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Year-on-year (%) change (*R*) of CPI is

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6. According to Census and Statistics Department, please fill in the table below Hong Kong's Composite CPI year-on-year (%) change in the period from 2012 to 2021.

Year	The Composite CPI year-on-year change (%) (Not excluding Government's one-off relief measures)
2012	
2013	
2014	
2015	
2016	
2017	
2018	
2019	
2020	
2021	

Based on the above data, draw a statistical graph about the Composite CPI year-on-year (%) change from 2012 to 2021. Describe the changes of the Composite CPI in this period.

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Cross-curricular learning: Based on the results in the table above, did Hong Kong experience inflation or deflation during the period from 2012 to 2021? How would people's cost of living and the purchasing power of their income be affected?

Answer: Hong Kong experienced inflation during the period from 2012 to 2021, resulting in a rise in people's cost of living, and a decline in the purchasing power of their income.

**Extended question:**

7. Why is the perceived price increase different from the official Consumer Price Index?

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Extended Learning: In 2011, the HKSAR Government issued the first batch of inflation-linked retail bond (iBond) to promote the development of the local retail bond market and provide local people with an alternative investment option to cope with inflation. Subsequently, the Government also issued several batches of iBond on an irregular basis.

For more information on iBond, please visit the following website:

Investor and Financial Education Council website:

<https://www.ifec.org.hk/web/en/investment/investment-products/bonds/ibonds.page>

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