A country's labor force is the sum of the number of employed and unemployed workers. The accompanying table provides data on the size of the labor force and the number of unemployed workers for different regions of the United States.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Labor force (thousands) | | | Unemployment (thousands) | |
| Region | April 2013 | April 2014 | April 2013 | April 2014 |
| Northeast | 28,407.2 | 28,288.9 | 2,174.4 | 1,781.3 |
| South | 56,787.8 | 57,016.4 | 4,089.9 | 3,363.8 |
| Midwest | 34,320.0 | 34,467.0 | 2,473.7 | 2,109.0 |
| West | 36,122.2 | 36,307.3 | 2,940.8 | 2,535.7 |

a) Calculate the number of workers employed in each of the regions in April 2013 and April 2014. Use your answers to calculate the change in the total number of workers employed between April 2013 and April 2014.

b) For each region, calculate the growth in the labor force from April 2013 to April 2014.

c) Compute unemployment rates in the different regions of the country in April 2013 and April 2014.

d) What can you infer about the fall in unemployment rates over this period? Was it caused by a net gain in the number of jobs or by a large fall in the number of people seeking jobs?

d) In the North east, the fall in unemployment rates was caused both by a fall in the number of people seeking jobs (overall fall in labour force from 2013 to 2014) and by a net gain in the number of jobs (positive change in unemployment from 2013 to 2014). As for the other regions, the fall in unemployment was caused by a net gain in the number of jobs, since both labour force and employment increased from 2013 to 2014.

a)

|  |  |  |  |
| --- | --- | --- | --- |
| **Region** | **Employment in April 2013 (thousands)** | **Employment in April 2014 (thousands)** | **Change in total employment** |
| North east | 26.232,8 | 26.507,6 | 274,8 |
| South | 52.697,9 | 53.652,6 | 954,7 |
| Midwest | 31.846,3 | 32.358 | 511,7 |
| West | 33.181,4 | 33.771,6 | 590,2 |
| **TOTAL** | **143.958,4** | **146.289,8** | **2.331,4** |

b)

|  |  |
| --- | --- |
| **Region** | **Growth of labour force** |
| Northeast | -118,3 |
| South | 228,6 |
| Midwest | 147 |
| West | 185,1 |

c)

|  |  |  |
| --- | --- | --- |
| **Region** | **Unemployment rate in April 2013** | **Unemployment rate in April 2014** |
| North east | (2174,4/28,407.2) x 100 = **7.65%** | (1781,3/28,288.9) x 100 = **6.29%** |
| South | (4,089.9/56,787.8) x 100 = **7.2%** | (3,363.8/57,016.4) x 100 = **5.89%** |
| Midwest | (2,473.7/34,320) x 100 = **7.2%** | (2,109/34,476) x 100 = **6.1%** |
| West | (2,940.8/36,122.2) x 100 = **8.1%** | (2,535.7/36,307.3) x 100 = **6.98%** |

The accompanying table provides the inflation rate in the year 2000 and the average inflation rate over the period 2001-2013 for seven different countries:

|  |  |  |
| --- | --- | --- |
| Country | Inflation rate in 2000 | Average inflation rate in 2001-2013 |
| Brazil | 7.06% | 6.72% |
| China | 0.4 | 2.34 |
| France | 1.83 | 1.86 |
| Indonesia | 3.77 | 7.56 |
| Japan | -0.78 | -0.23 |
| Turkey | 55.03 | 18.79 |
| United States | 3.37 | 2.43 |

a) Given the expected relationship between average inflation and menu costs, rank the countries in descending order of menu costs using the average inflation over the period 2001-2013.

b) Rank the countries in order of inflation rates that most favored borrowers with ten-year loans that were taken out in 2000. Assume that the loans were agreed upon with the expectation that the inflation rate for 2001 to 2013 would be the same as the inflation rate in 2000.

c) Did borrowers who took out ten-years loans in Japan gain or lose overall versus lenders? Explain.

1. A menu cost is associated to a frequent change in listed prices. When inflation rate is very high, high menu costs are incurred and this is the reason why some countries allow citizens to trade using a more stable foreign currency. Since there is a positive relationship between inflation rate and menu costs, the ranking, in descending order, will be: **Turkey, Indonesia, Brazil, United States, China, France** and **Japan**.
2. Borrowers are favoured when inflation rates are higher than expected. As a result, the countries where borrowers are favoured are those where inflation rates have grown larger and the ranking will be: **Indonesia, China, Japan, France, Brazil, United States** and **Turkey**. In the last three countries, lenders are favoured because the inflation rate is lower than expected.
3. Borrowers in Japan gained overall as the inflation rate grew larger (+0.55%) despite being negative. This means that borrowers will have to repay their loans with a currency that has less real value with respect to the expectation of 10 years before.

Read the [Report of the commission on the measurement of economic performance and social progress](https://moodle.unive.it/mod/resource/view.php?id=101151), available in the section Reading Material.

Please, discuss what are the classical issues associated to the GDP.

GDP is the most common way of measuring economic activity and is often considered to be a good indicator of the wealth and well being of a nation as well as a measure of market production. However, this monetary method of measuring the wealth of a nation incurs some limitations: market prices may not reflect society’s actual preferences and some services lacking a price (e.g. free healthcare) may appear difficult to evaluate. Moreover, GDP is a quantitative measure: **quality change**, despite fundamental for evaluating well being, is a thorny issue for statisticians, who are challenged by the habit of online purchasing and by a rapid and ungraspable change in areas such as communication. Related to market prices is the issue of **transparency** and price signals: consumers can evaluate goods and services only if they dispose of relevant information – unfortunately, this is not always the case and generates a further problem for the use of prices as quantitative measures in the calculation of GDP.

As a result of these limitations Joseph Stiglitz, a Nobel prize economists, worked on a project called *beyond GDP*, focused on the fact that GDP may be an imprecise way to measure the wealth of a nation. According to Stiglitz, other factors such as sustainability, human capital and environmental resources should be taken into account; in his project, he introduced a **Human Development Index** that emphasizes that outcomes for people and their capabilities should be the ultimate criteria for assessing the progress of a country as well as economic growth and monetary components. The HDI accounts for average achievements in three main dimensions: **health, education** and **income per capita.**

Stiglitz’s study suggests five ways of dealing with the limitations of GDP and shaping policies avoiding misleading data:

1. Taking into account **indicators different from GDP** in national accounts. In particular, net rather than gross measures should be introduced, taking into account the depreciation of capital goods. Environmental degradation should also be included in measurements of economic activity and households – sending money abroad and receiving money from abroad – should play an important role in the calculation of net national disposable income. Finally, the price of imports and exports may vary greatly and this variation should be taken into account when evaluating living standards.
2. Improving **empirical measurements** of production activities, including qualitative data. **Services** are usually more complicated to evaluate than goods, since the volume of sales cannot be applied to this kind of activity. Qualitative measures are often left aside, overlooking also important factors such as health and education. This opens the debate on the services provided by government, either collective or individual, measured basing on outputs rather than inputs and ignoring any potential growth.
3. Evaluating **living standards** under the more reliable **households’ perspective**. The analysis of expenditure should take into account the so-called “defensive expenditures”, namely those who are not a direct source of utility but are necessary inputs for final utility-providing activities. Any collective expenditure of government would automatically be excluded from household consumption and expenditures devoted to health or environment would be considered investments rather than final consumption.
4. Considering the **distribution of income, wealth and consumption** in the analysis. Wealth may be an important indicator of sustainability in consumption and the evaluation of assets may be a difficult and often overlooked issue.
5. Taking into account the **economic activity** that occurs **outside markets** and is overlooked by national accounts. Many services which used to be provided by households are now on stock in the markets and this. translates into an apparent increase in income and in a false improvement of living standard. However, this is only a shift from non-market to market distribution of services: some services provided domestically are excluded by national accounts despite representing a noticeable factor for determining living standards. Therefore, detailed and periodic accounts of household activity as should be included in the analysis.

Boris Borrower and Lynn Lender agree that Lynn will lend Boris $10,000 and that Boris will repay the $10,000 with interest in one year. They agree to a nominal interest rate of 8%, reflecting a real interest rate of 3% on the loan and a commonly shared expected inflation rate of 5% over the next year.

a)      If the inflation rate is actually 4% over the next year, how does that lower-than-expected inflation rate affect Boris and Lynn? Who is better off?

b)      If the actual inflation rate is 7% over the next year, how does that affect Boris and Lynn? Who is better off?

1. When making an agreement, the two parts usually base it on nominal interest rate and the expected value of inflation rate. In this case, if inflation rate is actually lower than expected, then the interest rate will be 8 – 4 = 4%, so Boris Borrower will have to pay a higher interest rate. Lynn Lender will be better off, since he will receive a higher interest rate paid with funds that have a higher real value than expected.
2. If the actual inflation rate is higher, then Boris Borrower will have to pay 8 – 7 = 1% of interest rate. This way, Borrower will be better off because he will have to repay a lower interest rate with funds that have less real value than expected when making the agreement.