

# Seigniorage in the Lebanese Economy: A Tale from the Pre-Crisis and Crisis Years



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## Contact Information

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*This spotlight is written in memory of Dr Samih Antoine Azar, an excellent economist and dear friend.*

**Table 1:**

|                | <b>CC (Tn<br/>LBP)</b> | <b>GDP (Tn<br/>LBP)</b> | <b>Inflation<br/>(%)</b> | <b>Exchange<br/>Rate<br/>(USD/LBP)*</b> |
|----------------|------------------------|-------------------------|--------------------------|-----------------------------------------|
| <b>2014</b>    | 3.647                  | 72.462                  | 1.86                     | 1507.5                                  |
| <b>2015</b>    | 4.014                  | 75.213                  | -3.75                    | 1507.5                                  |
| <b>2016</b>    | 4.592                  | 76.307                  | -0.77                    | 1507.5                                  |
| <b>2017</b>    | 4.886                  | 79.717                  | 4.42                     | 1507.5                                  |
| <b>2018</b>    | 5.008                  | 83.349                  | 6.07                     | 1507.5                                  |
| <b>2019</b>    | 9.817                  | 80.359                  | 2.90                     | 1507.5                                  |
| <b>2020</b>    | 29.242                 | 91.670                  | 84.27                    | 3,843.5                                 |
| <b>2021</b>    | 41.514                 | 254.763                 | 149.65                   | 12,647.0                                |
| <b>2022</b>    | 73.514                 | 651.204                 | 185.20                   | 30,473.5                                |
| <b>2023</b>    | 50.599                 | 2,760.645               | 222.42                   | 87,472.3                                |
| <b>Average</b> | <b>20.931</b>          | <b>422.569</b>          | <b>72.267</b>            | <b>14,347.8</b>                         |

Source: BDL and CAS; \* average annual rate

**Table 2:**

|                | <b>Seigniorage/GDP (%)</b> | <b>Inflation Tax/GDP (%)</b> | <b>Real Balance/GDP (%)</b> | <b>BDL Foreign Reserve (Bn \$)</b> |
|----------------|----------------------------|------------------------------|-----------------------------|------------------------------------|
| <b>2014</b>    | 0.330                      | 0.094                        | 0.236                       | 32.403                             |
| <b>2015</b>    | 0.488                      | -0.200                       | 0.688                       | 30.638                             |
| <b>2016</b>    | 0.757                      | -0.046                       | 0.804                       | 34.028                             |
| <b>2017</b>    | 0.369                      | 0.271                        | 0.098                       | 35.806                             |
| <b>2018</b>    | 0.146                      | 0.365                        | -0.218                      | 32.514                             |
| <b>2019</b>    | 5.984                      | 0.354                        | 5.630                       | 29.553                             |
| <b>2020</b>    | 21.190                     | 26.881                       | -5.691                      | 18.604                             |
| <b>2021</b>    | 4.817                      | 24.386                       | -19.569                     | 13.646                             |
| <b>2022</b>    | 4.914                      | 20.907                       | -15.993                     | 10.398                             |
| <b>2023</b>    | -0.830                     | 4.077                        | -4.907                      | 9.642                              |
| <b>Average</b> | <b>3.816</b>               | <b>7.709</b>                 | <b>-3.892</b>               | <b>24.723</b>                      |

Source: Author's Calculation and BDL.

In mid-October 2019, just before the onset of the Lebanese financial crisis, the Central Bank of Lebanon (BDL) published its bi-weekly balance sheet in which the second largest item after foreign assets was 'other assets', which was explained to comprise of open market operations and seigniorage and equal to a hefty \$22.8 billion. Given that seigniorage is the return or revenue that accrues to BDL from its exclusive right and ability to print 'costless' money, then one is tempted to consider that most of the \$22.8 billion was made up of seigniorage. But was it?

It is customary in the literature, especially of economic crises, to ascribe large seigniorage revenue to deficit monetization or the printing of money by the central bank to finance budget deficits. And it is a standard outcome of such a policy that the excess money printed will lead to currency substitution in favor of the USD which, under fixed exchange rates, will lead to big drops in foreign reserves; but once the fixed exchange rate regime is abandoned and the printing of money is continued, it will lead instead to big depreciations in the exchange rate. Interestingly, during the 1982-1994 war/crisis period, Lebanon's economy went through a similar experience with seigniorage revenue averaging a high 10% of GDP<sup>1</sup>, and both outcomes relating to the exchange rate and foreign reserves were obtained.

<sup>1</sup> In fact, in 1982, the year of the Israeli invasion, seigniorage revenue reached 24% of GDP.

What we would like to do in this note is to see to what extent was seigniorage a factor in Lebanon's monetary economy before and after 2019, i.e. during the pre-crisis and crisis years. The pre-crisis years will be covered by the 2014-2018 period and the crisis years by the 2019-2023 period (2023 being the last year for which data are available from the Central Administration of Statistic CAS). We will show that seigniorage, contrary to expectations, played hardly any role in precipitating the crisis, as it was largely misguided (if not mindless) government policies that worsened the crisis, which would make the government naturally the entity responsible for the crisis and for shouldering the losses emanating from it, including the return of deposits. As such, we will show that the \$22.8 billion cited above contain in fact very little seigniorage revenue. However, we will also show that BDL, nevertheless, facilitated those harmful government policies, in addition to some policies of its own which played a role, though limited, in intensifying the crisis.

We will start the analysis with a small technical note on how to model seigniorage. Let real Seigniorage,  $S$ , be defined as:

$$1) S = \Delta M/P$$

Where  $M$  is the monetary base<sup>2</sup> and  $P$  is the price level, which makes real seigniorage equal to the change in the monetary base relative to the price level.<sup>3</sup> Equation 1 can be expressed as:

$$2) S = (\Delta M/M) \cdot (M/P)$$

$$3) S = (\Delta M/M) \cdot m$$

Where  $m$  is real money balances equal to  $M/P$ . Given that  $\Delta m/m = \Delta M/M - \Delta P/P$ , then:

$$4) \Delta M/M = \Delta m/m + \pi$$

Where  $\Delta P/P = \pi$  is the inflation rate. Replacing equation 4 in equation 3, we get:

$$5) S = \pi m + \Delta m$$

Equation 5 is very important. It splits real seigniorage revenue to two components:  $\pi m$ , which is the revenue generated from the 'inflation tax' on real monetary base balances; and  $\Delta m$ , which is the revenue made from additional real monetary base balances.

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The monetary base is high powered money, which is equal to bank reserves plus currency in circulation.<sup>2</sup>  
In other words, the change in the monetary base has to increase by more than the price level (inflation) for real<sup>3</sup> seigniorage to rise and be meaningful.

Tables 1 and 2 above show the relevant data and calculations for Lebanon for our studied period, 2014 to 2023. We express seigniorage revenue as a ratio of GDP (as is common in the literature) and express also changes in the monetary base as changes in currency only<sup>4</sup>. From Table 2, we can see that during the pre-crisis years of 2014-2018, seigniorage revenue as a ratio of GDP (seigniorage ratio) averaged 0.4%, which is notably very low and hardly meaningful. This implies that government deficits during that period were financed either by banks and/or by sterilized BDL monetization. As important, BDL foreign reserves managed to stay at \$32.5 billion and the exchange rate at 1,507.5 by 2018<sup>5</sup>.

What about the crisis years of 2019 to 2023? These were actually much more interesting. During that period the seigniorage ratio averaged 7.2%, admittedly a relatively high one, but still noticeably lower than the 1982-1994 war/crisis years of 10%. But this seigniorage revenue came as a result of BDL's needed monetary operations, not as a result of monetizing the deficit, as the latter was in fact mostly in surplus because of the collapse in expenditures. More important is what happened to the components of the seigniorage ratio. As such, *the inflation tax ratio averaged 15.3%, however the real balance ratio averaged -8.1%*. This means that inflation forced people to hold more monetary balances for transaction purposes; but at the same time people also got rid of their money balances by substituting USD for them for speculative and precautionary reasons, hence the negative real balance ratios.

**Table 3:**

|              | <b>Real Balance<br/>(Tn LBP)</b> | <b>Real Balance<br/>(Bn USD)</b> |
|--------------|----------------------------------|----------------------------------|
| <b>2019</b>  | 4.524                            | 3.001                            |
| <b>2020</b>  | -5.216                           | -1.357                           |
| <b>2021</b>  | -49.854                          | -3.942                           |
| <b>2022</b>  | -104.147                         | -3.417                           |
| <b>2023</b>  | -135.464                         | -1.548                           |
| <b>Total</b> | <b>-290.157</b>                  | <b>-7.264</b>                    |

This means that we don't include changes in LBP bank reserves, as these were passive and not part of the monetary <sup>4</sup> policy designs.

The high level of foreign reserves at \$32.5 billion were mostly a result of BDL's 'Financial Engineering' that banks were <sup>5</sup> greatly incentivized – as they had hardly any other options -- to participate in.

A crucial question is how responsible were these negative real balance ratios for the fall in BDL reserves through USD substitution? Table 3 above provides the answer. Between 2019 and 2023, the negative real balance effect caused a decline in BDL foreign reserves by \$7.2 billion. However, during that period – as we can see from Table 2 – BDL foreign reserves fell by \$19.9 billion, so the difference of \$12.7 billion – 64% of the total -- must be attributed to other reasons. And prime among these reasons is the ‘blanket’ subsidization policies – especially in 2020 and 2021 -- that the government adopted and BDL facilitated during that period<sup>6</sup>. And being regressive, these subsidization policies did little to alleviate poverty but did a lot to hemorrhage BDL reserves and to depress the exchange rate – the worst of ‘both worlds’! Note that anecdotal evidence puts the cost of subsidies at \$10 billion (though this figure is on the high side), which would imply that the remaining \$2.7 billion must have been wasted because of still other causes.

We think these other causes are captured by two policy measures that BDL itself initiated. The first was the ‘sayrafa’ platform that allowed people to exchange LBP for USD at favorable rates set by BDL. The second was ‘useless’ market interventions that BDL undertook to halt – but never successfully -- the depreciations in the exchange rate. The latter were mainly the outcome of speculation by politically-connected-and-protected foreign exchange houses, presumably affiliated with the ruling party dominating the country at the time. The end result of these policies was a loss of reserves of at least \$2.7 billion.

Of course, by the summer of 2023 rational economic policy finally prevailed, and all those atrocious policies were stopped: subsidization was eliminated, the ‘sayrafa’ platform was abolished, and politically-connected speculation was reined in. But the damage was already done, and banks’ deposits at BDL (i.e. customers deposits) were down to \$9.6 billion by end 2023. On the plus side, however, BDL since then has been able to stabilize the exchange rate by following a currency board regime, where currency in circulation would increase in tandem with BDL foreign reserves, and any seigniorage revenue would accrue only from the interest rate that BDL earns on these reserves.

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Interesting to note that a considerable part of these subsidies accrued, perhaps unfairly, to companies -- especially in the <sup>6</sup> gasoline, pharma, and consumer goods sectors -- with strong political affiliations, which would make their return back to the government extremely difficult.

We think the above tale should perhaps be well known by now, but what we tried to do in this note is to clarify some of the tale's more intricate points. In addition, we believe four important implications of the note are worth heeding:

- 1) Not only the government's pre-crisis wasteful and corrupt fiscal policies – in addition to its insistence on maintaining an overvalued exchange rate -- were responsible for igniting the crisis, but its disastrous policies during the crisis (like subsidies, in addition to default and absence of capital control) have worsened the crisis and prolonged it to this day. In this respect, what the government has done is a textbook example of how to mismanage a crisis and make it chronic.
- 2) Seigniorage played a limited role in precipitating the current crisis – compared to its role in the 1982-1994 crisis – but other BDL policies (like sayrafa and non-sterilized interventions) had depleted foreign reserves notably without causing a dent in exchange rate depreciations, as this was – and always has been -- a 'lost cause'. This can also be detected from the \$22.8 billion in seigniorage and open market operations mentioned at the outset, as more transparent BDL balance sheets published after August 2023 revealed that these are now comprised of *loans to the public sector, deferred open market operations, and other assets; but with no seigniorage as it was dropped altogether*<sup>7</sup>.
- 3) Almost a third of BDL foreign reserves that were gone between 2019 and 2023, \$7.2 billion out of the \$19.9 billion, were absorbed and hoarded by households. They thus represent the core of the cash economy that the country is living through now. So unless and until these money balances – and others, as total cash balances are estimated at \$18 billion<sup>8</sup> – are returned to a trusted and viable banking sector, then eliminating the cash economy and what it negatively implies regarding money laundering/terrorist financing will not be feasibly attainable.
- 4) And the talk about a trusted and viable banking sector takes us to the heart of crisis resolution, which is the return of deposits. As the government is the prime, if not the sole, perpetrator of the crisis, it has to shoulder most of the burden of returning back deposits, and allow in the process capable and liquid banks to regain back confidence and their intermediation role in the economy. And the government has a lot of assets – primarily gold – to accomplish that, so what is it waiting for? Aren't 6-7 wasted years enough already? As such, amending the Gap Law to that effect is the way to go.

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Loans to the public sector were listed as – at least -- \$16.6 billion.<sup>7</sup>  
World Bank, *Lebanon Economic Monitor*, Fall 2025.<sup>8</sup>

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