What Drives the Lebanese Exchange Rate in the Parallel Market?

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The severity of the Lebanese economic crisis that has been raging on for more than two years can perhaps be best encapsulated by the behavior of the exchange rate: from July 2019 to November 2021 the average exchange rate in the parallel market moved from 1,515 LBP to 22,900 LBP per the USD, a loss close to 1500%. That the Lebanese exchange rate was overvalued is a moot point, but the depreciations that the currency has witnessed were drastic and perhaps beyond any equilibrium level. What is remarkable about the Lebanese situation is the context in which the exchange rate kept depreciating: the almost complete absence of positive economic news, including any corrective policy actions, and the almost uninterrupted barrage of negative political events.

The above state of affairs points to the crucial role that political developments could play in determining the Lebanese exchange rate. But the severity of the exchange rate depreciations have brought to the fore the role that speculation could play as well. What we would like to do in this note is to examine what was the more dominant determinant: fundamentals as captured by political factors or speculation; keeping in mind that during the crisis-period domestic liquidity increased from 6 trillion LBP in July 2019 to 43.5 trillion LBP in November 2021, an increase that was crucial in oiling the conversions from the ever depreciating Lebanese pound to the safety of the US dollar.

Month	(in Billions LI	Δ% CC	Average ER	Δ% ER	PD	CC (in Billions LBP)	Poltical Devlopments
Jul-19	6,087	0.00%	1,515	-	1	6,087	Kabershmoun Incident
Aug-19	6,258	2.81%	1,572	3.76%	1	6,258	Government Deadlock
Sep-19	6,474	3.45%	1,681	6.93%	1	6,474	
Oct-19	7,305	12.84%	1,722	2.44%	1	7,305	Lebanese Revolution
Nov-19	9,055	23.95%	1,900	10.34%	1	9,055	Resignation of Saed Hariri Govermnent
Dec-19	10,564	16.66%	2,064	8.63%	1	10,564	Street Protests and Political Uncertainty
Jan-20	11,957	13.19%	2,271	10.03%	1	11,957	
Feb-20	13,051	9.15%	2,364	4.10%	1	13,051	Formation of one sided Diab Government
Mar-20	14,451	10.72%	2,621	10.87%	1	14,451	Default on Eurobonds
Apr-20	15,695	8.61%	3,243	23.73%	1	15,695	Heightened tension arising from inaction and disagreement on the government's rescue plan
May-20	17,845	13.70%	4,094	26.24%	1	17,845	
Jun-20	19,287	8.08%	5,244	28.09%	1	19,287	
Jul-20	20,818	7.94%	8,081	54.10%	1	20,818	
Aug-20	22,359	7.40%	7,600	-5.95%	0	22,359	France political Initiative
Sep-20	23,744	6.19%	7,686	1.13%	0	23,744	Hariri Appointment to form the government
Oct-20	25,571	7.70%	7,803	1.52%	1	25,571	Intense Politcal Deadlock from the failure to form the awaited Hariri government ; and negative raminifications from the fuel crisis and rapid inflation
Nov-20	27,888	9.06%	7,820	0.22%	1	27,888	
Dec-20	30,918	10.87%	8,286	5.96%	1	30,918	
Jan-21	32,572	5.35%	8,762	5.74%	1	32,572	
Feb-21	34,487	5.88%	9,138	4.29%	1	34,487	
Mar-21	36,503	5.84%	11,708	28.12%	1	36,503	
Apr-21	38,240	4.76%	12,201	4.21%	1	38,240	
May-21	39,882	4.30%	12,713	4.20%	1	39,882	
Jun-21	40,340	1.15%	15,274	20.14%	1	40,340	
Jul-21	40,562	0.55%	19,408	27.07%	1	40,562	Saed Hariri Steps down from forming the government
Aug-21	40,985	1.04%	19,587	0.92%	1	40,985	Continuous Political Uncertainties
Sep-21	41,704	1.75%	16,479	-15.87%	0	41,704	Formation of the new government by the PM Najib Mikati
Oct-21	42,521	1.96%	19,690	19.49%	1	42,521	Judge Bitar crisis
Nov-21	43,514	2.34%	22,900	16.30%	1	43,514	Political deadlock

The above Table portrays the behavior of our essential, relevant variables during the crisis period. The average exchange rate in the parallel market kept increasing, i.e, depreciating, throughout the period, except in August 2020 because of the "Macron Initiative" and in September 2021 because of the formation of the Mikati Government. In addition, the largest positive percentage changes in the exchange rate (27% or higher) took place in June 2020 at 5,244 LBP, in July 2020 at 8,081 LBP, in March 2021 at 11,708 LBP, and in July 2021 at 19,408 LBP. And as mentioned before, currency in circulation (CC) increased non-stop over the entire period, rising by more than 600%. The last variable is our political developments indicator (PD) which captures our event study as represented by a dummy variable: I for negative political events and 0 for positive political events. The Table also lists the major political factors that explain the 0,1 designations for the dummy PD.

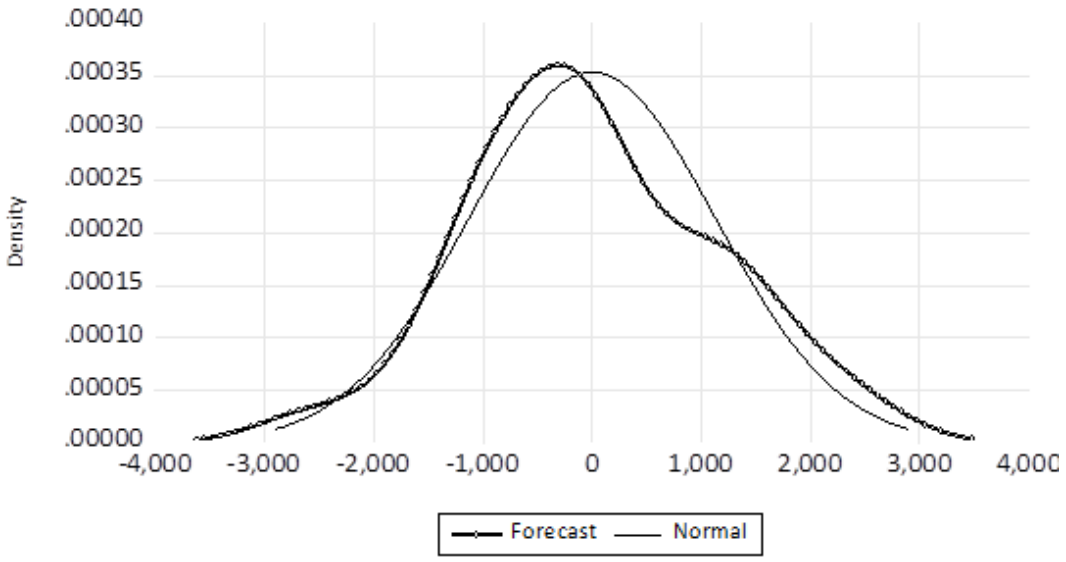
The theoretical model consists of a relation between the monthly change in the foreign exchange rate of the US dollar against the Lebanese pound in the parallel market and both a political event indicator and the monthly level of currency in circulation. This model is justifiable for two reasons. *First, it is believed that the exchange rate reacts strongly to unanticipated events, or news, in the economy, exemplified by the political indicator, and which leads to a revision in expectations. Secondly, currency, which is the basic form of money stock, is expected to impact positively this rate, especially during periods of heavy inflation and price upheavals in which real shocks are thwarted by nominal ones.*

The model is estimated by Ordinary Least Squares (OLS) over the monthly period between August 2019 and November 2021, i.e. with 28 observations, and with correction for statistical anomalies. An increase in the dependent variable denotes a depreciation of the domestic currency. The econometric results are displayed in the Table below. From this Table it is found that the political indicator, which proxies for critical news developments, is statistically highly significant, and this is true even with a marginal significance level of 1%. Hence an adverse political event leads to a depreciation of the currency, as expected from theory. The impact of the currency variable is also positive and also highly significant statistically with a marginal p-value lower than 0.001%. Again it is as expected. The constant, which is also highly significant statistically, implies that in the case when there are no political stunts, and no creation of new currency, the exchange rate is liable to appreciate. The goodness-of-fit statistic (or R-squared) is around 37%, which represents a good deal of explanatory power for the model. For the econometrically inclined, there is one caveat to the estimation, which is that the variable currency is non-stationary in distribution, and hence, for a given marginal rate of significance, the critical t-statistic is bigger than the one implied by a Gaussian normal distribution. However, since the reported t-statistic on this variable is close to 7 (6.9303), it is much higher than any usual and critical Dickey-Fuller t-statistic, which adjusts for non-stationarity. Therefore, the currency variable is likely to remain highly significant.

Dependent Variable: Δ(US-$)
Method: Ordinary Least Squares
Sample (adjusted): 2019M08 2021M11
Included observations: 28
HAC standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	P-value
Constant	-2443.280	827.7364	-2.951761	0.0068
Political dummy	2346.251	799.0738	2.936213	0.0070
Currency	0.043581	0.006288	6.930286	0.0000
R-squared	0.372028	Mean dependent variable		763.7500
Adjusted R-squared	0.321791	S.D. dependent variable		1443.343

Equally important, the Graph below portrays the probability density distributions of the regression residual (forecast) and that of the standard Gaussian normal z-deviate (normal). It is evident that the two curves do exceptionally overlap. And since more than 5 tests of normality -- not reported -- reach the same conclusion, that the residuals are normally distributed, the distribution is regarded as normal. This normality feature renders hypothesis testing, and t-statistics, valid. Hence the econometric diagnostics are in favor of the model. *Moreover, normality indicates that the speculative behavior in the parallel market, which appears and is documented by the regression residual, is random, and does not follow any systematic or profitable pattern.*



The above conclusion is fairly important: it is not so much speculation that explains the collapse of the Lebanese currency, but the fundamental political events that have been mostly negative in nature. In fact, one could also reinforce this conclusion from the fact that, for speculation to work, periods of prolonged exchange rate increases should be followed by sudden and sizable decreases, so that speculators who have been shorting the market can make profits from the process. But, as we saw earlier, this happened only twice, and the decline was driven by positive and valid political developments.

As important, there are also interesting policy implications from this conclusion: had speculation been the main reason behind the exchange rate depreciations, then the proper policy response is for the Central Bank to fight it if the Central Bank has a rich "war chest" of foreign reserves, otherwise perhaps best to adopt a laissez-faire attitude; but since it is largely negative political events that are the culprit, then the optimal policy is to address these political events and find a sustainable solution to them. *This also means that ad-hoc policy measures that aim at stabilizing the exchange rate without finding a viable solution to the political conflict will only waste more foreign reserves but have hardly any impact on the deteriorating future path of the exchange rate!*

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