

# REWEIGHT OF CONSUMER PRICE INDEX

RELEASE DATE: 30<sup>th</sup> of August, 2023

## REWEIGHT OF CONSUMER PRICE INDEX

### 1. Introduction

1.1. The Consumer Price Index for Vanuatu has been updated with new weights. It is common practice for National Statistics Offices to periodically update the weights of CPIs so that the indexes reflect contemporary household spending patterns. The CPI for March quarter (1<sup>st</sup> quarter) 2023 is the first quarter in which the new weights have been used. The reweight project has been undertaken by the Vanuatu Bureau of Statistics (VBOS) and the Australian Bureau of Statistics (ABS).

### 2. Background

2.1. The CPI series up to December quarter 2022 is a quarterly measure with a geographic coverage and structure in which the CPI for Vanuatu is an aggregation of the CPIs for Port Vila and Luganville. The last reweight of the CPI was in 2010, using data from the 2006 Household Income and Expenditure Survey. This series has a base/link period of December quarter 2008 and the published index numbers (at the Group and All-group levels) have a reference period of March quarter 2000 = 100.

2.2. The reweight project has consisted of a partial review to use the most recent expenditure data to update the CPI weights and extend the geographic coverage/structure to include Lenakel. The review has aimed to maintain the broad CPI approach (monetary acquisitions) and make no changes to special treatments. While the aim was not to make major changes to the structure and classifications of the CPI, it was recognised that changes may be necessary due to factors such as available detail in the expenditure data and changes to patterns of household consumption expenditure. The aim has been to restrict structure changes where possible to below the class level of the index.

### 3. Data sources

3.1. The primary source of household expenditure data for the new weights is the 2019 - 2020 NSDP Baseline Survey which ran from February 2019 to February 2020. The NSDP survey will be referred to from now on in this paper as Household Income and Expenditure Survey 2019 (HIES 2019).

3.2. The edited dataset used for calculation of the weights was sourced from the Pacific Community (SPC) Pacific Data Hub.

3.3. This dataset, other datasets, metadata, and technical information about the survey can be found on the Pacific Data Hub.

3.4. In addition to HIES 2019, other data used in the reweight process included prices, indexes and weights from the CPI system, revenue reports from Government of Vanuatu ministries, VBoS National Accounts data, VBoS Trade data and NSDP reports.

3.5. The expenditure from the 2019 survey was checked against other data where possible. Checking is done to assess the overall quality of the survey data and whether it is fit for purpose, to identify possible under-reporting, and to identify possible mistakes in the weighting process.

#### **4. Concepts**

4.1. The Vanuatu CPI is intended to primarily be a measure of inflation. For that reason, the CPI has a narrow focus which covers monetary expenditures by the households. It therefore excludes non-monetary expenditures such as own production and goods or services received from employers as payment in kind. It also excludes imputed items associated with cost-of-living indexes, such as imputed rent of owner-occupied housing.

4.2. The CPI measures changes in the price of a fixed basket of consumption goods and services acquired by households. A consumption good or service is defined by the International Labour Organisation (ILO) as “one that members of households use, directly or indirectly, to satisfy their own personal needs and wants”. Goods and services out of scope include financial assets and business related goods and services. Payments made, or exchanges of goods and services, for which nothing is received in return, are also out of scope. These transfers, as they are called, include taxes, some fees and licences, fines, and gifts. Non-financial assets, such as land, are also out of scope.

4.3. Expenditure on food, drinks and kava for ceremonies has been excluded from the weights as it has been determined to be a non-consumption expenditure.

4.4. Second-hand goods are viewed as having a net expenditure value, rather than a value which equates to the purchase price. The net value is usually the seller’s margin. Where second hand goods are imported, the whole purchase expenditure is in scope.

4.5. The CPI uses an acquisitions approach, meaning that it is focused on the acquisition of goods and services, as opposed to, for example the use of goods. The implication of this approach is in the measurement of major household items, or durables, which are used over many years, rather than consumed at once or over a shorter period. The weights in the CPI reflect the entire purchase of the durables in the period in which they are acquired.

4.6. Treatment of house purchase varies from country to country. Although it is treated as a capital expenditure in the national accounts, many countries include the price of new dwellings in their CPI. The Vanuatu CPI excludes house purchase due to the practical difficulty in price collection.

4.7. The target population for the CPI is resident households. With a broad scope such as this, there is the chance that weights of some commodities can be distorted by inclusion in the HIES 2019 sample of households with relatively large incomes. No broad-brush adjustment has been made to address this potential issue, however, analysis of the data has taken it into account and adjustments made if warranted.

4.8. The geographic scope of the CPI aims for a broad coverage of urban centres in Vanuatu, with the assumption that they are representative of all households in Vanuatu. The CPI series ending in December quarter 2022 covers Port Vila (in the Shefa Province) and Luganville (in the Sanma Province). The reweight has extended geographic coverage to Lenakel in the Tafea province.

4.9. The current CPI structure uses a goods and services classification which is broadly similar to a version of the Pacific COICOP (PACOICOP) based on the 1999 version of COICOP but does not follow it exactly. The CPI groups correspond to PACCOICOP divisions, except for Division 11: Restaurants and accommodation services and Division 12: Miscellaneous Goods and Services. The Vanuatu CPI includes restaurants in the Food Group, Accommodation in the Recreation Group and distributes the in-scope Insurance components of Division 12 across related CPI groups. The commodities in HIES 2019 have been coded to the Vanuatu version of PACOICOP.

## **5. The method used to calculate the new weights**

5.1. In short, the method to calculate the new weights was as follows: 1) extract the HIES 2019 survey expenditure data from the unit record file; 2) map the survey expenditures to the current CPI structure; 3) Review the structure and change as necessary; 4) use other data sources and estimation and imputation to calculate values for components if survey information is insufficient; 5) Revalue the weights to the implementation link period.

5.2. In-scope households were extracted by area council, rather than strata (urban) classification which is used in other Vanuatu statistics. The reason for using the area council approach rather than the strata (urban) approach was to extend the coverage to all households who are likely to regularly shop (by ease of access) in the urban centres of Port Vila, Luganville and Lenakel. For example, the area councils used for Shefa cover the whole island of Efate. Also, the strata (urban) classification covers only Sanma and Shefa, so it was not of use when including Lenakel.

5.3. Although an aim of the reweight project was to avoid changes to the CPI structure, it was necessary to review the structure to address some issues identified by the mapping exercise, and to address changes in consumption and the inefficiency of having index components with very low weights.

5.4. No structural changes were made at the Group level.

5.5. There was a comprehensive restructuring of the Sub-group Meals out and takeaway food. The new structure splits this sub-group into the new classes of Island food (e.g., Laplap) and

Other food.

5.6. Below the class level the number of Elementary aggregates was reduced from 419 to 204.

5.7. It was necessary to undertake estimation and imputation to calculate weights for some components of the CPI structure which did not have a direct correspondence to HIES 2019 expenditure items.

#### Timing adjustment of survey data

5.8. The collection of survey data was organised in schedules which ran from February 2019 to February 2020. As it was spread out over this period, the prices underlying the reported expenditures also cover this period. It was decided not to make any adjustment to the price levels of the expenditure to put them on a consistent basis due to the potential complexity of this task. Also, in calculations, such as price updating to the link period, it has been decided to treat the survey expenditure as referring to the calendar year 2019.

#### Revaluing the weights to the implementation link period

5.9. When implementing a new set of weights, the point at which the new CPI series is joined to the old series is referred to as the link period.

5.10. The implementation of the new weights was selected to be for the March quarter (1<sup>st</sup> quarter) 2023 CPI, and so the link period is December quarter (4<sup>th</sup> quarter) 2022. In calculating CPI for the March quarter 2023, the new expenditure value weights for the December quarter 2022 are used as a base period for the calculations. The index numbers will be linked onto the old series at December quarter 2022 so that there is no break in the published CPI series.

5.11. The new expenditure value weights were calculated from the 2019 HIES, and it is assumed that the price level underlying the weights is average 2019 prices. Prior to implementation of weights, it is usual practice to revalue the weights to the price level of the link period. Therefore, the new weights have been revalued from 2019 price levels to December quarter 2022 price levels. Revaluation was done by adjusting the 2019 expenditure values with the CPI price movement from 2019 to December quarter 2022.

## **6. The new weights**

6.1. Tables 1, 2 and 3 below summarise the new weights. Table 1 compares the new weights with the weights from December quarter 2008 at the Group level. Table 2 compares weights for the CPI regions. Table 3 shows the new weights for each region down to the class level of the CPI.

6.2. Changes in the weights from December quarter 2008 to December quarter 2022 can be the result of changing household expenditure patterns and price relativities over time. But they can also be due to differences in how the weights are calculated, for example in what expenditures are included or excluded. Of note are changes in the weights for the following Groups: Drinks

and Tobacco; Housing and Utilities; Health and Transport.

6.3. The new weight for Drinks and Tobacco shows a considerable increase. Some additional data was used to support the HIES 2019 expenditure values used to calculate the weights.

6.4. The weight for Health was very small in 2008, and the new weight is even lower. The expenditure values used to calculate the new weight for health were checked against what additional data could be obtained. The lower weight does not mean that the consumption of health goods and services by households has decreased. However, over time the *change in the value* of household spending on health services compared to most other CPI groups has been much less.

6.5. The weight for Transport has increased from 2008, mainly in the class of Urban Transport (buses and taxis).

6.6. Some of the decrease in the weight for Housing and Utilities comes from a change in the treatment of Rent to cover only monetary expenditures.

Table 1: Comparison of weights - Total Vanuatu

<b>Consumer Price Index - Weights</b>			
<b>CPI Groups</b>			
<b>Total</b>	<i>4th Qtr 2008</i>	<i>4th Qtr 2022</i>	
All Groups	100.0%	100.0%	
01 Food	38.4%	44.5%	
02 Drinks and Tobacco	7.1%	11.2%	
03 Clothing and Footwear	2.7%	2.4%	
04 Housing and Utilities	20.9%	11.6%	
05 Household Supplies	7.1%	3.4%	
06 Health	1.2%	0.2%	
07 Transport	6.8%	14.2%	
08 Communications	4.8%	3.3%	
09 Recreation	3.5%	1.3%	
10 Education	5.0%	3.4%	
11 Miscellaneous	2.4%	4.5%	

Table 2: Comparison of weights - Regions

<b>Consumer Price Index - Weights</b>			
<b>CPI Regions</b>			
<b>All Groups</b>	<i>4th Qtr 2008</i>	<i>4th Qtr 2022</i>	
Total	100.0%	100.0%	
Port Vila	82.2%	79.2%	
Luganville	17.8%	14.9%	
Lenakel		5.9%	

Table 3: Weights for CPI classes

<b>Consumer Price Index - Weights 4th Quarter 2022</b>					
<b>All Groups/Groups/Subgroup/Class</b>	<b>Total</b>	<b>Port Vila</b>	<b>Luganville</b>	<b>Lenakel</b>	
AllGroups	100.0%	100.0%	100.0%	100.0%	100.0%
01 Food	44.5%	44.9%	43.8%	41.1%	
01 Dairy and related products	1.0%	1.0%	0.9%	0.2%	
01 Milk	0.7%	0.8%	0.6%	0.1%	
02 Cheese	0.0%	0.0%	0.0%	0.0%	
03 Other dairy products	0.2%	0.2%	0.3%	0.1%	
02 Bread and cereal products	11.0%	9.2%	15.9%	22.1%	
01 Bread	1.2%	0.9%	1.7%	4.8%	
02 Cakes and Biscuits	3.4%	3.2%	3.9%	4.4%	
03 Rice	5.8%	4.7%	9.0%	11.9%	
04 Other cereals	0.6%	0.4%	1.4%	1.0%	
03 Meat and seafoods	11.8%	12.3%	10.8%	7.4%	
01 Beef and veal	1.0%	1.0%	1.1%	0.6%	
02 Poultry	5.8%	6.2%	5.1%	1.5%	
03 Other fresh and processed meat	1.1%	1.1%	1.2%	0.4%	
04 Fish and other seafood	3.9%	4.0%	3.4%	4.9%	
04 Fruit and vegetables	9.7%	11.1%	5.2%	2.4%	
01 Fruit	1.6%	1.8%	1.2%	0.7%	
02 Vegetables	8.1%	9.3%	4.1%	1.7%	
05 Non-alcoholic drinks and snack food	1.1%	1.1%	1.3%	0.5%	
01 Soft drinks, waters and juices	0.7%	0.7%	1.0%	0.1%	
02 Snacks and confectionary	0.4%	0.4%	0.4%	0.4%	
06 Meals out and take away food	5.4%	5.7%	4.3%	4.6%	
01 Island food	4.1%	4.3%	3.0%	4.5%	
02 Other food	1.3%	1.4%	1.3%	0.1%	
07 Other food	4.5%	4.4%	5.3%	3.9%	
01 Eggs	1.2%	1.4%	0.4%	0.2%	
02 Jams, honey and sandwich spreads	0.2%	0.2%	0.3%	0.0%	
03 Tea, coffee and food drinks	1.0%	1.0%	0.8%	1.3%	
04 Food additives and condiments	1.2%	1.1%	1.7%	1.9%	
05 Fats and oils	0.9%	0.8%	1.9%	0.5%	
06 Food nec	0.0%	0.0%	0.1%	0.0%	
02 Drinks and Tobacco	11.2%	10.8%	12.1%	13.7%	
01 Alcohol	9.1%	8.8%	9.8%	11.2%	
01 Kava	5.7%	5.3%	7.2%	7.7%	
02 Beer	1.8%	1.8%	1.9%	1.4%	
03 Wine	0.7%	0.8%	0.2%	1.0%	
04 Spirits	0.8%	0.8%	0.4%	1.0%	
02 Tobacco	2.1%	2.0%	2.3%	2.5%	
01 Tobacco	2.1%	2.0%	2.3%	2.5%	

<b>All Groups/Groups/Subgroup/Class</b>	<b>Total</b>	<b>Port Vila</b>	<b>Luganville</b>	<b>Lenakel</b>
03 Clothing and Footwear	2.4%	2.3%	3.1%	2.4%
01 Men's Clothing	0.9%	0.8%	1.3%	1.5%
01 Men's outerwear	0.9%	0.8%	1.2%	1.1%
02 Mens underwear	0.0%	0.0%	0.1%	0.4%
02 Women's Clothing	0.4%	0.4%	0.6%	0.4%
01 Women's outerwear	0.3%	0.3%	0.4%	0.2%
02 Womens underwear	0.1%	0.1%	0.2%	0.2%
03 Children's and infants' clothing	0.2%	0.2%	0.3%	0.1%
01 Children's and infants' clothing	0.2%	0.2%	0.3%	0.1%
04 Footwear	0.6%	0.6%	0.6%	0.3%
01 Men's, women's and children's footwear	0.6%	0.6%	0.6%	0.3%
05 Accessories and clothing services	0.3%	0.3%	0.3%	0.1%
01 Accessories	0.1%	0.1%	0.1%	0.0%
02 Fabrics and other materials	0.2%	0.2%	0.2%	0.0%
04 Housing and Utilities	11.6%	12.8%	9.2%	2.5%
01 Rent	2.6%	2.9%	1.9%	0.2%
01 Rent	2.6%	2.9%	1.9%	0.2%
02 Utilities	7.8%	8.6%	5.6%	1.7%
01 Electricity	3.0%	3.3%	2.5%	1.1%
02 Gas	0.8%	0.8%	0.8%	0.0%
03 Other household fuels	0.6%	0.8%	0.1%	0.0%
04 Water and sewerage	3.3%	3.8%	2.2%	0.5%
03 Other Housing	1.3%	1.2%	1.7%	0.5%
01 Repairs and maintenance, materials	0.7%	0.7%	0.8%	0.2%
02 Repairs and maintenance, service	0.5%	0.5%	0.6%	0.3%
03 Property rates and charges	0.1%	0.1%	0.3%	0.0%
05 Household Supplies	3.4%	3.3%	3.5%	4.6%
01 Furniture and furnishings	0.4%	0.4%	0.6%	0.4%
01 Furniture	0.0%	0.0%	0.0%	0.0%
02 Floor and window coverings	0.1%	0.1%	0.1%	0.0%
03 Towels and linen	0.3%	0.3%	0.5%	0.3%
02 Household appliances, utensils and tools	0.2%	0.2%	0.4%	0.3%
01 Major household appliances	0.0%	0.0%	0.1%	0.1%
02 Glassware, tableware & household utensils	0.1%	0.1%	0.1%	0.0%
03 Tools	0.1%	0.1%	0.2%	0.2%
03 Household supplies	2.0%	2.0%	1.7%	2.4%
01 Household cleaning agents	1.6%	1.7%	1.2%	2.1%
02 Other household supplies	0.3%	0.3%	0.5%	0.4%
04 Household services	0.8%	0.8%	0.9%	1.5%
01 Child care	0.1%	0.1%	0.1%	0.2%
02 Insurance	0.1%	0.1%	0.0%	0.0%
03 Other household services	0.7%	0.6%	0.8%	1.3%
06 Health	0.2%	0.2%	0.3%	0.1%
01 Health Services	0.2%	0.2%	0.2%	0.1%
01 Medical services	0.1%	0.1%	0.1%	0.1%
02 Diagnostic services	0.0%	0.0%	0.0%	0.0%
03 Traditional health services	0.0%	0.0%	0.0%	0.0%
04 Health Insurance	0.0%	0.0%	0.1%	0.0%
02 Medicines and Health Products	0.1%	0.1%	0.0%	0.0%
01 Pharmaceuticals	0.0%	0.0%	0.0%	0.0%
02 Health Products	0.0%	0.0%	0.0%	0.0%

<b>All Groups/Groups/Subgroup/Class</b>	<b>Total</b>	<b>Port Vila</b>	<b>Luganville</b>	<b>Lenakel</b>
07 Transport	14.2%	13.2%	16.5%	22.1%
01 Private motoring	4.8%	5.2%	3.5%	1.9%
01 Motor vehicles	0.9%	1.0%	0.4%	0.3%
02 Automotive fuel and oil	3.1%	3.5%	2.0%	1.5%
03 Motor vehicle repairs and servicing	0.1%	0.1%	0.0%	0.0%
04 Motor vehicle parts and accessories	0.2%	0.2%	0.2%	0.1%
05 Other motoring charges	0.5%	0.5%	0.9%	0.1%
02 Public Transport	9.5%	8.0%	13.0%	20.2%
01 Urban transport	7.6%	6.6%	10.0%	14.6%
02 Domestic inter-island	1.0%	0.5%	1.9%	5.0%
03 International	0.8%	0.8%	1.1%	0.6%
08 Communications	3.3%	3.3%	2.5%	5.1%
01 Post	0.0%	0.0%	0.1%	0.0%
01 Post	0.0%	0.0%	0.1%	0.0%
02 Telecommunications	3.2%	3.2%	2.4%	5.1%
01 Telecommunications	3.2%	3.2%	2.4%	5.1%
09 Recreation	1.3%	1.1%	2.2%	1.0%
01 Recreation	1.3%	1.1%	2.2%	1.0%
01 Audio, visual and computing	0.5%	0.4%	1.1%	0.3%
02 Books, newspapers and magazines	0.4%	0.4%	0.2%	0.2%
03 Sport and other recreation	0.1%	0.1%	0.1%	0.0%
04 Stationary	0.1%	0.1%	0.1%	0.0%
05 Accommodation	0.2%	0.1%	0.6%	0.5%
10 Education	3.4%	3.5%	2.7%	4.3%
01 Education	3.4%	3.5%	2.7%	4.3%
01 Preschool and primary education	1.6%	1.7%	1.0%	1.3%
02 Secondary education	1.3%	1.1%	1.5%	2.5%
03 Tertiary education	0.5%	0.6%	0.1%	0.6%
11 Miscellaneous	4.5%	4.7%	4.2%	3.0%
01 Miscellaneous	4.5%	4.7%	4.2%	3.0%
01 Hairdressing and personal care services	0.1%	0.1%	0.1%	0.0%
02 Toiletries and personal care products	4.2%	4.3%	3.9%	2.8%
03 Personal accessories	0.3%	0.3%	0.3%	0.2%



**MORE INFORMATION**

For statistical enquiries about this topic, please contact:

Vanuatu Bureau of Statistics: (678) 33040, Voip: 1124

Email: stats@vanuatu.gov.vu

**PROVINCIAL STATISTICS OFFICES**

**Sanma Office**

PO Box 273, MFEM Building  
Luganville, SANTO  
Tel/Fax: (678) 36542  
Ext/voip: 6330

**Tafea Office**

MFEM Building,  
Isangel, Tafea  
Tel: (678) 88014  
Ext/voip: 8361

**Malampa Office**

MFEM Building  
Lakatoro, Malekula  
Tel: (678) 48400



**Mr. KAP Calo Andy**

**Chief Statistician**