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BY INVITATION:

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My previous note on the exchange value of the US dollar against the Lebanese pound has sparked many interesting reactions[1]. One of them was a concern about whether I am capable to forecast ex ante the exchange value of the US dollar for the future. This note addresses this issue. As is standard in economic theory, the price of the US dollar depends on supply and demand. In my previous note I explained the depreciation of the pound as the result of the oversupply of the Lebanese currency and its deficient demand. Supply is the actual level of currency in circulation, whereas demand is determined by two variables: the coincident indicator of the central bank, which measures real shocks, and the amount of checks cleared, which is a measure of nominal shocks.

If one can forecast the future level of the supply of currency, and the future demand for this currency, then one can forecast the price of the US dollar. In fact this is possible if one is ready to assume that the variables follow a trend, and stick to that trend. While this is a simple procedure it does provide for an estimate of the future exchange value. It is found that, during the period from October 2019 till July 2020, currency followed closely a trend, and the same can be said for the coincident indicator. However, the amount of cleared checks was unpredictable by its trend. Therefore the equation for the demand of currency is a function of the coincident indicator only:

$$\ln(\text{currency}) = -5.0240 + 0.8648 \ln(\text{indicator}) \quad (1)$$

The variable, $\ln(\text{indicator})$, is predicted by its trend:
$$\ln(\text{indicator}) = 31.005 - 0.0854\,\text{trend} \quad R^2 = 0.896 \quad (\text{October 2019/July 2020}) \quad (2)$$

This regression indicates that the coincident indicator has been falling by a monthly rate of 8.54%. The equation for the supply of currency is also predicted by its trend:

$$\ln(\text{actual currency}) = -23.753 + 0.111\,\text{trend} \quad R^2 = 0.980 \quad (\text{October 2019/July 2020}) \quad (3)$$

This regression indicates that the supply of currency has been growing by a monthly rate of 11.1%. Equation (2) has a negative trend, while equation (3) has a positive trend. This means that supply is increasing, whereas demand is receding. Taking the ratio of the fitted values of currency supply from equation (2), and the fitted values of currency demand, from equation (3), one can forecast the price of the US dollar as follows:[2]

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[1] BLOMINVEST *Lebanon brief* (25 September 2020) "Forecasting the Foreign Exchange Rate of the US Dollar against the Lebanese Pound".

[2] In order to estimate the forecast exchange rate, the ratio of the two fitted values is multiplied by the level of the exchange rate at end-September 2019.

DATE	ACTUAL	FORECAST
2019M10	1,700	1,540.69
2019M11	1,800	1,854.79
2019M12	2,150	2,232.92
2020M01	2,128	2,688.15
2020M02	2,150	3,236.17
2020M03	2,470	3,895.93
2020M04	2,820	4,690.18
2020M05	4,150	5,646.36
2020M06	8,600	6,797.47
2020M07	7,700	8,183.26
2020M08	7,050	9,851.57
2020M09	8,300	11,859.99
2020M10		14,277.86
2020M11		17,188.66
2020M12		20,692.88

This forecast is both ex post for the monthly period between October 2019 and September 2020, and ex ante for the last three months. The correlation coefficient between the actual exchange value and the ex post forecast exchange value is 0.907476. The table shows that the exchange value will be 14,227.86 at the end of October, 17,188.66 at the end of November, and 20,692.88 at year-end. All this depends on the validity of the trend behavior of the variables.

If one is ready to argue that the economic situation has bottomed up, and that there cannot be more deterioration in the activity level, then the price of the dollar will be determined by the oversupply of currency only; activity and, therefore, demand being held constant. In such a case the following table of forecasts can be prepared[3].

In order to estimate the forecast exchange rate, the fitted value of the supply of currency is multiplied by the level [3] of the exchange rate at end-September 2019, and divided by the actual level of the supply of currency at end-September 2019

DATE	ACTUAL	FORECAST
2019M10	1,700	1,683.88
2019M11	1,800	1,880.91
2019M12	2,150	2,100.98
2020M01	2,128	2,346.81
2020M02	2,150	2,621.40
2020M03	2,470	2,928.11
2020M04	2,820	3,270.72
2020M05	4,150	3,653.41
2020M06	8,600	4,080.87
2020M07	7,700	4,558.36
2020M08	7,050	5,091.71
2020M09	8,300	5,687.46
2020M10		6,352.92
2020M11		7,096.25
2020M12		7,926.54

The correlation coefficient between the two series is 0.911182. The model forecasts a level of 6,352.92 for the dollar by end October, 7,096.25 by the end of November, and 7,926.54 by year-end.

Finally, if one estimates directly a trend equation for the log of the price of the dollar, one gets:

$$\ln \text{US dollar} = -25.21 + 0.111 \text{ trend} \qquad R^2 = 0.980 \tag{4}$$

In this case the forecasts from equation (4) are in the following table. The model forecasts a level of 7,117.68 for the dollar by end October, 7,950.49 by the end of November, and 8,880.73 by year-end.

DATE	ACTUAL	FORECAST
2019M10	1,700	1,886.59
2019M11	1,800	2,107.33
2019M12	2,150	2,353.90
2020M01	2,128	2,629.31
2020M02	2,150	2,936.96
2020M03	2,470	3,280.60
2020M04	2,820	3,664.44
2020M05	4,150	4,093.21
2020M06	8,600	4,572.13
2020M07	7,700	5,107.09
2020M08	7,050	5,704.64
2020M09	8,300	6,372.11
2020M10		7,117.68
2020M11		7,950.49
2020M12		8,880.73

Hence three scenarios are possible. They give different results. However, the three models concur that, presently, the price of the US dollar is well above 1,507.50, and well above 3,900. In fact, the current price is near 8,000 but is expected to increase as the year comes to an end and in the absence of any reform measures and recovery plans. The first and second scenarios are about fundamentals, whereas the last scenario can be described to be of a technical nature.

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