# **MODULE 1. SHARE**

# **PRACTICE EXERCISE: CALCULATING THE REAL AMOUNT ALLOCATED TO EDUCATION OVER TIME**

**Aim of exercise**

To use a practice budget to understand the impact of inflation and learn how to calculate the real allocation to education over time.

**Activity**

In this exercise, users will learn how to adjust a budget for inflation.

Budgets are presented in nominal amounts, which are the actual figures allocated to, or spent on education. Real amounts, on the other hand, are amounts that have been adjusted for inflation. Inflation is the rising price of goods or services, which means that $1 in your pocket today does not buy you as much as $1 bought you last year. So, if you compare budget allocations over time, without taking inflation into account, you’ll get a skewed picture.

Adjusting budget figures for the effects of inflation helps to compare figures for different years. This requires the use of a deflator which will allow you to convert nominal amounts to real amounts. The deflator is a number value that varies from country to country and from year to year, depending on the inflation rate. You should be able to find out which deflator to use by consulting with the Ministry of Finance or the National Statistics Office, and it can normally be found in government budget documents, too.

**Step 1:** Look at the practice budget below to identify the deflator for each year (row 4). In this example, 2020 has been chosen as the base year – the year in which you assume that a nominal amount is equal to the real amount. The deflator for the base year is always 1. For all the other years, you use a deflator to determine the value of an amount once inflation has been taken into account. You should clearly state your base year and ensure that it is used consistently throughout your calculations.

**Step 2:** Looking at the practice budget, use the deflator (row 4) to calculate the real education expenditure (row 2) and real total expenditure (row 6) to complete the table below. To determine the real values, use the following formula:

 Nominal value

Real value = -----------------------------------

 Deflator

**Step 3:** Calculate the Real Growth Rate. Once you have the Real Total Education Expenditure you can calculate the Real Growth Rate (row 3), which enables you to see the percentage change in spending on education from one year to another. Use the following formula to determine whether spending is increasing or decreasing:

 (Real Education Expenditure year 2 – Real Education Expenditure year 1)

 Real growth rate = ----------------------------------------------------------------------------------- x 100

 Real Education Expenditure in year 1

*Question: Is spending increasing or decreasing in real terms?*

**Step 4:** Now do the same calculations for your own national budget.

This is likely to be a much more complicated exercise, as you will have to use budget documents for different years and find a comparable total for education – which can be hard as budget documents are large and often unwieldy. But the basic steps you will need to follow are:

1. Find your budget documents for a period of 3-5 years.
2. Find the total figure for the education budget (either the total allocated to the Ministry of Education or the functional budget allocation – i.e. the allocation to ‘education’).
3. Find a deflator to use from the Ministry of Finance, the budget documents, or Statistics Office.
4. Carry out the calculation using the formula above.
5. Remember that you can use this approach for all sub-sectors or specific programmes of education, such as, for instance, primary education.

# **PRACTICE BUDGET**

|  |  | **2019** | **2020** | **2021** | **2022** |
| --- | --- | --- | --- | --- | --- |
| 1 | Total education expenditure (nominal) | 55,881,000 | 75,386,861 | 106,846,765 | 149,161,000 |
| 2 | Total education expenditure (real) |  |  |  |  |
| 3 | Growth Rate (real) | % | % | % | % |
| 4 | Deflator | 0.943 | 1 | 1.05 | 1.09515 |
| 5 | Total governmentexpenditure (nominal) | 303,724,000 | 408,390,000 | 638,151,000 | 748,579,000 |
| 6 | Total government expenditure (real) |  |  |  |  |
| 7 | Education spending as a percentage of total government expenditure |  |  |  |  |
| 8 | GDP (nominal) | 1,422,289,200 | 1,501,269,100 | 1,840,972,700 | 2,000,409,200 |
|  | Education spending as a percentage of GDP |  |  |  |  |