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Lebanon: From Dollars to Lollars

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ABSTRACT

What were the policies that created one of the world's largest financial and economic crisis (as a percent of GDP) in Lebanon in the early 2020s? An artificially strong currency peg created a consumption boom financed by government debt and international capital flows/remittances, exposing both the public and private sector to classic currency mismatch vulnerabilities. Moreover, a volatile deposit growth through international remittances created banking risks that both a government and a central bank needed to manage. High deposit growth resulted in large banks that invested in high interest-bearing USD deposits at the central bank. The central bank financed government debt, exposing the banking sector to sovereign debt. A worsening international economic environment and political fractionalization in a geopolitically sensitive region exacerbated the classic delays arising from taking difficult burden-sharing, distributional decisions to address the financial crisis.

JEL Classification: E02, E58, G01

1 | Introduction

The Lebanese economic crisis that started in 2019 is arguably one of the most challenging periods in Lebanon's turbulent hundred-year history.¹ The Lebanese Pound (LBP) had been pegged to the US Dollar (USD) at a rate of 1507.5 per USD since 1997, and by 15 February 2024, the central bank (Banque du Liban, (BdL)) adopted a new official fixed exchange rate; 89,500 Lebanese pounds per USD.² What were the policies that resulted in one of the world's largest financial and economic crisis (as a percent of GDP)?³ In this paper we provide a narrative of the different factors that resulted in this crisis using a case-study approach.

Figure 1 provides some statistics that reveal signs of a failed economy. Panel A shows how the Lebanese Pound (LBP), pegged at 1507.5 LBP/USD since 1997, began losing its value in the summer of 2019. By May 2022, the exchange rate in the unofficial market was trading at 27,000 LBP/USD, which means that the currency had lost more than 94% of its value in the

space of 30 months.⁴ Panel B shows that the inflation jumped from 2.90% in 2019 to 84.9% in 2020, and exceeded 220% in 2021. Panel C plots the currency in circulation (as a liability on the balance sheet of the central bank, BdL). The currency in circulation increased from LBP 1.5 trillion (tn) to LBP 5.9 tn from 2001 to 2018, a compound annual growth rate of 8.2%. Since 2019, the currency in circulation has nearly doubled every year, reaching LBP 45.8 tn at the end of 2021. Finally, Panel D shows that the real GDP has shrunk rapidly in the last few years, having contracted by 7% in 2019 and by 25% in 2020. The World Bank (2021) points out that such a dramatic decrease typically occurs during times of war or conflict. It is therefore remarkable that, in the case of Lebanon, such a contraction of the economy should occur during peacetime; it also illustrates the magnitude of this economic contraction.

Until this economic crisis, the Lebanese government had never failed to honour a debt payment. This all changed, when the cabinet took the decision to default on a USD 1.2 billion (bn) payment, due to be paid on 9 March 2020 (Cornish 2020b).⁵

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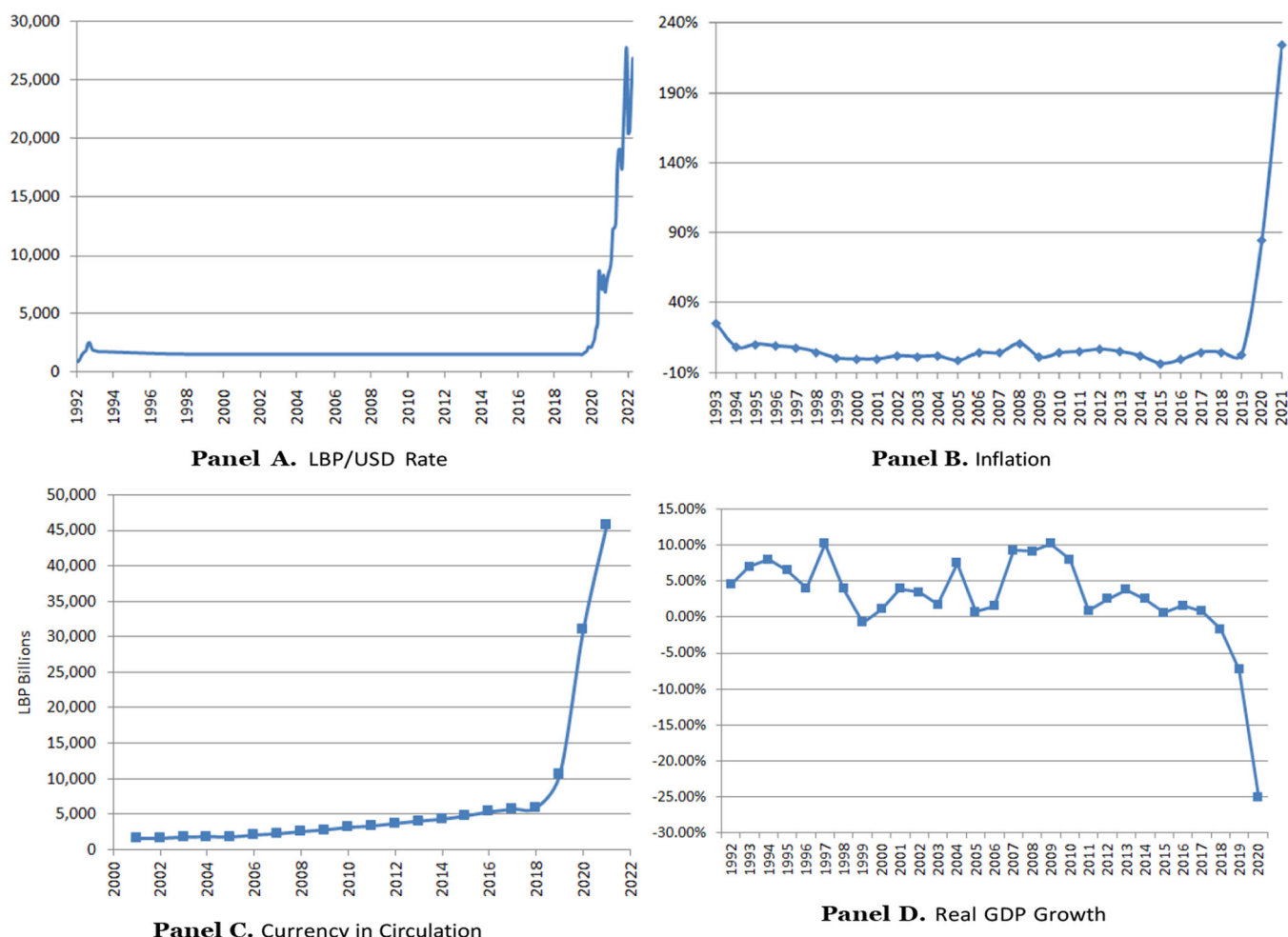


FIGURE 1 | Signs of a failed economy. Panel A. LBP/USD Rate. Panel B. Inflation. Panel C. Currency in Circulation. Panel D. Real GDP Growth. Source: Banque Du Liban, International Monetary Fund, the World Bank, the Central Administration of Statistics and www.lirarate.org. [Color figure can be viewed at wileyonlinelibrary.com]

Figure 2 plots the evolution of the yield-to-maturity on the sovereign bond denominated in USD and maturing in 2037. The dotted line marks the beginning of the October 2019 protests that rapidly push up the yield on this bond, and the dashed line marks the official default date on the sovereign debt. The yield on this bond provides a strong signal that investors perceive the rest of the Lebanese sovereign debt as unsustainable.

Once private markets cannot be relied upon for funding, a sovereign turns to the official sector for support. Lebanon has done that by turning to the International Monetary Fund (IMF) for official assistance on the 1st of May 2020. Negotiations with the IMF have been ongoing but as of 14 February 2025, there is difficulty coming to agreement on key conditions that will convince essentially the IMF that a program is sustainable. A key characteristic of these prolonged negotiations is the delay to reach a deal with the IMF. This large delay is similar to the delay witnessed in neighbouring Cyprus in 2013 (Michaelides 2014) with catastrophic economic consequences. This delay has been especially costly for the economy given that a staff level agreement had been reached on 7 April 2022, subject to approval from the IMF executive board. The IMF's frustration with further delays in implementation can be clearly

gleaned from the published summary of the IMF's September 2022 visit to Lebanon.⁶

The magnitude of the crisis and the dramatic delay in constructively resolving it generate several questions:

- What happened in Lebanon?
- Could these catastrophic economic events been avoided?
- What are the lessons for emerging markets following a fixed exchange rate policy?
- Is this currency crisis different from classic (generation one) balance of payment crises described by Krugman (1979)?
- What can we learn regarding crisis management once such crises erupt? Are there any specific events and/or circumstances and/or institutional features to which both local and international policy makers should pay special attention?

What follows is our attempt to address these questions. The structure of the paper is as follows. Section II provides a brief historical background on Lebanon's recent history. Section III discusses the underlying macroeconomic imbalances in the

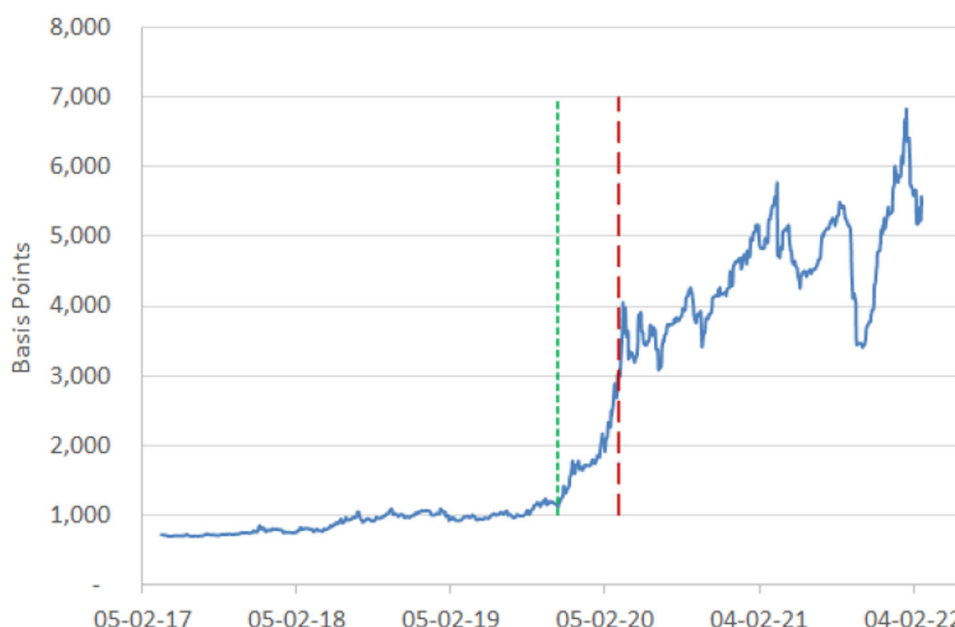


FIGURE 2 | Yield-to-maturity on sovereign Lebanese bond with 2037 maturity. The dotted line marks the beginning of the 17 October 2019 protests and the dashed line marks the date Lebanon officially defaulted on its sovereign debt. *Source:* Bloomberg. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/imfi.12459)]

government budget and current account (the twin deficits), and the currency mismatches in the banking sector. Section IV discusses the role of the central bank in the developing economic crisis. Section V discusses a number of warning signals that should have increased the urge to resolve the crisis, and Section VI analyzes the delay in the negotiations between the IMF and the Lebanese government. Section VII discusses the possible lessons from the crisis, and Section VIII concludes.

2 | Historical Background

The state of Greater Lebanon (present-day Lebanon) was created in 1920. It was placed under a French mandate, having been under Ottoman rule from the fifteenth century until the end of World War I. Several systems and institutions were put in place during the French mandate, such as the constitution (1926), the education and legal systems, before Lebanon obtained its independence from France on 22 November 1943.

A few months before independence day, the National Pact was introduced. This unwritten document is, in its essence, a power-sharing agreement between the different confessional groups. The National Pact stipulates for example, that the President of the Republic, the Prime Minister and the Speaker of Parliament must always be a Maronite (Christian), a Sunni (Muslim) and a Shia (Muslim), respectively. Other positions such as the head of the army or the deputy speaker of Parliament are also split between the different faith groups. The Pact also stipulates that the parliament must always have a 6-to-5 ratio of Christians to Muslims.⁷ The significance of this unwritten agreement is very important because it established Lebanon as a consensus democracy; a system where every minority has a say in the decision-making process (as opposed to a majoritarian democracy where the majority decides).

Motivated by a desire to protect minority rights, this system of government had repercussions throughout Lebanon's history, especially during crises.

In 1975, a series of altercations between Christian militias and Palestinian guerillas sparked what is now known as the Lebanese civil war.⁸ The diversity and fractionalization of the Lebanese population fuelled this 15-year conflict. The Taif agreement between the different warring parties was ratified by the Lebanese Parliament on 5 November 1989.⁹ The end of the civil war was declared nearly a year later, in October 1990. In 1992 Lebanon held parliamentary elections for the first time in twenty years. Rafik Hariri was designated as prime minister and subsequently formed the government aiming to lead the reconstruction effort.

The political environment created substantial economic challenges for Lebanon. Nevertheless, Lebanon enjoyed significant economic growth, with real GDP growing by 7.8% per annum in the next decade. The period was also marked by inflation returning to normality (See Figure 1, Panel B), decreasing from 100% in 1992 to 5% in 1998. Lebanon's post-war economy is largely based on services that averaged 69% of GDP from 1994 to 2020, rising from 61.9% to 87.2% over this period (key sectors are banking/finance and tourism). One implication is that the perceived stability of the country is crucial for investors, foreign depositors and tourists. To achieve this, there is evidence that the central bank started stabilizing the national currency vis-a-vis the US dollar as early as 1993 until a full peg was implemented in 1997. Figure 3 illustrates this transition in the exchange rate.

The peg was introduced in 1997 to restore the strength of the Lebanese Pound and stabilize inflation. Dibeh (2002) argues that price stability was the cornerstone of Lebanon's pre-1975 economy and that the 1975–1990 civil war, particularly in its later stages,

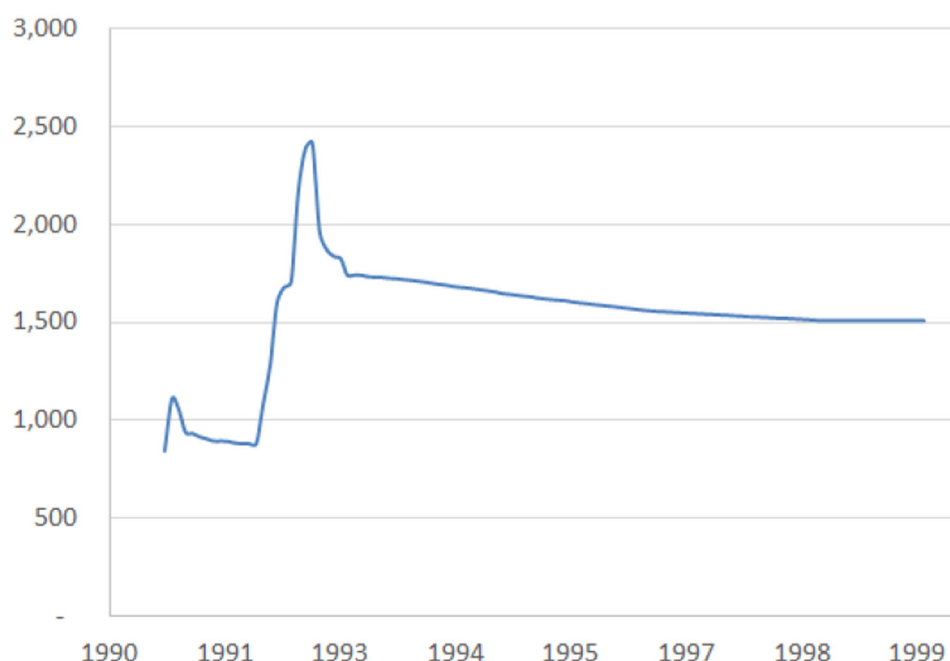


FIGURE 3 | LBP to USD exchange rate from 1990 to 2000. *Source:* Banque du Liban. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/inf.12459)]

completely undermined this stability. He shows that Lebanon has experienced a currency crisis (with the Lebanese Pound collapsing from 4.5 LBP per USD to over 1800 LBP per USD between 1984 and 1992) as well as a highly inflationary period (with inflation reaching 120% in 1992). A direct outcome of the peg was the dollarization of the economy: the US Dollar became legal tender in Lebanon. Between 1997 and 2019, the share of bank loans denominated in foreign currencies (mainly US Dollars) represented between 68% and 89% of total loans given to the private sector. Similarly, deposits in banks in foreign currencies represented between 61% and 77% of total deposits.

3 | Macroeconomic Imbalances

We next describe three key macroeconomic imbalances that developed over time in the Lebanese economy and contributed to varying degrees to the economic crisis.

3.1 | The Current Account Deficit: Financing a Consumption Boom

Lebanon experienced a consumption boom after 1990. Table 1 shows the breakdown of GDP. Household consumption (C) is extremely high, ranging from 82% to 117% of GDP in the 1992–2019 period. Between 1992 and 2019, the world average consumption-to-GDP ratio ranged between 55% and 60%, which is much lower than in Lebanon.¹⁰ After sorting countries by the average household consumption-to-GDP and eliminating countries with no data points for the period considered, we find that Lebanon had the 6th highest average consumption share, behind Sierra Leone, the West Bank and Gaza, Tonga, Haiti and Somalia.

Government consumption (G) over that same period ranges between 12% and 17% of GDP and is therefore more

comparable to international averages. It is important to note here that, at the beginning of the period we consider, Lebanon was coming out of a particularly destructive civil war; one would expect that the government would spend significant sums towards the rebuilding of the partially, or fully destroyed, infrastructure. Bearing this in mind, we find that the Lebanese government's contribution towards the reconstruction and development was low, and that the reconstruction was largely left to the private sector. We offer two pieces of anecdotal evidence of the low public sector involvement in the post-war reconstruction and development effort. First, the 1992 Rafik Hariri government set up a USD 14 bn reconstruction plan called 'Horizon 2000' whose goal was to reconstruct and restore the country's damaged infrastructure; the plan was later scrapped on account of being too costly (Credit Libanais Economic Research Unit 2016). Second, the reconstruction and development of the Beirut Central District (which suffered a much deeper damage than other parts of the country) was tasked to Solidere, a private joint-stock company set up specifically for that purpose.

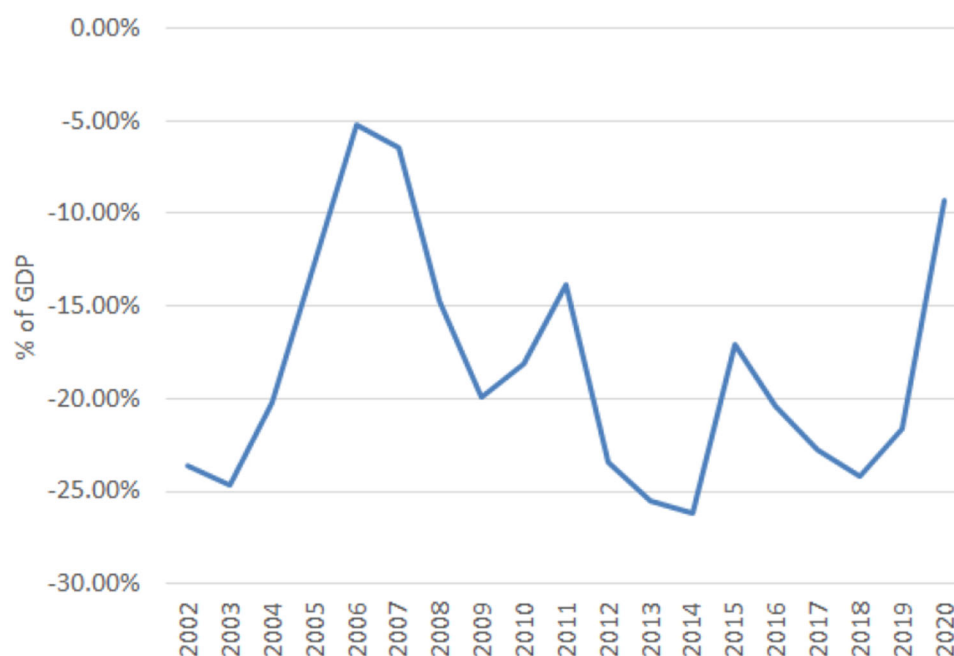
Considering the investment (I) component of GDP, we find a decreasing trend over time given that the reconstruction effort was most pronounced in the years that immediately followed the end of the civil war. The ratio of investment to GDP is similar to the rest of the world (between 23% and 26% over the 1992–2019 period according to the World Bank data), even though Lebanon should have been undertaking higher investment due to reconstruction efforts.

The surprisingly high consumption to GDP ratio is reflected in the large difference between imports and exports. The net trade deficit between 1992 and 2019 was on average 30% of GDP, placing Lebanon in the top 15 countries with the highest trade deficit in the world.¹¹ Lebanon has been running a current account deficit for all of its recent history. Figure 4

TABLE 1 | Breakdown of the GDP by component (% of total).

Year	C	G	I	X	M	Year	C	G	I	X	M
1992	118%	14%	29%	11%	72%	2006	85%	15%	22%	36%	55%
1993	115%	12%	31%	9%	67%	2007	86%	14%	24%	37%	61%
1994	105%	13%	37%	8%	62%	2008	88%	13%	27%	39%	68%
1995	103%	12%	36%	11%	62%	2009	84%	13%	28%	33%	57%
1996	93%	14%	35%	13%	55%	2010	88%	12%	25%	35%	60%
1997	87%	17%	29%	15%	48%	2011	90%	13%	26%	36%	66%
1998	82%	17%	28%	14%	41%	2012	92%	14%	25%	29%	60%
1999	83%	17%	23%	14%	37%	2013	92%	13%	27%	27%	59%
2000	84%	17%	21%	14%	36%	2014	95%	13%	24%	24%	56%
2001	84%	18%	21%	16%	40%	2015	91%	12%	22%	23%	49%
2002	83%	17%	19%	16%	35%	2016	89%	13%	22%	22%	46%
2003	85%	17%	20%	17%	37%	2017	90%	13%	21%	22%	46%
2004	83%	14%	22%	35%	56%	2018	91%	15%	20%	21%	47%
2005	82%	15%	22%	37%	56%	2019	92%	16%	14%	20%	41%

Note: This table presents the percentage that each category of the GDP represents of the total. *C* represents the consumption of households and of non-profit institutions serving households; *G* represents government expenditure; *I* represents gross fixed capital formation; *X* and *M*, respectively, represent exports and imports. $GDP = C + G + I + (X - M)$. Data are from the World Bank. Note: The totals do not tally to 100% in all years due to rounding errors.

**FIGURE 4** | Current account balance. Source: Banque du Liban and World Bank. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

shows that the current account deficit has in general been very high.

There is a second economic component that can justify the high current account deficit and consumption to GDP ratio. Lebanon has a substantial diaspora and remittances as a percent of GDP are an important source of financing local consumption. This is illustrated in Figure 5 which shows that remittances were above 25% of GDP in 2004 but have gradually declined to around 15% in the decade following the Great Recession. These remittances provide a source of funding for Lebanese banks and are an

important component linking the Lebanese economy to economic developments in neighboring countries and the international economy more generally.

3.2 | The Fiscal Deficit

We start the analysis after the end of the civil war. As shown in Figure 6, the debt-to-GDP ratio was quite low in 1993 (46% of GDP), but the Lebanese government steadily started accumulating debt. In theory, a large increase in government debt is not

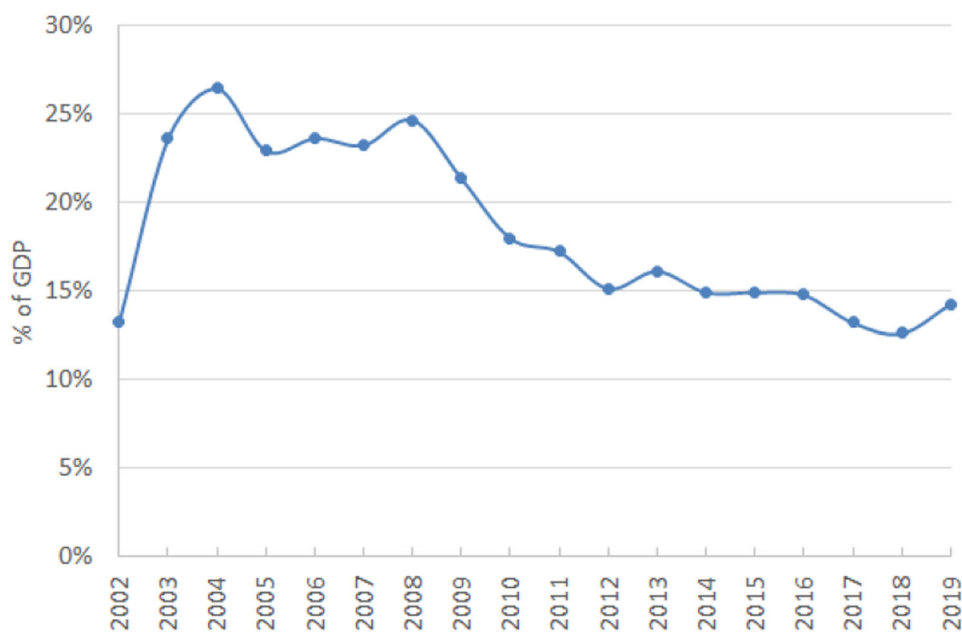


FIGURE 5 | Remittances as a percentage of GDP. *Source:* World Bank. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/imfi.12459)]

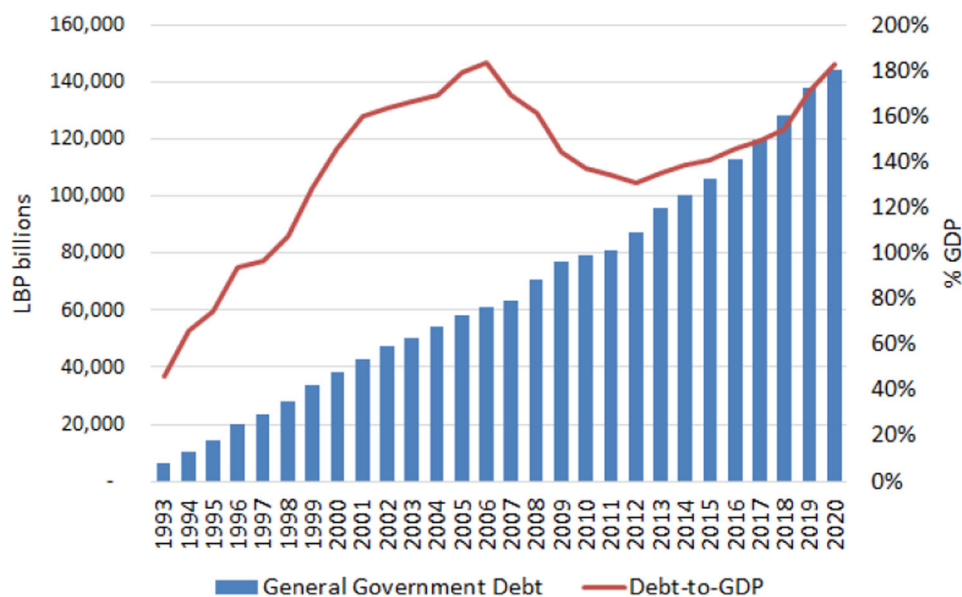


FIGURE 6 | Lebanon Government debt to GDP. *Source:* Banque du Liban and World Bank. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/imfi.12459)]

necessarily bad, especially if the increase is used to temporarily finance productive government expenditures (in reconstruction and development, e.g.).

The higher government debt to GDP ratio was a natural consequence of fiscal imbalances; Figure 7 illustrates the primary and total government surplus/deficit as a percentage of GDP. Lebanon was able to maintain a primary fiscal surplus in most years between 1998 and 2018, before the onset of the economic crisis in the summer of 2019. This is most notable in the 2001–2011 decade, where Lebanon enjoyed 11 consecutive years of primary surplus. The year 2011 marks the start of the civil war in neighboring Syria, which saw Lebanon take in over 1.5 million Syrian refugees. The spillover from the

Syrian crisis adversely impacted government revenues (as it weakened economic activity in general and tourism in particular) and increased government expenditures due to the additional demands on public services made by refugees (World Bank 2013). This has inevitably worsened fiscal balances from 2012 onwards. Accounting for the interest on debt means that Lebanon's total fiscal expenditures far outweighed its fiscal revenues; in the years before the economic crisis, the total fiscal deficit was between 6.4% and 18.4% of the GDP, with an average of 9.9% for the period from 1998 to 2018. Fiscal profligacy eventually leads to sovereign debt sustainability challenges; Samarakoon (2024) also identifies fiscal profligacy as the root cause of sovereign default for the case of Sri Lanka in 2022.

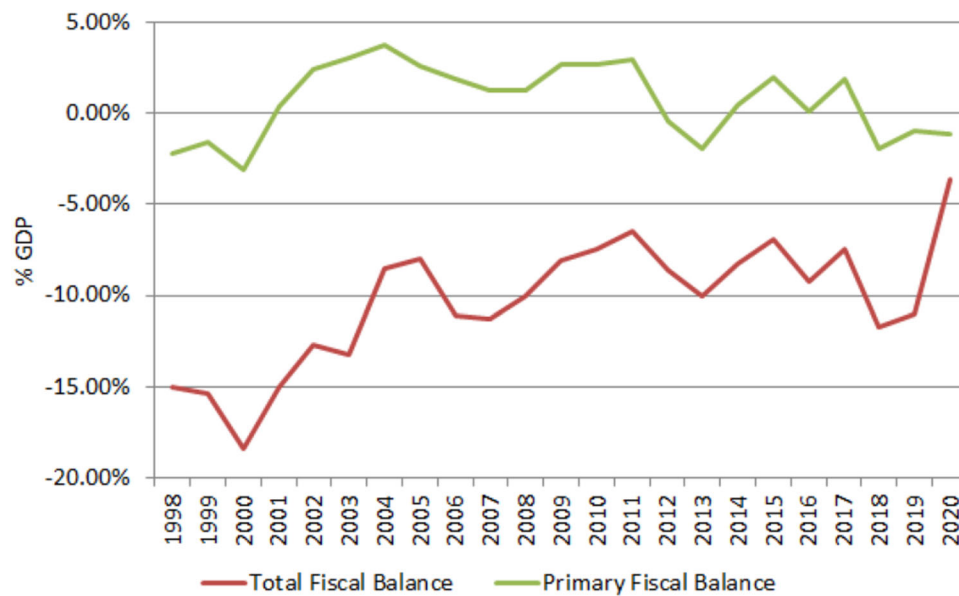


FIGURE 7 | Primary and total government budget balance To GDP. *Source:* Lebanon's Ministry of Finance and World Bank. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/nfi.12459)]

Where did these budget deficits come from? Table 2 breaks down total government expenditures between salaries, social transfers, interest payments, capital expenditures and other expenses, as a percentage of GDP; Table 3 breaks down total government revenues (expenditures) by type as a percentage of the total fiscal revenues (expenditures).

The average total fiscal revenue from Table 2 is around 19.1% of GDP. This is a low figure either when compared to similar countries or when compared to Lebanon's total government expenditures. For example, (Michaelides 2014) finds that tax revenue for neighbouring Cyprus ranged from 35% to 45% of GDP in the years 2000 to 2012. In the same vein, a study commissioned by Lebanon's Ministry of Economy and Trade uses 2012–2017 data and reaches similar conclusions regarding the fiscal revenues-to-GDP ratio, finding that fiscal revenues have been plagued by a low tax collection when benchmarked against similar countries (McKinsey and Company 2017). When compared to total government expenditures, there is a substantial gap that explains both the rapid rise in government debt-to-GDP but also the increasing and substantial cost of interest payments on government debt.

The interest on debt followed a particularly telling time trend: it increased from 12.8% of GDP in 1998 to reach 16.32% in 2003; it then started to decrease as the government gradually took more foreign currency debt to reduce interest payments, reaching only 8.1% of GDP in 2013. Figure 8 plots the proportion of foreign currency debt to total sovereign debt, as well as the computed effective interest rate (which is calculated as the total interest expense divided by the average government debt in every year in our sample). The figure clearly shows that the two time series are negatively correlated; we find a correlation of -58% for the 1998–2019 sample.¹² With low global interest rates, the temptation to increase foreign currency sovereign debt to finance government deficits is clear and will become important later in our narrative.

There are some other interesting features in Table 2. The government formally defaulted in March 2020 which explains why interest expense 'only' amounted to 2.5% of GDP in 2020. Subsidies and grants include transfers made to the ailing electricity company, Electricité du Liban (EdL), whose reform was highlighted as requiring immediate government action by McKinsey and Company (2017). Capital expenditures have been on the decline since 1999, decreasing from 5.9% to 1.67% of GDP in 2019.

It is also instructive to discuss the decomposition of fiscal revenues and expenditures by category (Table 3). Fiscal expenditures are mainly driven by interest on debt, as well as salaries and social transfers. In the period for which data from the Ministry of Finance and the IMF is available (i.e., 1998–2020), interest on debt accounted for 34.3% of fiscal expenses, while salaries and social benefits represented 38.3% of fiscal expenses. On the other hand, capital expenditures over the entire period only amounted to 7.5% of the total government expenditures: this is a confirmation that the trends noted by Gaspard (2004) from his analysis of the fiscal expenditures in the post-war decade hold for the entire 1998–2020 period.

A first conclusion is that the high government expenditures are driven by high wages and salaries, as well as by the burden of a rapidly rising government debt. The high interest rate cost provides a natural motive to borrow at internationally lower interest rates, thereby increasingly foreign currency government debt. Importantly, it is factually incorrect to assert that the high debt level accumulated by the government was caused by the post-war reconstruction effort. This was not the case in the years immediately following the war as demonstrated by Gaspard (2004) and it was not the case thereafter, given the low level of capital expenditures undertaken by the government.

TABLE 2 | Fiscal revenues and expenditures by category (% of GDP).

Year	Fiscal revenues			Fiscal expenditures						Total expenditures
	Tax revenues	Other revenues	Total revenues	Salaries	Interest on debt	Social benefits	Subsidies & grants	Capital exp.	Other exp.	
1998	12.63%	4.38%	17.02%	6.79%	12.82%	3.38%	0.28%	5.89%	2.91%	32.07%
1999	13.37%	5.24%	18.61%	7.67%	13.82%	4.07%	0.09%	5.92%	2.41%	33.98%
2000	11.90%	4.13%	16.03%	7.38%	15.31%	5.88%	0.38%	3.92%	1.56%	34.43%
2001	11.88%	4.13%	16.01%	6.62%	15.38%	5.49%	0.08%	2.05%	1.45%	31.06%
2002	14.43%	4.22%	18.65%	6.29%	15.12%	5.38%	0.07%	3.01%	1.49%	31.37%
2003	15.38%	5.04%	20.42%	6.31%	16.32%	4.84%	1.47%	3.19%	1.53%	33.67%
2004	16.51%	5.44%	21.95%	6.26%	12.30%	4.42%	2.46%	3.67%	1.40%	30.52%
2005	15.17%	5.98%	21.14%	6.17%	10.52%	4.60%	4.21%	2.27%	1.34%	29.11%
2006	15.01%	8.42%	23.43%	6.37%	13.06%	5.22%	5.01%	2.87%	2.06%	34.58%
2007	14.94%	7.47%	22.42%	6.14%	12.54%	4.42%	5.01%	2.09%	3.46%	33.66%
2008	16.42%	6.11%	22.52%	5.84%	11.29%	4.72%	6.62%	2.03%	2.08%	32.58%
2009	16.86%	5.40%	22.26%	6.12%	10.84%	4.20%	6.22%	1.60%	1.41%	30.38%
2010	16.84%	3.29%	20.13%	5.49%	10.17%	4.32%	4.42%	1.79%	1.45%	27.64%
2011	16.38%	5.49%	21.87%	5.79%	9.39%	4.21%	5.02%	1.92%	1.98%	28.31%
2012	15.19%	4.75%	19.94%	5.96%	8.22%	4.79%	6.50%	1.76%	1.32%	28.55%
2013	14.06%	4.45%	18.50%	5.66%	8.08%	5.28%	5.78%	1.87%	1.88%	28.55%
2014	14.10%	5.84%	19.94%	5.71%	8.70%	4.48%	5.32%	2.23%	1.72%	28.16%
2015	13.43%	4.78%	18.21%	5.71%	8.91%	4.51%	3.97%	1.75%	1.59%	26.45%
2016	13.46%	4.78%	18.25%	5.76%	9.28%	4.76%	4.39%	1.74%	1.54%	27.46%
2017	15.27%	5.20%	20.47%	6.29%	9.36%	4.78%	3.54%	2.08%	1.88%	27.92%
2018	15.22%	4.36%	19.58%	6.72%	9.79%	6.22%	4.75%	2.20%	1.66%	31.35%
2019	15.30%	4.36%	19.66%	6.95%	9.99%	6.34%	4.46%	1.67%	1.25%	30.66%
2020	8.90%	2.97%	11.87%	4.77%	2.49%	4.63%	2.22%	0.57%	0.83%	15.51%

Note: This table presents the breakdown of government revenues and expenditures by year and by type as a percentage of GDP. Data are from the Lebanese Ministry of Finance, the International Monetary Fund and the World Bank.

TABLE 3 | Fiscal revenues and expenditures by category (% of Total).

Year	Fiscal revenues			Fiscal expenditures						
	Tax revenues	Other revenues	Total revenues	Salaries	Interest on debt	Social benefits	Subsidies & grants	Capital exp.	Other exp.	Total expenditures
1998	74.25%	25.75%	100.00%	21.17%	39.98%	10.54%	0.87%	18.37%	9.08%	100.00%
1999	71.86%	28.14%	100.00%	22.57%	40.67%	11.99%	0.26%	17.43%	7.08%	100.00%
2000	74.23%	25.77%	100.00%	21.42%	44.46%	17.07%	1.10%	11.40%	4.54%	100.00%
2001	74.19%	25.81%	100.00%	21.31%	49.51%	17.67%	0.25%	6.59%	4.66%	100.00%
2002	77.36%	22.64%	100.00%	20.04%	48.21%	17.15%	0.23%	9.61%	4.76%	100.00%
2003	75.32%	24.68%	100.00%	18.76%	48.49%	14.37%	4.36%	9.49%	4.54%	100.00%
2004	75.23%	24.77%	100.00%	20.52%	40.29%	14.48%	8.07%	12.03%	4.60%	100.00%
2005	71.74%	28.26%	100.00%	21.21%	36.13%	15.81%	14.45%	7.79%	4.61%	100.00%
2006	64.05%	35.95%	100.00%	18.41%	37.76%	15.11%	14.48%	8.29%	5.95%	100.00%
2007	66.67%	33.33%	100.00%	18.23%	37.26%	13.14%	14.89%	6.22%	10.27%	100.00%
2008	72.89%	27.11%	100.00%	17.93%	34.67%	14.49%	20.31%	6.22%	6.39%	100.00%
2009	75.74%	24.26%	100.00%	20.13%	35.68%	13.83%	20.47%	5.25%	4.64%	100.00%
2010	83.66%	16.34%	100.00%	19.86%	36.79%	15.62%	16.01%	6.49%	5.24%	100.00%
2011	74.89%	25.11%	100.00%	20.45%	33.18%	14.87%	17.73%	6.77%	6.99%	100.00%
2012	76.20%	23.80%	100.00%	20.86%	28.79%	16.77%	22.77%	6.18%	4.63%	100.00%
2013	75.97%	24.03%	100.00%	19.82%	28.30%	18.48%	20.24%	6.57%	6.59%	100.00%
2014	70.71%	29.29%	100.00%	20.28%	30.90%	15.90%	18.88%	7.93%	6.10%	100.00%
2015	73.75%	26.25%	100.00%	21.58%	33.68%	17.06%	15.03%	6.63%	6.02%	100.00%
2016	73.78%	26.22%	100.00%	20.98%	33.77%	17.32%	15.99%	6.33%	5.61%	100.00%
2017	74.60%	25.40%	100.00%	22.51%	33.51%	17.11%	12.69%	7.45%	6.72%	100.00%
2018	77.73%	22.27%	100.00%	21.43%	31.22%	19.85%	15.17%	7.01%	5.31%	100.00%
2019	77.83%	22.17%	100.00%	22.67%	32.59%	20.69%	14.53%	5.45%	4.07%	100.00%
2020	74.95%	25.05%	100.00%	30.74%	16.07%	29.83%	14.32%	3.70%	5.34%	100.00%
1998-2020	74.64%	25.36%	100.00%	21.20%	34.31%	17.12%	14.13%	7.48%	5.77%	100.00%

Note: This table presents the percentage that each revenue (expenditure) type represents of the total fiscal revenues (expenditures). Data are from the Lebanese Ministry of Finance, the International Monetary Fund and the World Bank.

3.3 | Banking Imbalances

The Lebanese banking sector has long been perceived as a pillar of the Lebanese economy. As shown in Figure 9, Lebanese commercial banks have gradually succeeded in attracting more and more deposits, both from residents and non-residents. Lebanon does not have a developed secondary debt market; commercial banks are therefore largely financed by deposits. At the time the currency peg was initiated in 1997, deposits in banks amounted to 164% of GDP, with the deposits of residents representing the lion's share (137% of GDP, compared with only 27% of GDP for nonresident deposits). In the following years, deposits as a percentage of GDP continued to grow, reaching a

peak of 332% in 2018, which is considered one of the highest in the world (2.3 times higher than similar countries, (McKinsey and Company 2017). After 2019 there was a sharp decline in deposits owing to a capital flight with the onset of the economic crisis. Resident (nonresident) deposits decreased from 247% (85% of GDP at the end of 2018 to 144% (44%) at the end of 2020.¹³

One may ask what was the impetus behind this significant growth in deposits relative to the size of the economy. Several factors have contributed to this growth. First, the Lebanese banking sector enjoys strong financial secrecy: the 1956 banking secrecy law ensures that banking establishments are

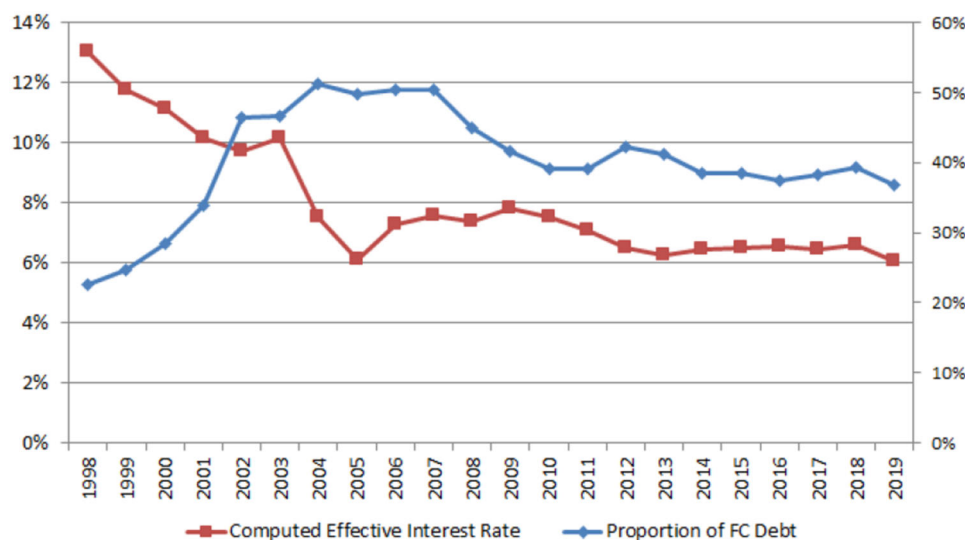


FIGURE 8 | Government debt by currency. The computed effective interest rate is the total interest expense divided by the average government debt in a given year. The proportion of FC debt (right-hand axis) represents the ratio of the foreign currency debt to the total government debt. Source: Banque du Liban. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

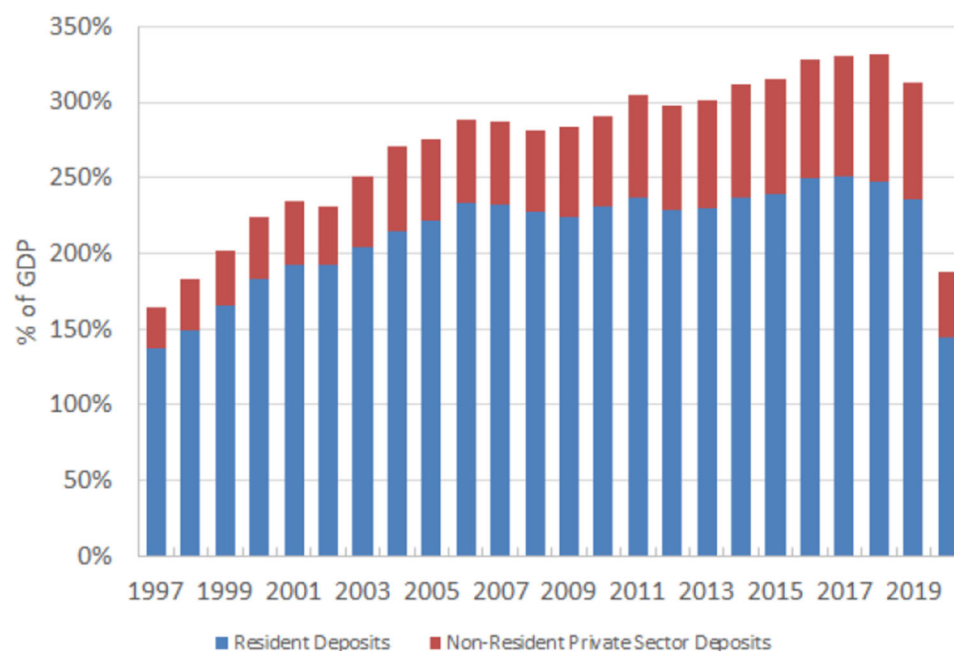
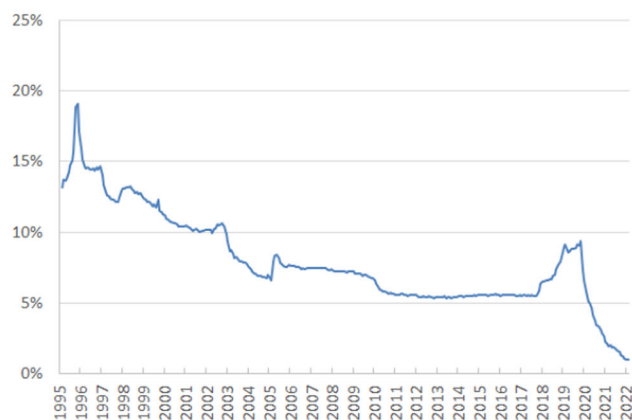


FIGURE 9 | Deposits in commercial banks. Source: Banque du Liban and World Bank. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

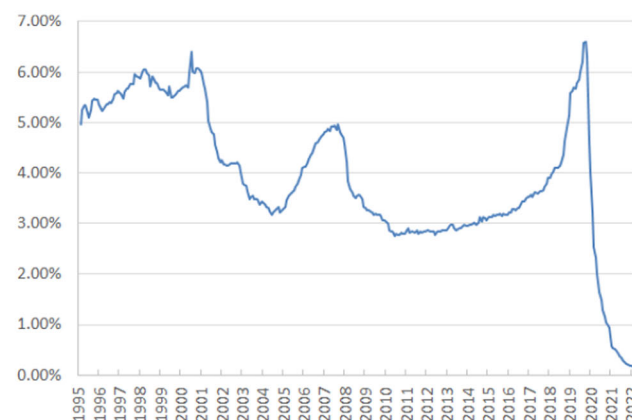
bound to absolute secrecy in favor of their clients. Though this law is still in place, absolute secrecy was somewhat curtailed in 2001 with the passing of law 318/2001 (later superceded by law 44/2015) giving the ‘Special Investigation Commission’ the right to lift the secrecy on accounts suspected of money-laundering and/or financing terrorist activities. Second, interest rates offered to depositors also helped increase deposits relative to the economy. Figure 10 shows the evolution of the average rate depositors were offered for LBP or foreign currency deposits. Interest rates offered on both local and foreign currency deposits are relatively high, compared to worldwide averages. In 2007 foreign currency deposit rates were as high as 5% and started rising after 2015 and in 2019 they rose above 6%. Even though the rapid rise in foreign currency interest rates in the 2016–2019 period was reflecting banking weakness, this weakness was not readily recognised by many households. This made USD deposits attractive to

Lebanese nationals living both in Lebanon and abroad and many Lebanese living abroad transferred their wealth in USD to earn significantly higher returns than in their country of residence.

What were the consequences of the increase in foreign currency deposits? Figure 11 shows the year-on-year growth for both resident and nonresident deposits in commercial banks. We observe that nonresident deposit growth is very volatile relative to resident deposit growth. This fluctuation in nonresident deposits can be explained by both internal and external factors. We first note that there was significant 40% growth in 1998, as the country in general (and its banking sector in particular) was seen as more stable following the decision to peg the currency. Growth slowed down in the years that followed. Many Lebanese citizens (both residents and non- residents) following the Great Recession of 2008 were lured by high interest rates and moved their money into Lebanese



Panel A. LBP Deposits



Panel B. Foreign Currency Deposits

FIGURE 10 | Weighted average of deposit interest rates in commercial banks. Panel A. LBP deposits. Panel B. Foreign currency deposits. *Source:* Banque du Liban. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

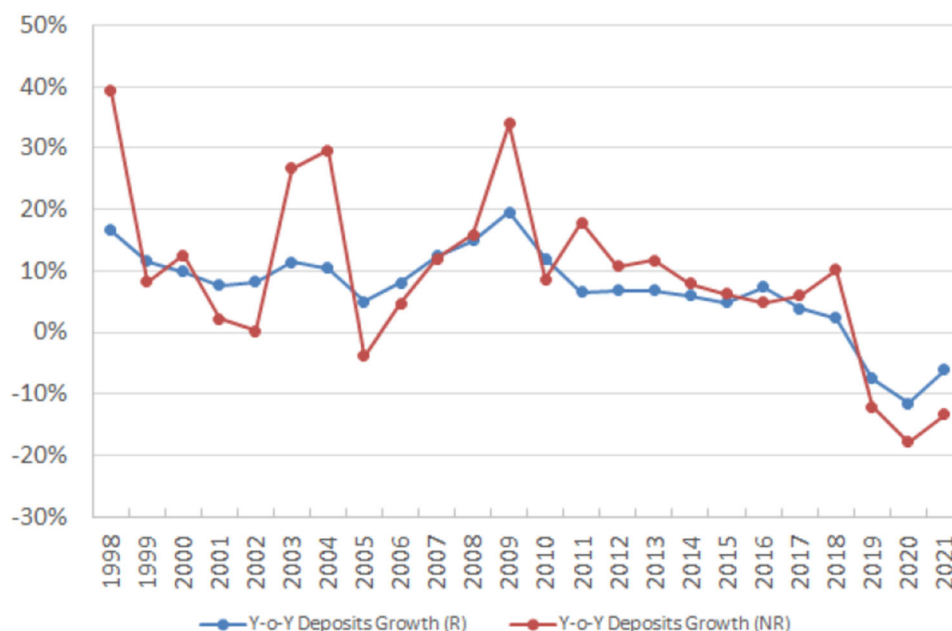


FIGURE 11 | Year-on-year growth in deposits in commercial banks. *Source:* Banque du Liban. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

banks. After that point however, deposit growth slowed down considerably. The main message is the nonresident deposit growth is much more volatile than resident deposit growth and that risk is a risk the banking system needs to manage.

Deposits of nonresident origin depend mainly on remittances from Lebanese citizens working abroad. Between 2003 and 2008, remittances were very large and averaged around 24% of GDP. Between 2008 and 2019, remittances in USD were relatively stable (between USD 6.6 bn and USD 7.6 bn per year).¹⁴ Since the economy was growing during those years (with nominal GDP rising from USD 29.1 bn to USD 53.5 bn between 2008 and 2019), remittances decreased to about 15% of GDP in 2019. The International Monetary Fund (2017) confirms the decline in remittances; the report first shows that Lebanese citizens residing in Arab countries are by far the largest remitters to Lebanon, contributing over 43% of total remittances, since an increasingly large portion of the Lebanese diaspora resides in the Middle-East and North Africa region (MENA). Accordingly, a drop in oil prices (as observed between 2011 and 2016) likely negatively affected the incomes of Lebanese residing in Gulf Cooperation Council (GCC) countries, translating into a decrease in remittances from these regions.

Favorable banking secrecy laws, high interest rates and high remittances were therefore the main reasons for Lebanese deposits growing to well over 3 times GDP. A number of questions follow as a result of this development. What did banks do with the deposits? In other words, what did the asset side of the banks' balance sheets look like? How were banks planning to generate sufficiently high revenue to fund the generous deposit interest rates they were offering? Banks' assets grew significantly faster than the economy. Figure 12 shows that the total balance sheet of all Lebanese commercial banks steadily grew from just under 200% of GDP in 1999 to

450% of GDP in 2018, before sharply decreasing in the subsequent years.

What was the composition of these assets? Two particular assets (that are unrelated to the normal bank business of making loans to the real economy) made up 70% of the total banks' balance sheet by 2020. The two assets from the banks' point of view were deposits with the BdL and claims on the public sector (Lebanese government debt). In 1992 the banking sector's exposure to Lebanese government was relatively small: the claims on the public sector (mainly in the form of government bonds) represented 21% of the balance sheet, while deposits with BdL represented only 4% of the balance sheet, for a total exposure of 25%. Figure 13 shows both assets as a percentage of the banks' total balance sheet from 1997 onwards. This exposure gradually grew from 25% in 1992 to 70% in 2020, with the composition also changing. Banks started to decrease their holding of government bonds (as a percentage of their total balance sheet) from 21% in 1992 to 11% in 2020, while their exposure to BdL grew from 4% to 59% over the same period. The pattern of growth is interesting, as it is not linear: in fact, between the years 2003 and 2013, the combined exposure of the commercial banks to the government and the central bank moved in a tight range, between 50% and 56%. Thereafter, the banks started increasing their exposure to the central bank, while simultaneously decreasing their exposure to the government, but the result was a net increase such that, as of 2020, 70% of the commercial banks' assets represented an effective credit to the Lebanese public sector.

Figure 14 shows the sovereign debt denominated in LBP by holder type (unfortunately, no similar information is available for Lebanese Eurobonds). Until 2000, LBP-denominated sovereign debt was not held by the central bank. On the other hand,

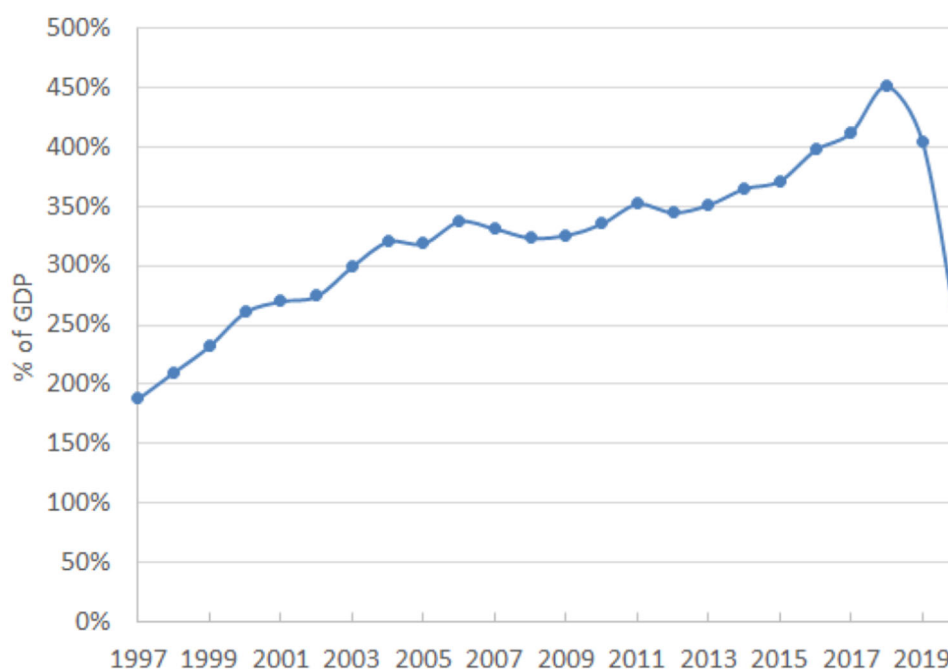


FIGURE 12 | Total balance sheet of commercial banks. *Source:* Banque du Liban and World Bank. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

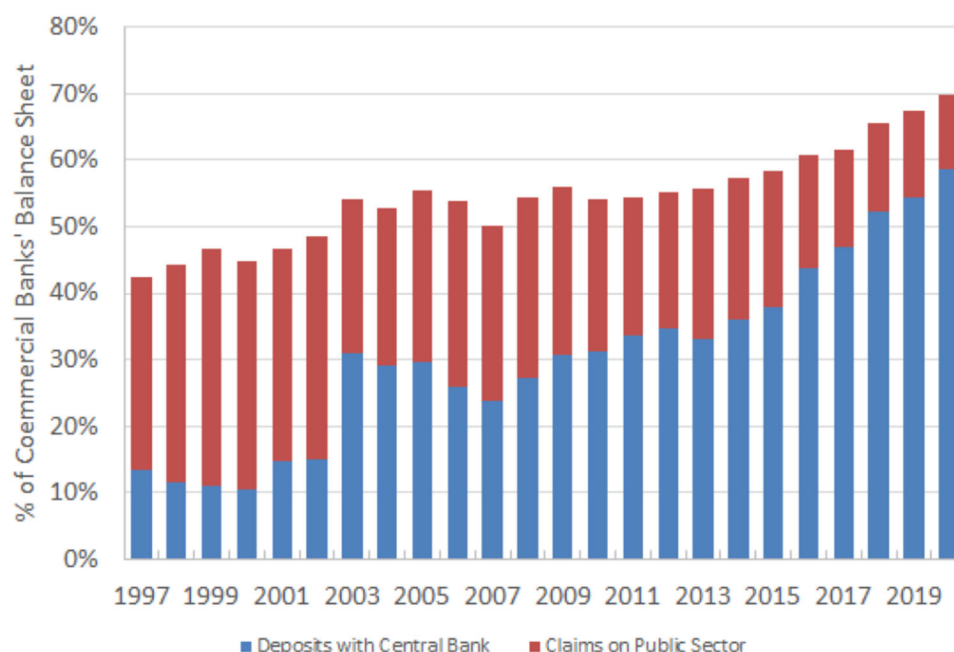


FIGURE 13 | Deposits with BdL and claims on public sector. *Source:* Banque du Liban. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/imfi.12459)]

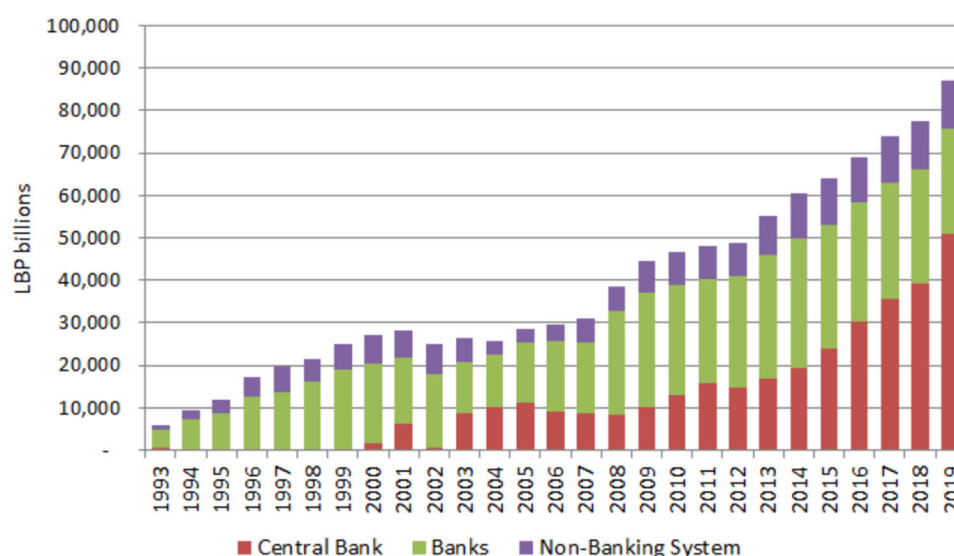


FIGURE 14 | Local currency government debt by holder type. *Source:* Banque du Liban. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/imfi.12459)]

most of the newly issued debt since 2000 has been held by the central bank directly. The central bank has sometimes swapped some LBP-denominated debt with Eurobonds (with the government) and then gone on to sell these in the market. This indicates that local banks did not fully trust the pegged currency early on, preferring to deposit money in BdL mostly in USD and to lend the government in USD as well, rather than in the local currency. This is a striking figure because it shows that the central bank was essentially engaging in monetary financing of the local government debt.

Even though there is no legal requirement forcing banks to have a high exposure to sovereign debt, many banks in many countries invest in local sovereign debt for various reasons (Ongena et al. 2019). Lebanese banks did not follow this path

directly, but they were exposed to sovereign debt risks indirectly. Lured by very generous interest rates on both LBP and foreign currency deposits at the central bank, the banking sector increased deposits at the central bank. The BdL does not publish a breakdown of the deposits by type, maturity or currency, neither does it publish the interest rate it pays on these deposits. Nevertheless, Gaspard (2017) documents that, conservatively, and based on senior bank officials, foreign currency deposits with the central bank earned on average 5.5% between 2011 and 2016. This represents a 5% spread with the 6-month LIBOR in that same period. In a country report published in 2019, the International Monetary Fund (2019) documents that BdL has used unconventional financial operations resulting in even higher effective interest rates on bank deposits. Therefore, even though the banking sector was not directly exposed to LBP

sovereign debt, the banking sector was exposed to the sovereign debt through its deposits at the BdL, which in turn was buying the sovereign debt. The behavior of Lebanese commercial banks resembles the 'greatest carry trade ever' strategy described by Acharya and Steffen (2015) in the context of Eurozone banks. A natural consequence of these banking investment choices (higher deposits with the central bank and investment in government bonds) was lower credit given to the private sector. Figure 15 shows that since 2002, credit to the private sector has rarely exceeded 25% of the banks' balance sheet. In particular, as the banks significantly increased their deposits at BdL since 2016, credit to the private sector has suffered, decreasing over the same period from 25% in 2016 to only 17% of the total balance sheet in 2020. This means that banks have shifted away from their role as financial intermediaries, opting to simply park their money with the BdL rather than taking risks by funding the private sector. To the extent that there is a relationship between finance and growth (King and Levine 1993), more expensive and lower financial intermediation can affect negatively real economic activity.

How risky was the indebtedness of the private sector? At first sight, the share of loans to the private sector might seem low (around 100% of GDP) and could therefore be seen as a counter-example to the recent work of Schularick and Taylor (2012) that credit booms typically precede financial crises. Nevertheless, around three quarters of this exposure was actually issued in dollars. When the crisis arrived, the dotted line in the figure shows that this exposure became very large relative to GDP. This classic currency mismatch exposure is therefore still present in the Lebanese crisis, as well as the credit boom risk angle through an overvalued exchange rate. Even though some of the dollar loans could be netted out with dollar deposits, not all households and corporates could do that and using granular data to further assess these risks would be an interesting future research project. The experience of Hungary as described in Verner and Gyöngyösi (2020) and Gyöngyösi and Verner (2022) provides a dangerous precedent for Lebanon, both economically and politically.

Anecdotal evidence also suggests a difference in behaviour between Lebanese-owned banks and foreign-owned banks operating in Lebanon with respect to their investments in local bonds. Karam (2016) documents that by the summer of 2016, international banks such as HSBC, Standard Chartered, ABN Amro, Crédit Lyonnais and BNP Paribas closed their operations in Lebanon, having failed to attract sufficient Lebanese depositors. One reason for this is that international banks' internal policies meant that these banks could not expose themselves to the Lebanese government as Lebanese banks did; they could therefore not offer the attractive interest rates offered by domestic banks. This can be interpreted as another negative development in the evolution of the crisis as foreign banks typically have better corporate governance structures and can more easily resist the moral suasion of local politicians. Consistent with this view, Chaaban (2016) shows how elites and bankers in Lebanon are politically connected and these connections can affect their investment choices.

With this background, in October 2019, and following large street protests, the banks decided to close for 'safety reason' for 2 weeks. When they re-opened, a bank run started taking place. In the absence of official capital control legislation, all banks applied de facto deposit withdrawal controls, severely restricting depositors' ability to withdraw foreign currency deposits.¹⁵ Facing this bank run, banks decreased their deposits with the central bank from LBP 230.2 tn in September 2019 to LBP 177.5 tn 3 months later. Banks therefore withdrew an amount equal to LBP 52.7 tn from their deposits with BdL to fund deposit withdrawals. At the same time, the credit to the private sector shrunk from LBP 108.8 tn to LBP 96.1 tn in the same 3 months. As banks started applying de facto capital controls in October 2019, money was 'stuck' in the banking system and could not be withdrawn (except for very small amounts) leading retired banker Dan Azzi to refer to the dollars inside the system as 'lollars', to distinguish them from real physical dollars. The balance sheet of banks shrunk significantly as more and more depositors rushed to withdraw their deposits and loans

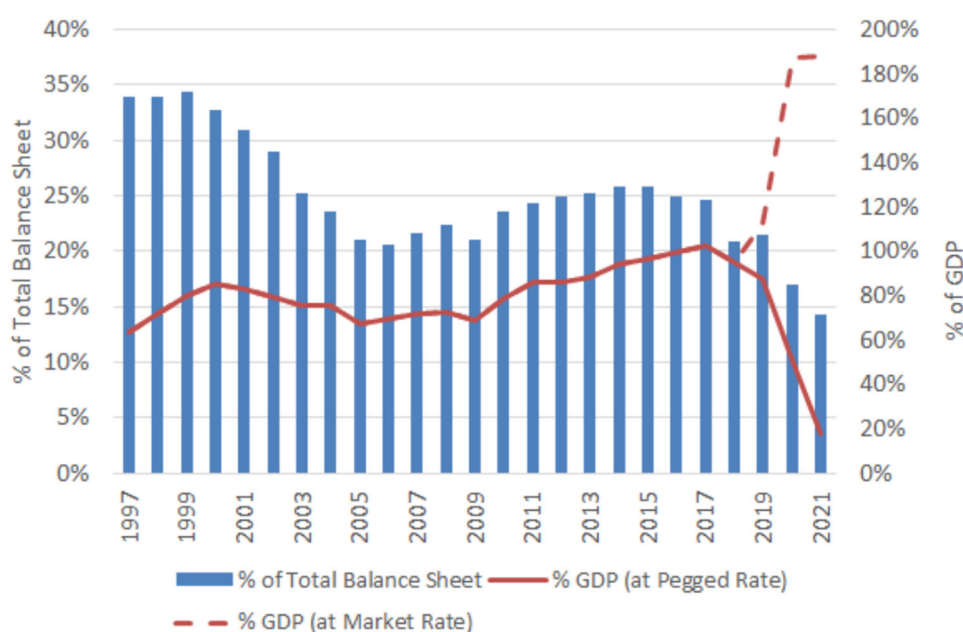


FIGURE 15 | Commercial banks' credit to the private sector. Source: Banque du Liban. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/imfi.12459)]

were curtailed making the developing economic crisis much more severe and adding urgency to reaching a deal with official creditors with the IMF.

4 | The Role of the Central Bank

The central bank played a significant role in the Lebanese economic crisis. Figure 16 shows that the total balance sheet of BdL grew faster than the Lebanese economy. In 2001, the total assets of BdL represented 73% of GDP; these grew sharply to reach 264% of GDP in 2019. The decrease in the years that follow is a denominator effect, mainly due to a mismatch between the rate used by BdL to value its foreign assets and liabilities and that used by the World Bank to estimate GDP.¹⁶

The growth in the BdL balance sheet mainly reflects the increase of banks' deposits at the central bank. Lebanese banks increasingly shifted their assets towards funding the central bank with an exposure of 59% to BdL in 2020 (see Figure 13). BdL was able to attract those deposits by offering very generous interest rates: rates on foreign currency deposits, in particular, were well above international rates.

As these deposits are a liability on BdL's balance sheet, a natural question arises: what did the central bank do with the money deposited by Lebanese banks? How did BdL invest to recover the high interest rates it was paying on deposits? To address this question, we need to investigate the composition of the asset side of the central bank's balance sheet. A breakdown of the assets held by BdL between 2001 and 2021 is given in Table 4. The quantity of gold owned by BdL has not changed since the end of the civil war, as no gold has been bought or sold since.¹⁷ There are two other categories that changed substantially; the foreign currency held by BdL (under 'Foreign Assets') and the 'Other Assets' category.

We find it helpful to visualize BdL's foreign assets as a percentage of the amounts deposited by banks at BdL.¹⁸ Figure 17 plots this ratio and shows a remarkable decrease from 71% in 2009 to 17% in 2021. This large decrease in foreign currency reserves reflects both the large cost of deposit interest rates paid to the banking system, but also the increasingly unsustainable currency peg.

To prop up its dwindling foreign currency reserves, in 2016 BdL started performing a series of transactions termed 'financial engineering'. These transactions consisted of three separate swaps:

First, BdL exchanged LBP-denominated Treasury bills with USD-denominated Eurobonds with the government. BdL therefore converted its assets from being denominated in LBP to USD.

Second, BdL proceeded to sell these Eurobonds to local banks for 'fresh' US dollars; it also issued certificates of deposits (CDs) for local banks for additional 'fresh' US dollars.

Finally, BdL bought LBP treasuries from banks, but not at the market price. BdL discounted at 0% an amount equivalent to the Eurobonds and CDs of LBP-denominated debt held by commercial banks, after applying a 50% haircut on coupons in favor of BdL. Overall, the combination of these actions increased the price of these bonds. Banks were instructed to book the profit they made from this swap in their Tier II Capital, before the implementation of IFRS 9 in 2018.

By applying a 0% discounting (even after cutting coupon payments in half), BdL over-paid for the LBP-denominated treasury bills, with the banks recording the profits. BdL cites several positive outcomes from this series of transactions. At the level of BdL, this was a currency swap, whereby the central bank was willing to pay for US dollars a price significantly above market (with banks recording the profit). This transaction was a signal

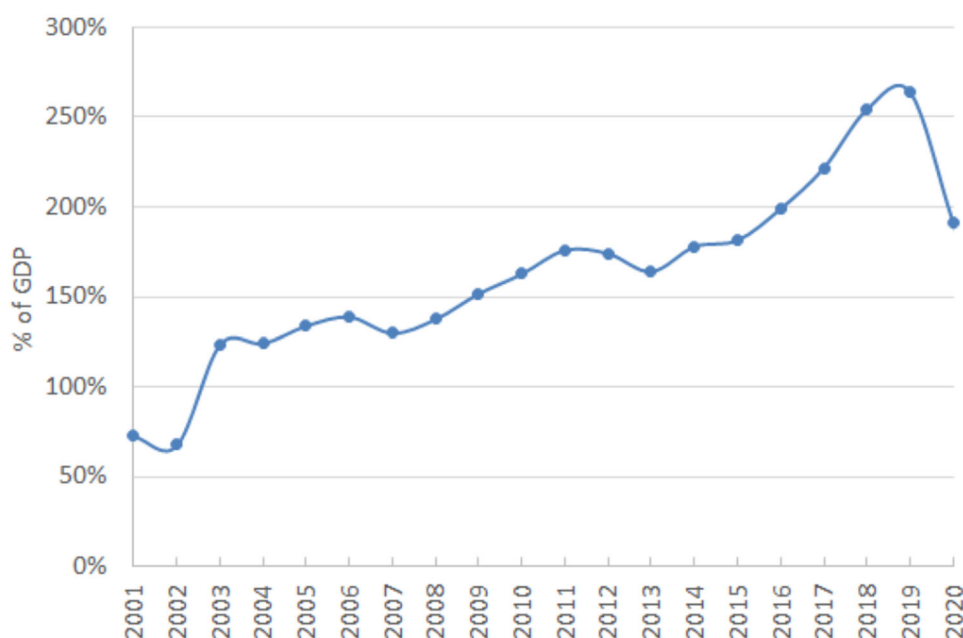
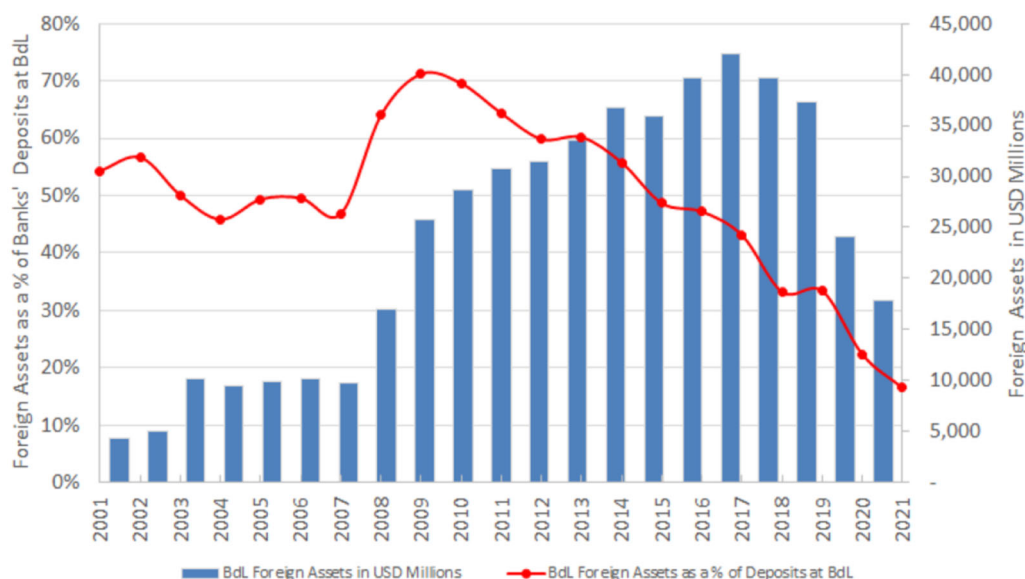


FIGURE 16 | BdL Total balance sheet. Source: Banque du Liban and World Bank. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/imfi.12459)]

TABLE 4 | Assets held by BdL by category (% of total assets).

Year	Gold	Foreign assets	Securities portfolio	Loans to the public sector	Loans to the local financial sector	Fixed assets	Other assets
2001	20%	34%	38%	1%	4%	1%	2%
2002	25%	39%	23%	1%	9%	1%	3%
2003	15%	41%	33%	1%	5%	1%	4%
2004	15%	36%	35%	1%	5%	1%	7%
2005	16%	34%	34%	1%	4%	1%	10%
2006	19%	33%	30%	1%	4%	1%	12%
2007	24%	30%	27%	1%	3%	1%	13%
2008	20%	43%	23%	1%	3%	1%	10%
2009	19%	48%	19%	0%	2%	1%	11%
2010	21%	46%	19%	0%	1%	0%	13%
2011	20%	44%	19%	0%	2%	0%	15%
2012	20%	41%	20%	0%	2%	0%	17%
2013	14%	43%	18%	0%	3%	0%	21%
2014	13%	43%	18%	0%	5%	0%	22%
2015	11%	39%	21%	0%	6%	0%	23%
2016	10%	39%	26%	0%	6%	0%	18%
2017	10%	36%	25%	0%	11%	0%	19%
2018	8%	28%	22%	0%	24%	0%	17%
2019	10%	26%	27%	0%	11%	0%	26%
2020	12%	16%	27%	0%	10%	0%	35%
2021	10%	11%	25%	0%	8%	0%	45%

Note: This table presents the breakdown of the assets held by BdL by year and by type as a percentage of the total assets in a given year. Data are from BdL.

**FIGURE 17** | BdL foreign assets. Source: Banque du Liban. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/inf.12459)]

that the central bank recognized the thinness of its foreign currency reserves (the ‘financial engineering’ mainly took place in July and August 2016 according to BdL). Inspecting the foreign currency reserves at the monthly level, we find that, during August 2016, the reserves increased by USD 3.0 bn, from

USD 32.7 bn to USD 35.7 bn. Salamé, the central bank governor, recognized that the purpose of the ‘financial engineering’ transaction was to buy time for the government to implement the needed reforms and that it was not a long-term solution (Cornish 2020a). As of 31 May 2022, BdL’s foreign reserves were

at USD 11.0 bn, representing only 9.4% of the total balance sheet.

As mentioned above, BdL does not publish a profit and loss statement or a cash flow statement; accordingly, we cannot ascertain how the foreign exchange reserves were spent. We thus rely on alternative sources of information to proceed. Gaspard (2020) uses unpublished auditors' reports (and financial statements) of BdL from 2009 to 2019, and confirms that deposits of local commercial banks represent the main source of foreign currencies for BdL (74% of foreign currency inflows); the rest consists of interest income on BdL's holdings in foreign banks (7% of inflows) and Lebanese treasury bills which BdL swaps for Eurobonds and then sells for US dollars in the market (19% of inflows). He further shows that a significant part of outflows is paid back to the banks in the form of interest on their deposits (at interest rates ranging from 5.5% to 7.0% over that period). While the inflow from banks totalled USD 69.3 bn, outflow (interest) amounted to USD 23.3 bn over that same period. In conclusion, the BdL must have spent its foreign exchange reserves to maintain the currency peg.

Over the 2001–2021 period, BdL has recorded a net profit, with its equity (capital accounts) increasing from LBP 1.0 to LBP 5.3 tn. How is this possible, when BdL is paying very high interest rates on both LBP and USD deposits and foreign assets are being depleted? The answer is 'hidden' in the account called 'Other Assets', which has grown from 2% to 45% of the balance sheet between 2001 and 2021.¹⁹ The auditors' report for BdL for 2018 was leaked during the talks with the IMF, forming another piece of interesting evidence. First, the report shows a modest net income of LBP 75 bn (around USD 50 mn) for each of the years 2017 and 2018. Upon closer inspection, we note in the 2018 profit and loss statement, interest income (LBP 3.3 tn) exceeded interest expense (LBP 2.9 tn) resulting in a net interest income of LBP 400 bn. If we consider the statement of cash flows for the same year, we find that cash used in operations amounted to LBP 9.4 tn (i.e., a cash outflow). The two statements are reconciled by noting that a significant part of interest expense is not debited to the profit or loss but to a contra-liability account called 'Deferred Interest Expense and Other Finance Costs'. The note on this account states the following: 'Effective 2004, the Bank has been deferring interest expense on time deposits taken from local banks. The deferral is sustained by the Bank as a result of the monetary policies to stabilize the Lebanese Pound exchange rate and to contribute to the Government's effort to restructure its debt, as derived from its interpretation of the provisions of Articles 115 and 116 of the Money and Credit Law and in line with the interpretation of a legal opinion issued in 1985 by the Legislative and Consultancy of the Ministry of Justice.' The auditor has not issued a qualification relating to this accounting treatment; Cornish (2020a) reports that two central banking experts questioned such an accounting treatment, claiming to have never encountered it and viewing it as an artificial way to hide its losses.²⁰

The leaked report also reveals that as of 31 December 2017, BdL had a net shortage of foreign currency reserves equal to USD 21.4 bn, which grew by USD 8.1 bn in the year that followed to reach USD 29.5 bn as of 31 December 2018. This is important

information since BdL does not report on its website the breakdown of its liability by the currency in which they are denominated. We also know that BdL was paying very generous interest rates to foreign currency deposits that it could not support through low-risk investments since the interest rates were well in excess of rates offered internationally over that same period.²¹ The BdL has been debiting the account "Other Assets" for a significant part of its interest expenses to avoid showing negative equity, consistent with recent work with an international data set (Goncharov et al. 2023) that central banks are averse to showing losses.

One important takeaway from this narrative involves the behavior of the banking system and depositors during this period. Households preferred to hold USD rather than LBP despite the presence of the currency peg. This revealed preference for USD deposits illustrates the hedging properties of foreign currencies in an emerging market (Dalgic 2024; Christiano et al. 2021). Facing volatile remittances, also denominated in foreign currency, the banking sector seems to have recognized the challenging risk management problem. As a result, faced with the lure of higher interest rate deposits at the central bank, the banking sector held a large part of these dollar deposits with the central bank. The banking sector thought it had no currency mismatch because the central bank was expected to remain solvent. In its attempt to support the peg, the central bank spent its foreign exchange reserves and eventually created a currency mismatch for itself. The exposure to the central bank essentially made the banking sector exposed to the currency mismatch as well. Contrary to first generation currency crises (Krugman 1979), the central bank plays a crucial role in attracting deposits from the banking sector, and prolongs the time before the crisis erupts. Corporate balance sheets and foreign currency mismatch become important and make the crisis also similar to third generation currency crises models (e.g., Aghion et al. 2000).

This narrative also has implications for the role of central bank independence (CBI) in financial crises. Romelli (2022) emphasizes how de jure central bank independence has risen around the world since 1990. In this data set, however, the level of de jure central bank independence for Lebanon is 0.44 in 2023, and has been stable at that level through 1990. This is close to two standard deviations below the average de jure index in this cross sectional central bank independence data set. Furthermore, Ioannidou et al. (2024) emphasize the difference between de facto and de jure CBI. Unfortunately, Lebanon is not part of their data set. Nevertheless, actual connections of Governor appointments with the executive is one key component of their index. Salamé was appointed Governor in 1993 by Prime Minister Hariri after previously having served as Hariri's private wealth manager at Merrill Lynch.²² The combination of low de jure and de facto CBI meant that the central bank had limited tools and support to act in a way that would more closely follow its mandate.

5 | Crisis: Triggers and Signals

Figure 18 plots the yearly change (in USD) in the combined foreign assets of BdL and all Lebanese financial institutions.

The Figure demonstrates several of the points we have discussed earlier. First, it shows that, up to 2010, the yearly change in foreign currency in the banking system was always positive; furthermore, the peak observed in 2009, where foreign assets increased by an amount equal to USD 7.9 bn, provides support to the hypothesis that foreign currency deposits increased during the Great Recession with many non-residents sending their cash to Lebanon to benefit from high interest rates. Starting 2011, Lebanon experienced the spillover from the war in Syria and exports as a percentage of GDP decreased significantly (Table 1). Simultaneously, remittances as a percentage of

GDP also started decreasing in that year. This resulted in a net outflow of foreign assets for nearly every year from 2011 to 2020, with the exception of 2016.

We now examine several financial market indicators in the time preceding the onset of the crisis. Figure 19 plots the price of the 5-year credit default swap (CDS) on Lebanon's sovereign debt. Since the beginning of 2018 the credit default swap spread was increasing, going from 600 basis points in January 2018 to 914 basis points in August 2019, and then rapidly rising after that point to over 1400 basis points by November

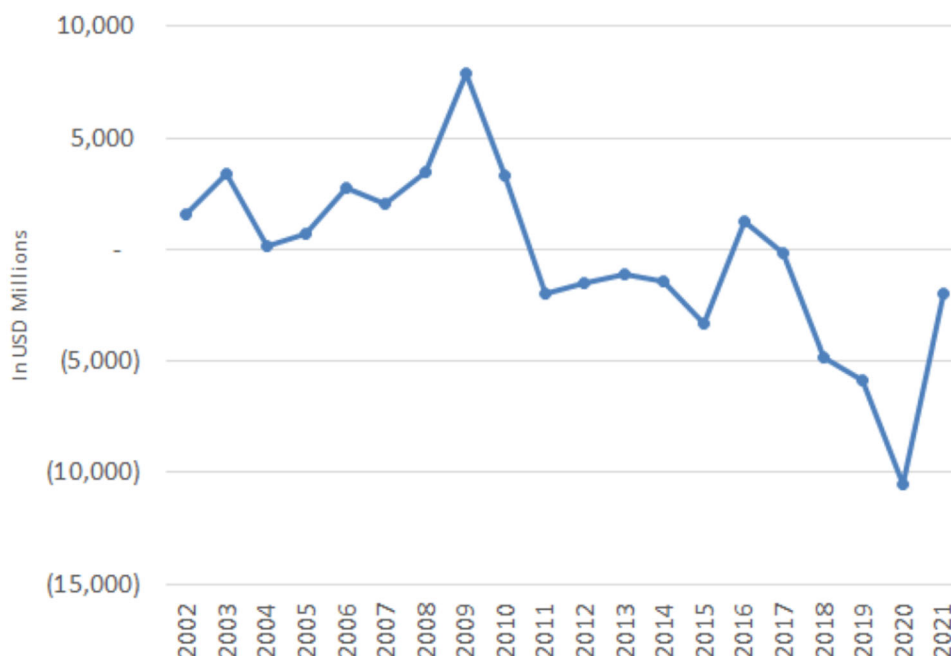


FIGURE 18 | Change in foreign assets held by BdL and financial institutions. *Source:* Banque du Liban. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

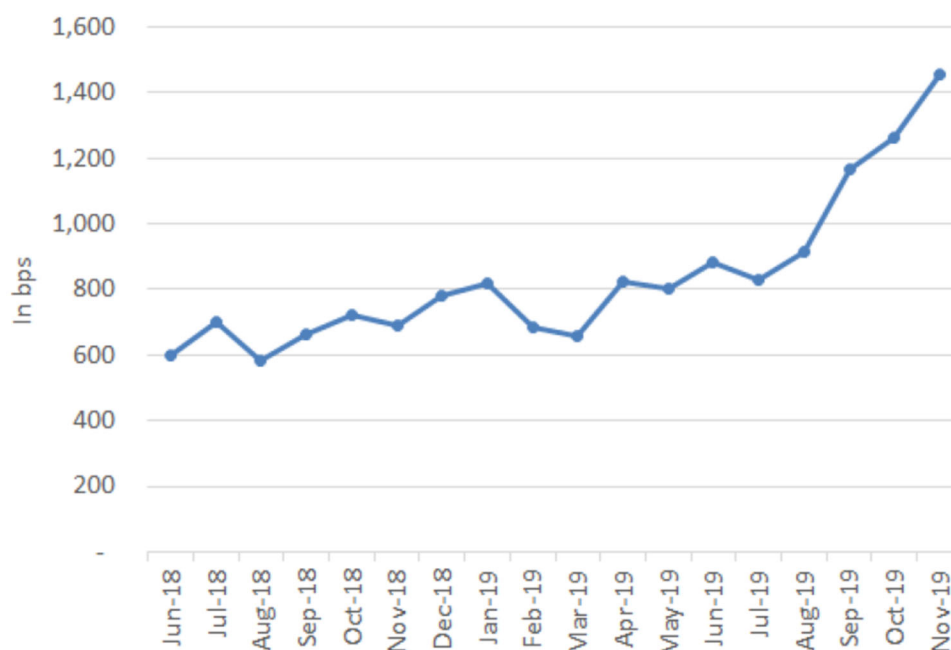


FIGURE 19 | Lebanon five-year credit default swap price. *Source:* AssetMacro. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

2019. Sovereign bond data paint a similar picture. Figure 20 zooms in on the daily yield-to-maturity of the sovereign bond with a 2037 maturity. The figure shows that, much like the CDS data, the yield-to-maturity also increased over this period, going from 789 basis points in January 2018 to 1166 basis points in August 2019, before increasing significantly more in the period that followed, reaching 1722 basis points by the end of 2019.

The sovereign debt credit rating history shown in Figure 21 paints a similar picture. Even back in January 1997, Moody's

credit rating is B1 (numerical category 14/21), making sovereign debt non-investment grade (junk). The deterioration after 2015 should have been another alarming development for the Lebanese government; by February 2020 the rating was C, which is the lowest rating and is typically reserved for bonds already in default, or which have little prospect of recovering either principal or interest.

We also explore the evolution of stock market prices. Lebanon has a fairly limited stock market, with the securities of only 11 companies trading on it. Despite the local stock market's

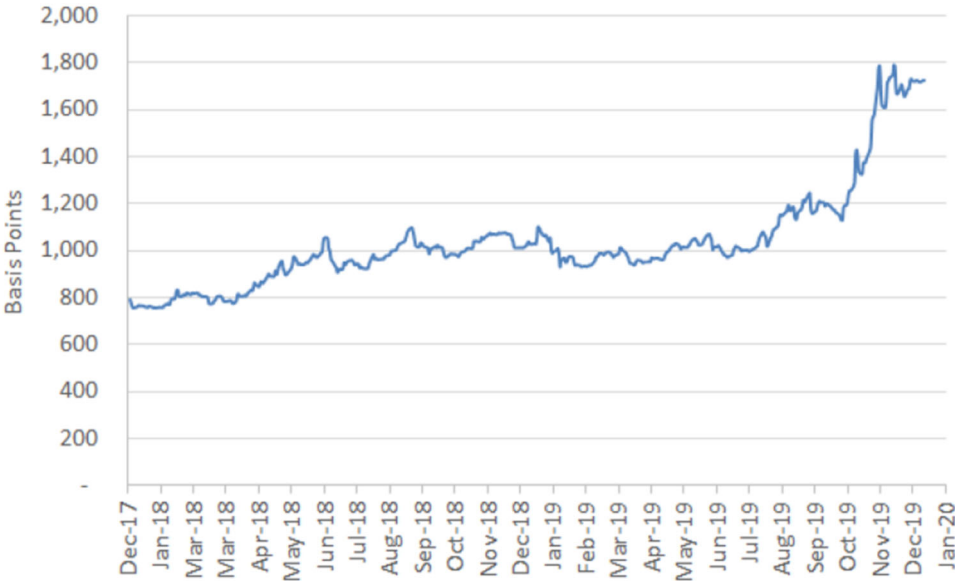


FIGURE 20 | Yield-to-maturity on sovereign Lebanese b with 2037 Maturity. *Source:* Bloomberg. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

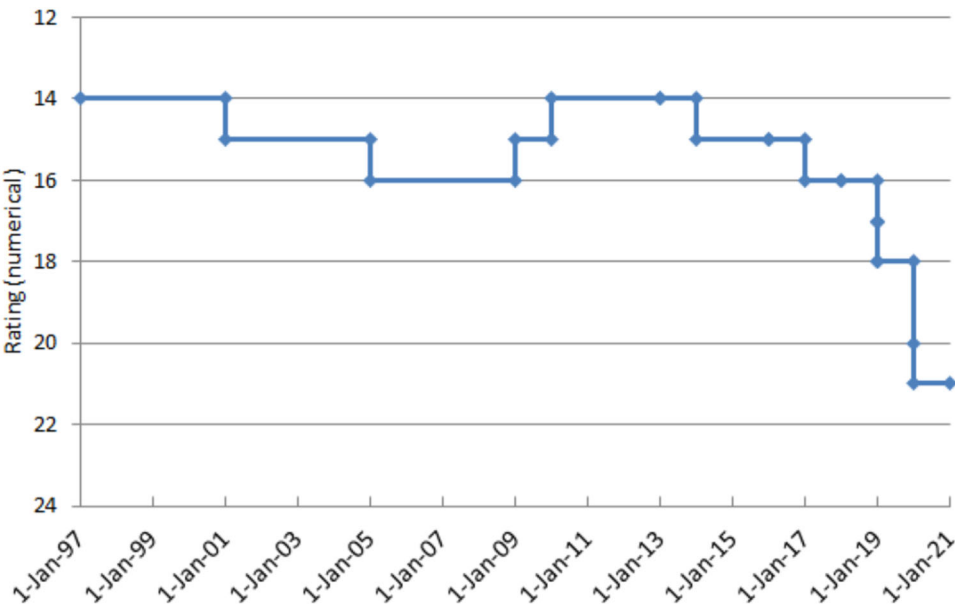


FIGURE 21 | Moody's credit rating of Lebanon's sovereign debt. Moody's 21-notch numerical scale is mapped to traditional debt ratings as follows: 14: B1, 15: B2, 16: B3, 17: Caa1, 18: Caa2, 20: Ca and 21: C. Ratings of B1, B2, B3 are subject to high credit risk; ratings of Caa1 and Caa2 are reserved for bonds of poor standing; a rating of Ca signifies that the bond in question is highly speculative, or near default; finally, a rating of C is the lowest rating and is reserved for bonds typically in default and/or which have little prospect for recovery of principal or interest. *Source:* Moody's. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/terms-and-conditions)]

illiquidity, it is still instructive to plot the share prices for specific companies, especially the ones associated with the banking sector. We do so following recent evidence that bank equity losses can be associated with economic crises (Baron et al. 2021).

In Figure 22, Panels A–E represent the common shares of the main banks, Panel F is the share price of Solidere (a major construction company), Panels G and H plot the share prices of Holcim and Ciments Blancs, two cement companies; finally, Panel I plots the share price of Rymco, a trading company that mainly sells cars. All bank share prices started decreasing well before the onset of the crisis in the summer of 2019. In fact, for banks Audi (AUDI), Blom (BLOM) and Byblos (BYB), the share price drop started in 2017.²³ When protests erupted on 17 October 2019, all banks shut down for 2 weeks, before opening again and imposing de facto capital controls. This clearly prompted shareholders of banks to sell their shares (as observed by the accelerating drop in banks' share prices), and to buy the shares of companies which were seen as 'safer' investments,

given the industries they are in: Solidere, Holcim and Ciments Blancs.

This is evidenced by the fact that the share prices of these three companies experienced an unprecedented appreciation; the stock of Solidere, whose price had been decreasing since 2008 (dropping from USD 35 a share to nearly USD 5 in 2019), reversed the decreasing trend, and rose to its highest-ever price in less than 18 months. Ciments Blancs's stock also experienced a remarkable growth from less than USD 3 per share to over USD 6 over the same period.

The growing pressures on the banking system is also reflected in the rate banks lend to each other. Figure 23 plots the Beirut Reference Rate for lending in foreign currency (BRR). Between 2012 and 2019 this rate has been rising. This reflects that the foreign currency liquidity available to banks has been tightening since 2012. In particular, we observe an acceleration of the upward trend in the summer of 2016, when banks started depositing foreign currency at BdL.

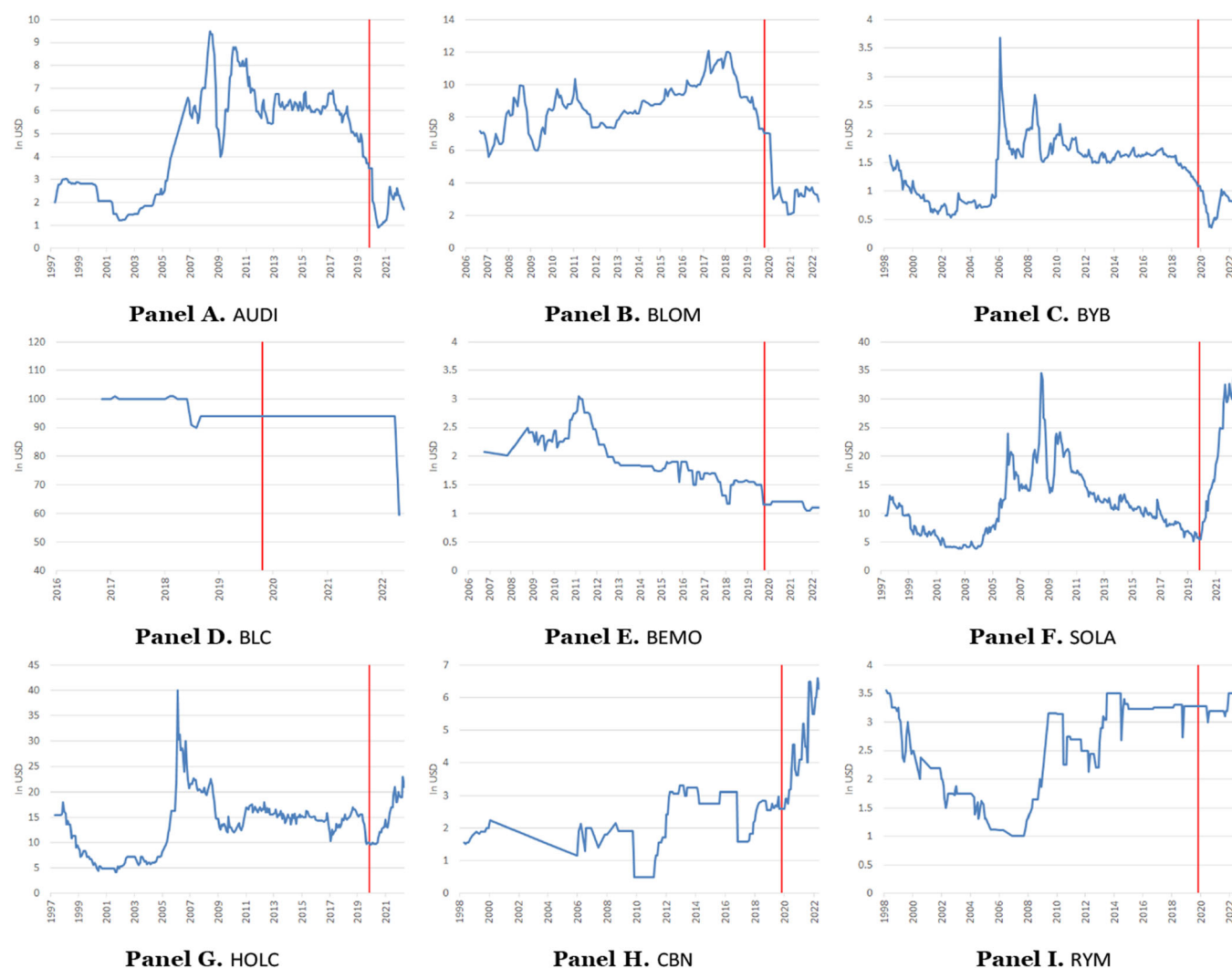


FIGURE 22 | Prices of Selected Common Shares. The red line marks the beginning of the 17 October 2019 protests. Panel A. AUDI. Panel B. BLOM. Panel C. BYB. Panel D. BLC. Panel E. BEMO. Panel F. SOLA. Panel G. HOLC. Panel H. CBN. Panel I. RYM. Source: Bloomberg. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

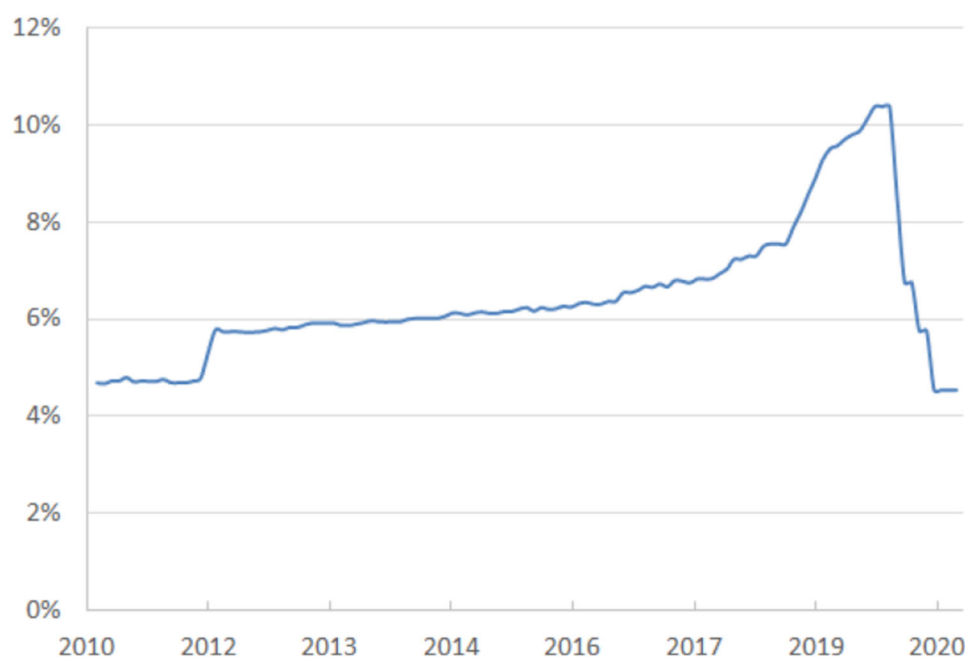


FIGURE 23 | Beirut reference rate on USD. *Source:* Brite. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/nfi.12459)]

The number and intensity of the different signals pointing to an unsustainable macroeconomic situation in Lebanon are clear; large sovereign debt and CDS yields, the lowest level in the sovereign debt rating category, a decimated banking sector in terms of equity losses and high interbank lending rates all pointed to extreme economic stress at the aggregate level. All these signals point towards international creditors not being willing to finance sovereign debt (Lebanon defaulted on its foreign debt on 7 March 2020). The Beirut port explosion on 4 August 2020, that killed over 200 people and triggered massive protests should have provided the final strong signal that the country needed urgently an agreement with international organizations to stabilize the economy. What makes this narrative particularly stunning is the lack of effective urgency on the part of the local political elite in reaching an agreement with the only international institution that is effectively available in such situations to provide technical assistance and offer a lifeline, even if a costly lifeline. We turn to that discussion next.

6 | Talks With the IMF

On 9 March 2020, Lebanon defaulted on a USD 1.2 bn Eurobond payment. Shortly before, the government appointed Lazard as advisors to devise an economic reform (financial recovery) plan. The financial recovery plan, which identified losses amounting to USD 90 bn, was approved by the government towards the end of April 2020. The government formally headed to the IMF negotiations with this plan on 1 May 2020.

The plan estimated that the loss on the aggregate balance sheets of the banks and BdL was around USD 44 bn (LBP 154 tn at an exchange rate of 3500 LBP/USD). Whilst these estimates were considered credible by the IMF, the Association of Banks in Lebanon (ABL), the BdL and the Parliamentary Finance Committee (PFC) rejected the plan, and estimated the losses to be USD 23 bn. The disagreement was not only about the level of

the losses; burden sharing (loss distribution) across different stakeholders was equally important. The government's plan supported the view that banks were aware of the risks they were taking by exposing themselves to the Lebanese state with its low credit ratings (see Figure 21). As a result, the plan approved by the government assumed banks should bear the losses they incurred given their investment choices. The banks instead blamed the state, and argued that the state should compensate them for their losses.

The discussions with the IMF over the next few months did not yield fruitful results because of the divergence between the government and the ABL-BdL-PFC alliance on the amount of losses and how they should be distributed. Furthermore, Alain Bifani (the director general of the Finance Ministry) and Henri Chaoul (advisor to the finance minister) both withdrew from the negotiating team with the IMF in June 2020. On 4 August 2020, the Beirut port explosion resulted in the government resigning a week later, putting a temporary stop to negotiations with the IMF.

A political crisis followed. Saad Hariri was designated as prime minister in October 2020 but resigned in July 2021 having failed to form a cabinet. Najib Mikati formed a government in September 2021 and discussions with the IMF resume in October 2021, 14 months after the explosion. A staff-level agreement is reached on 7 April 2022 for a 4-year USD 3 bn loan facility.²⁴ Importantly, the Lebanese authorities have to undertake several key reforms before the IMF Board Meeting to unlock the facility.

These events illustrate the difficulty of both forming a lasting government in Lebanon, but also the challenges of agreeing to reach a decision to resolve the ongoing economic crisis. Both observations are important in understanding the worsening economic position of the country. To illustrate the difficulty in forming a stable political government, Figure 24 plots, for each appointed prime minister since 2005, the number of days between their appointment and the cabinet formation. The figure clearly shows that over time, in the

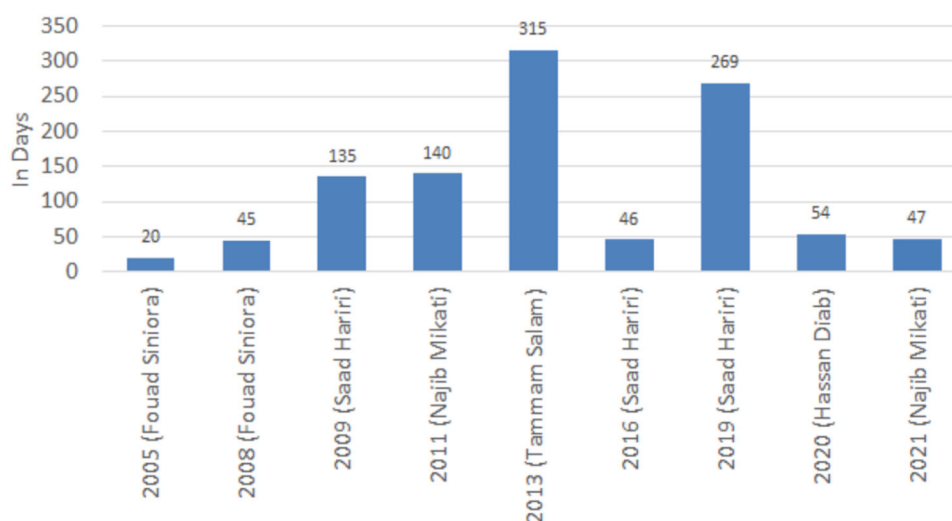


FIGURE 24 | Number of days from appointment as Prime Minister to cabinet formation. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com/doi/10.1111/inf.12459)]

last 15 years, it can take a period between 20 and 315 days for a government to be formed (with an average of 128 days to form a government). When facing an economic crisis that needs urgent attention, such delay in forming a government can only make the economic crisis deeper and therefore harder to resolve. This discussion illustrates a classic ‘war of attrition’ mentality originally analyzed by Alesina and Drazen (1991). It is worth quoting from the abstract of that paper as the game-theoretic analysis seems to apply well to the Lebanese crisis: “When a stabilization has significant distributional implications (e.g., tax increases to eliminate a large budget deficit), socioeconomic groups may attempt to shift the burden of stabilization onto other groups. The process leading to stabilization becomes a ‘war of attrition’, each group attempting to wait the others out and stabilization occurring only when one group concedes and bears a disproportionate share of the burden.” The political fractionalization present in Lebanon makes the allocation of losses more difficult and further extends the ‘war of attrition’ at the expense of the economy and society. The constraints from being in a geopolitically sensitive region further exacerbates the problem.

7 | Lessons From the Lebanon Crisis

1. The twin deficits in the fiscal and current account are classic signals of weakness and have been emphasized as vulnerabilities in describing the evolution and acceleration of the Eurozone crisis (Baldwin 2015). Countries without current account deficits did not suffer in the Eurozone crisis and therefore persistent current account deficits that are not associated with productive investments should be a cause for alarm. This also applies for fiscal deficits and the economic crisis in Lebanon provides a stark reminder of the importance associated with these signals.
2. It is objectively challenging to set a fixed exchange rate at the appropriate level, especially if this level is maintained over long periods of time. Nevertheless, in evaluating an exchange rate policy, the presence of the twin deficits and the extremely high consumption to GDP ratio should have provided strong signals that an adjustment to the exchange rate was necessary. Instead, the exchange rate peg

was interpreted as equally strong as the pegs followed by countries like Saudi Arabia or UAE and a number of other problems followed from that assumption: an increase in both sovereign and household debt in foreign currency and ‘financial engineering’ followed by the central bank.

3. The economic environment provided incentives for local economic actors to generate a classic currency mismatch vulnerability. The fiscal authority tried to reduce the cost of interest payments by borrowing increasingly in foreign debt at lower international interest rates. The banking sector attracted foreign currency deposits and thought it was completely hedged by holding most of these deposits at the BdL and only a smaller amount in terms of dollar loans. Once the BdL failed to support the currency and had issues of its own in terms of keeping foreign deposits at the central bank safe, the currency mismatch at both the sovereign and the household level created major vulnerabilities. Recently, Verner and Gyöngyösi (2020) show how the revaluation of household debt owed by households in Hungary exposed to the Swiss franc increased substantially their debt burden and also had important political implications in the rise of the support of populist political parties (Gyöngyösi and Verner 2022). The economic impact is important but in resolving an economic crisis that needs agreement with international organizations like the IMF a more polarized political environment makes agreement harder to reach. To the extent that the banking sector is also exposed to this currency mismatch, banks with this problem can also make the electorate more polarized (Doerr et al. 2022).
4. The central bank in Lebanon faced a difficult task in a fractionalized political environment and with a currency peg that increasingly seemed unsustainable (based on the cumulated twin deficits and the high consumption to GDP ratio). The central bank chose to follow a ‘financial engineering’ policy that offered the banking system high dollar interest rates and also facilitated the financing of government debt. The combination of these policies crowded out bank credit to the real economy as the banking system was attracted to the high returns for local

bank deposits, while simultaneously made stronger the sovereign-bank nexus (Ongena et al. 2019). As in the Eurozone sovereign debt crisis (Mody and Sandri 2012; Battistini et al. 2014), the sovereign-bank deadly embrace became stronger just as sovereign debt was becoming a lot more risky, while this was also being facilitated by the central bank. Moreover, the role of the central bank as a holder of the local banking sector's foreign deposits made this aspect of the crisis different from classic balance of payment crises (Krugman 1979) and more similar to third generation currency-mismatched balance sheets but with the central bank playing a key role (Aghion et al. 2000). Finally, the low level of *de jure* and *de facto* CBI meant that the central bank had limited room to force either an agreement with the IMF or follow policies that would be closer to the central bank's mandate.

5. The external environment deteriorated over time and made a small open economy like Lebanon even more vulnerable to economic shocks. Syria was a main trading partner and facing economic difficulties and war, while the 2020 COVID crisis made both the international environment and the local environment much more challenging. Given that Lebanon geographically is located in a geopolitically sensitive region, external actors could yield their influence and further destabilize the political economy consensus that could resolve the crisis.
6. It must also be emphasized that it is important to maintain credibility and confidence with foreign investors (e.g., large foreign banking groups). As a result of the deteriorating economic situation in Lebanon, many foreign-owned banks exited the country. This exit from the local banking system of foreign banks can be interpreted as a negative development for the local banking sector. A similar decision by HSBC in neighboring Cyprus in 2006 (Michaelides 2014) occurred just 7 years before the Cyprus bailin and was greeted with dismay and as a "negative development" by the then Governor of the central bank of Cyprus.
7. Political fractionalization contributes to avoiding making tough economic decisions on time. This delay is reminiscent of wars of attrition during negotiations (Alesina and Drazen 1991) and can be one important reason why talks with the IMF are still ongoing. Capital controls have been used as a policy tool in both Iceland (Baldursson and Portes 2013) and Cyprus (Michaelides 2014) and could have been implemented in Lebanon but the political system in Lebanon has been unable to reach a political consensus with regard to this potentially important policy tool. This forced the central bank to act and take an even more important role on this issue as well, at a time when the central bank was facing other criticisms.

8 | Conclusion

The economic crisis in Lebanon in the 2020s is one of the largest economic crises as a percent of GDP in world economic history. It arises in a small open economy following a fixed exchange rate policy, a policy that is still followed by a

vast share of countries in the world. For instance, Ilzetzki et al. (2019) show how 'regimes with limited (exchange rate) flexibility remain in the majority' around the world. We hope this case study can be used to prevent future crises from occurring by providing policy makers a set of warning signals that can be used to avoid finding themselves in very challenging situations that then require difficult burden-sharing decisions.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are openly available in Statistics and Research at <https://www.bdl.gov.lb/>.

Endnotes

¹ A recent World Bank paper noted that Lebanon is the worst economic crisis in history when comparing crises relative to GDP. See the Spring 2021 Lebanon Economic Monitor (World Bank 2021).

² BdL Central Council Decision No. 48/4/24.

³ Oguri (2020) provides an excellent discussion of the Lebanese crisis.

⁴ Most day-to-day business is conducted using the parallel market rate, available from www.lirarate.org. The graph in Figure 1, Panel A, uses BdL data until July 2019 and parallel market data thereafter.

⁵ A recent investigation by Nicholas Noe reveals the disastrous consequences of the baffling decision of then- finance minister, Ali Hassan Khalil, to share with the press on 9 January 2019, that the government was considering a debt restructuring. Though Khalil later denied making such a claim, the damage was done: the country's credit rating was further slid between January 2019 and March 2020, thereby significantly weakening the government's negotiating power. Details of this investigation are available in <https://www.thinktriangle.net/the-great-sell-off/>.

⁶ This can be found at <https://www.imf.org/en/News/Articles/2022/09/21/pr22314-lebanon-imf-staff-concludes-visit-to-lebanon>.

⁷ This ratio was loosely based on the census made in 1932 under the French mandate, which remains the last census to have been done in Lebanon.

⁸ Lebanon was home to over 100,000 Palestinian refugees since 1948.

⁹ See https://peacemaker.un.org/sites/peacemaker.un.org/files/LB_891022_Taif%20Accords.pdf. The Taif Agreement modified some of the matters agreed upon in the National Pact; for example, the Muslim-Christian parliamentary ratio was modified from 6:5 to 1:1.

¹⁰ Data indicator code NE.CON.PRVT.ZS, available from <https://api.worldbank.org/v2/en/indicator/NE.CON.PRVT.ZS?downloadformat=excel>.

¹¹ Lebanon is 13th behind Kosovo, Guam, Bosnia and Herzegovina, Tonga, Eritrea, West Bank and Gaza, the Federated States of

Micronesia, Lesotho, the Marshall Islands, Somalia, Kiribati and Timor-Leste. Data indicator for imports is under code NE. IMP. GNFS. ZS, available from <https://api.worldbank.org/v2/en/indicator/NE.IMP.GNFS.ZS?downloadformat=excel>. Data indicator for exports is under code NE. EXP. GNFS. ZS, available from <https://api.worldbank.org/v2/en/indicator/NE.EXP.GNFS.ZS?downloadformat=excel>.

¹²The government defaulted in 2020 and we therefore stop in 2019.

¹³This remarkable decline in deposits was made possible by the absence of capital controls legislation; as at the date of writing this paper, the Lebanese parliament has yet to pass such legislation, though several proposals have been made.

¹⁴On a dollar level, remittances of the Lebanese diaspora are significant: Lebanon ranked among the top 20 receivers of remittances per capita in 2015; moreover, when remittances are measured as a percentage of GDP, Lebanon ranked among the top 5 in the emerging-market world (International Monetary Fund 2017).

¹⁵The type of controls applied which were applied varied across banks and throughout the crisis; at first, banks severely limited the amount that depositors could withdraw in foreign currency in any given time period, with each individual bank setting its own limits (e.g. USD 200 per calendar month). As the crisis went on, BdL successively issued several circulars with the intention of harmonizing the sector by regulating cash withdrawals (e.g. Basic Circular 151 issued in April 2020, allowed cash withdrawals in LBP from foreign currency deposits at the rate of 8,000 to USD. Basic Circular 158, issued in June 2021, allowed withdrawals up to USD 400 in cash and USD 200 in cash LBP at the rate of 12,000 LBP/USD. See <https://financialcrisis.thepolicyinitiative.org/> for a very helpful timeline of the responses of several players to the crisis, including BdL.

¹⁶BdL used the “official” exchange rate of 1507.5 LBP per USD, whilst the World Bank used its own computation of the actual exchange rate; for example, the GDP for 2020 is converted from LBP to USD using a rate equal to 3688. The official exchange rate in February 2025 is 89,500 LBP per USD.

¹⁷We check this by regressing the amount of gold in LBP held by BdL on the end-of-year price of gold, and find an R-squared of 99.96% indicating that the variation in the amount of gold is entirely explained by the fluctuation of the price of gold in international markets.

¹⁸Ideally, we would visualize the ratio of foreign assets to *foreign-currency* bank deposits (as opposed to *total* bank deposits in the denominator). Unfortunately, BdL does not provide a breakdown of the deposits of commercial banks with it by currency.

¹⁹Such is the notoriety of this account that it was mentioned in an FT article dated 2020 (Cornish 2020a).

²⁰The specialists are Willem Buiters, former Citigroup global chief economist, academic and central banking specialist and Joerg Bibow, an economics professor at Skidmore College.

²¹The leaked report reveals significant dollarization of deposits, since it shows that nearly 50% of bank's deposits in BdL are denominated in foreign currencies. This confirms that, as alluded to before, local banks have shown a mistrust in local currency debt instruments as well as a high appetite for foreign currency deposits in BdL.

²²See <https://limslb.com/news-49291/?lang=en>.

²³While the same general decreasing trend holds for the other two banks, BLC and BEMO, both experienced relatively little trading in their shares (based on unreported trading volumes obtained from Bloomberg), which explains why the pattern is not as clear as it is for the more commonly traded shares.

²⁴See <https://www.imf.org/en/News/Articles/2022/04/07/pr22108-imf-reaches-agreement-on-economic-policies-with-lebanon-for-a-four-year-fund-facility> for details on the agreement.

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Appendix A
See Table A1.

TABLE A1 | Timeline.

Date	Event
Sunday, 5 November 1989	Ratification of Ta'if agreement
Saturday, 13 October 1990	Declaration of end of the civil war
Monday, 1 December 1997	Lebanese pound pegged at 1507.5 LBP per USD
Tuesday, 27 February 2001	First Paris donor conference
Saturday, 23 November 2002	Second Paris donor conference
Sunday, 1 August 2004	President Lahoud remains in office beyond the constitutional limit of a one six-year term
Wednesday, 20 October 2004	Prime Minister (PM) Rafik Hariri resigns
Monday, 14 February 2005	Former PM Rafik Hariri is assassinated
Monday, 28 February 2005	Two weeks of protests ensue, PM Omar Karami resigns
Tuesday, 8 March 2005	Hezbollah sponsors a massive pro-Syrian demonstration
Wednesday, 9 March 2005	Buoyed by pro-Syrian demonstrations, President Lahoud reappoints Omar Karami as prime minister
Monday, 14 March 2005	Large protests
May and June 2005	Lebanon holds parliamentary elections. Saad Hariri, the 35-year-old son of assassinated former PM Rafik Hariri, wins
Monday, 14 August 2006	UN-negotiated cease-fire between Israel and Lebanon
Thursday, 31 August 2006	The Stockholm Conference for Lebanon's Early Recovery was organized to help respond to Lebanon's "immediate early re-covery needs", which were estimated at around \$537 million
Tuesday, 21 November 2006	Pierre Gemayel, minister of industry and member of a well-known Maronite Christian political dynasty, is assassinated. Large demonstrations follow
Friday, 1 December 2006	Sustained antigovernment, pro-Hezbollah demonstrations
Thursday, 25 January 2007	Third Paris donor conference
Monday, 1 June 2009	The pro-Western March 14 alliance wins parliamentary elections and Saad Hariri forms unity government
Saturday, 1 January 2011	Saad Hariri's first government is toppled when Hezbollah quits
Tuesday, 15 March 2011	Start of the Syrian Civil War
Wednesday, 1 June 2011	Najib Mikati forms cabinet dominated by Hezbollah
Monday, 1 October 2012	Security chief Wissam al-Hassan is killed in car bombing
Friday, 1 March 2013	Najib Mikati's government resigns
Monday, 1 April 2013	Tammam Salam is tasked with forming a new government
Monday, 1 July 2013	European Union lists the military wing of Hezbollah as a terrorist organization
Thursday, 1 August 2013	Dozens killed in bomb attacks at two mosques in Tripoli
Sunday, 1 September 2013	The United Nations refugee agency estimates 700,000+ Syrian refugees in Lebanon
Friday, 1 November 2013	Double suicide bombing outside Iranian embassy in Beirut kills at least 22 people
Sunday, 1 December 2013	Former Lebanese minister and opposition figure Mohamad Chatah - a Sunni Muslim and critic of Syrian President Bashar al-Assad - is killed by a car bomb in central Beirut
Saturday, 1 February 2014	Tammam Salam assembles new power-sharing cabinet (10 months after nomination)
Tuesday, 1 April 2014	UN announces that Syrian refugees registered in Lebanon surpass one million (one in every four people living in Lebanon is a refugee from Syria)
Monday, 31 October 2016	Michel Aoun is elected president of Lebanon, ending a 29-month power vacuum
Thursday, 17 October 2019	Protests against corruption and economic problems
Tuesday, 29 October 2019	PM Saad Hariri resigns as prime minister
Thursday, 19 December 2019	Hassan Diab designated as PM
Tuesday, 21 January 2020	Hassan Diab forms government

(Continues)

TABLE A1 | (Continued)

Date	Event
Friday, 21 February 2020	First cases of COVID-19 reported in Lebanon
Saturday, 7 March 2020	Lebanon defaults on foreign debt
Friday, 1 May 2020	Lebanon formally requests IMF assistance
Tuesday, 4 August 2020	Beirut port explosion kills over 200 people, injures over 6000
Monday, 10 August 2020	PM Hassan Diab resigns
Thursday, 22 October 2020	Saad Hariri designated as PM
Tuesday, 1 June 2021	Lebanon experiencing one of most severe economic crises in economic history, according to World Bank
Thursday, 15 July 2021	PM-designate Saad Hariri resigns, having failed to form a government
Sunday, 15 August 2021	Fuel explosion in Akkar kills 33 and injures 79
Monday, 26 July 2021	Najib Mikati is designated as PM
Friday, 10 September 2021	Najib Mikati forms a government after a 13-month vacuum
Thursday, 14 October 2021	Hours of gunfire kill six people and injure 30 more
Thursday, 7 April 2022	Staff-Level Agreement signed with the IMF
Sunday, 15 May 2022	Parliamentary elections
Thursday, 23 June 2022	Najib Mikati is designated as PM