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Exchange rates used in the national accounts

Introduction

This note explains what foreign exchange rates were used in the 2020 national accounts and how an average rate was calculated in order to express the GDP (and other aggregates) in US dollars as well as in Lebanese pounds.

Background

For many years the Lebanese pounds (LBP) were freely convertible into US dollars (USD) at the rate of 1,507.5 LBP per USD. However, this was no longer possible at the end of 2019. Most people were obliged to use the parallel unofficial market to buy dollars if needed. But, for certain imports, dollars were made available at official ("subsidised") rates for a high proportion of their USD value. So which exchange rates should be used in the national accounts?

What are the international standards?

The international standards for compiling national economic accounts are set out in the System of National Accounts (SNA). In principle, according to the SNA, every transaction with the rest of the world is to be valued using the actual exchange rate involved. When the transactions are aggregated, a weighted average or "unitary" exchange rate can be found. This unitary exchange rate has an important role in the evaluation of GDP. In particular, the aggregate value of imports and exports are to be included in the expenditure measure of GDP using the unitary exchange rate and not the actual rates. This ensures the balance of exports over imports, when converted at the unitary rate, is the same in US dollars as it is in Lebanese pounds. The differences between the values of these external transactions calculated using the actual rates and the unitary rate are to be treated in the accounts as implicit taxes or subsidies, as appropriate.

It may be noted that the aggregate net subsidy in the national accounts is not the same as the difference between what the cost to the importers of the subsidised imports would have been at parallel market rates and what it was at the subsidised rates. This difference has been used elsewhere to evaluate the cost of the subsidy. The implication of the SNA approach is that the subsidy on goods imported at the subsidised rate is smaller than this difference, while goods imported at the parallel rate are taxed and exports are also implicitly subsidised.

How were the actual values of imports and exports estimated?

In practice, for most transactions with the rest of the world, the relevant actual rates of exchange are not known. Monthly data on the value of the imports (subsidised and not) and exports of goods (and quarterly for services) are available in US dollars. In order to value these in Lebanese pounds, it was assumed that the average parallel market rate each month was the applicable rate, except in the case of the subsidised imports. In the latter case, for the proportion of the value for which dollars were made available at the relevant subsidised rate, this subsidised rate was used. For the remaining value, the parallel rate was applied.

How was the unitary exchange rate calculated?

Because of the large disparity between the exchange rates involved, the unitary rate is extremely sensitive to the weight given to each one. It was decided to use the following simplified method each quarter. The aggregate total actual value of imports in Lebanese pounds, estimated in the way described above, was divided by the equivalent value in US dollars. See the Annex for a more detailed discussion.

Estimates of GDP for the whole year in both Lebanese pounds and US dollars were obtained by summing the quarterly estimates. Comparing the two values gives an implicit average exchange rate for the year. This differs from the simple average because of the different levels of GDP in each quarter.

The results are given below in Lebanese pounds per US dollar.

		Official rate	Second official rate	Parallel market rate	Weighted average rate	GDP weight
2020	Q1	1,507.5		2,401	2,123	34.10%
	Q2	1,507.5		4,238	3,552	22.69%
	Q3	1,507.5	3,900	7,761	5,209	20.43%
	Q4	1,507.5	3,900	7,966	5,635	22.78%
2020 average					3,878	100.0%

What were the implicit taxes and subsidies in 2020?

The implicit taxes and subsidies were calculated quarterly for both imports and exports of goods and of services. The results for the year as a whole were as follows

	2020 LBP billions
Net implicit subsidies	**-9,904**
Total implicit subsidies	-21,839
Subsidy on exported goods	*-6,279*
Subsidy on exported services	*-3,625*
Subsidy on imprted goods	*-11,935*
Total implicit taxes	11,935
Tax on imported goods	*8,043*
Tax on imported services	*3,891*

Annex: Weighting the exchange rates

It was decided to calculate the unitary exchange rate as a simple ratio of the estimated actual value of imports in Lebanese pounds to the value in US dollars. This is a weighted average of the three exchange rates involved. The rationale for this decision is set out below.

The treatment of multiple exchange rates is set out briefly in Chapter 26 of the 2008 SNA. It was covered in more detail in the 1993 version, especially in Annex A of Chapter 19. The Annex gives a complete example relating to a stable regime of multiple official exchange rates, designed to encourage some transactions and discourage others. It also discusses the distinction between an "officially recognised" parallel market and a peripheral black market (which could be used to evade an official rate). In the latter case, the last sentence of paragraph 26.113 of the 2008 SNA says that "…the parallel rate should not be included in the calculation of a unitary rate."

The circumstances in Lebanon in 2020 differ from those described in Annex A in that, with some exceptions, there was no official rate at which Lebanese pounds could be converted into dollars. The only recourse was to buy dollars on the parallel market. Nonetheless, the example set out in Annex A provides an indication of the principles to be followed.

There are two issues. The first is whether the parallel market should be treated as officially recognised. It seems clear that it should be, given the huge volume of transactions that must have taken place. Otherwise, the unitary rate (if not incalculable) would be unrealistically low, based only on official rates.

The second issue is the precise weighting to be used in the calculation of the unitary rate. Paragraph 26.112 refers to "…a unitary rate that is calculated as a weighted average of all official rates used for external transactions." Although not stated explicitly, this seems to mean "…a weighted average of all official rates used for **all** external transactions." Paragraph 9 of Annex A supports this interpretation, by including all types of external transaction in a "rest of the world" account that is balanced in foreign currency.

Such comprehensive data is not available for Lebanon. The quantity and purpose of foreign exchange transactions in the parallel market is unknown. What is known are the values in US dollars of imports (subsidised and not subsidised) and exports of goods and services as recorded by the Customs authority and the Central Bank. In Lebanon in 2020, the value of the exports was about half that of imports.

Imports will have represented most of the requirements for foreign currency. Of these requirements, the Central Bank provided some at official ("subsidised") rates, while the remainder will have come from exports and other sources (at parallel rates). In a simplified view of a balanced rest of the world account, we have imports on one side and exports together with other necessary transactions (net) on the other.

On this view, the overall value of imports on the one side and the overall value of exports and other transactions on the other side will be the same in dollars and the same in Lebanese pounds. Hence the "weighted average" of the exchange rates based on all transactions will be the same as the weighted average based on imports alone (and the same as that based on exports together with other transactions, including those of the Central Bank).

For this reason, the unitary rate has been calculated from the imports data, on the assumption that they are always valued at the parallel rate unless subsidised. The method is not perfect. There may be other official transactions on the imports side for which the parallel rate is not appropriate and additional private transactions for which it is. But the solution adopted is considered to provide an acceptable outcome given the circumstances.