An Empirical Note on the Desirability of a Reasonable Customs Dollar Rate

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Now that a comprehensive IMF program is in jeopardy given the loaded political agenda of forming a new government and of electing a new president, the need for piecemeal policy changes has assumed new urgency. One of the crucial policy changes in this regard is the required changes in the customs dollar rate that has remained at the official rate of 1,507 LBP at a time when the free market rate has exceeded 33,000 LBP. In consequence, the government has tabled a rate of 20,000 LPB, but it has been rejected by most political parties and private economic associations. The main economic reasons for rejecting the 20,000 LPB rate are that it could curtail the essential imports sector and could even not generate more revenue at the higher rate. Perhaps more important, another valid reason is that the higher import prices will lead to higher inflation that will eat further into the deteriorating purchasing power of the general public.

On the constructive side, the "rejectionist front" has reasonably asked that the MOF should undertake independent studies to ascertain the impact of the higher rate and determine what would be an optimal one[1]. This is what we intend to do in this note. Though the note is not a comprehensive one, we thought however that it would put the debate on more objective rails and provide a short but succinct analysis of how to approach the choice of a higher customs rate. And we hope that it would be a first step towards more detailed studies that ultimately would lead to an "expedited" policy change for a higher but reasonable and measured customs dollar rate.

We will start with addressing the first objection to the rate increase, namely that it could hurt the imports sector and could be revenue neutral[2]. This is actually a question of

[1] It is ironic that those demanding independent studies, especially some governing political parties, have shied away from demanding similar studies to assess the disastrous wage and rank increases in the public sector in 2017 that had wrecked the economy and lit the fuse for the current crisis.

2 In reality, and as the note will show, the proposed rate increases are substantial that customs revenue will end up rising largely regardless

finding the size of the (negative) price elasticity of import demand[3]: if the elasticity in absolute terms is less than one (inelastic), then a higher price from the higher rate will affect import value *less* but still lead to higher customs revenue; whereas if the absolute value of the elasticity is larger than one (elastic), then following the same logic the opposite will be true as far as imports and revenues.

To find the price elasticity of import demand, we have (unavoidably) to estimate econometrically the import demand function, which will depend naturally on prices and income. As such, the function will have imports IMP as the dependent variable; and the Lebanese consumer price index CPI, the imputed price of imports $S * CPI$, and cyclical aggregate demand $LCICYCLE$, as independent variables. All variables are in the first-difference of the logs, except $LCICYCLE$, which is in first-differences only. The sample spans the period from December 2007 to December 2021. The imputed price of imports is obtained by multiplying the average foreign exchange rate of the US dollar S by the local consumer price index CPI.[4] The cyclical aggregate demand is represented as a proxy by the cyclical component of the log of the coincident indicator of the Lebanese central bank (BDL)[5]. This indicator measures consumer and business confidence, and can be assumed to reflect real aggregate demand, for which there are no direct data. (Lastly, note the regression also includes the first lag of the cointegration residual $RES(-1)$).

As can be seen from the regression Table 1 below, *all coefficients are in fact elasticities, and they are correctly signed and have high statistical significance with the maximum actual p-value being 0.0093*: the coefficient of *CPI* is positive as higher domestic prices cause the public to substitute imports for domestic goods; the coefficient of *S*CPI* is negative as it captures the own price effect; and the coefficient of $LCICYCLE$ is positive as the public will naturally buy more imports with higher income. Specifically, the domestic price index carries a coefficient of 1.236754, which is elastic. The proxy for aggregate demand (income) carries a coefficient of 1.343144, which is also elastic. And most crucially, the foreign price carries a coefficient of -0.679047, which is *inelastic*.

[3] In simple economic terms, the price elasticity of demand measures the % change in quantity demanded caused by a given % change in price; and with a normal downward sloping demand schedule, the elasticity is usually negative in value.

[4] This is justifiable if the Purchasing Power Parity (PPP) holds; and it is valid for Lebanon as PPP tends to hold, and hold strongly, in countries experiencing hyperinflation.

[5] Note that a Hodrick-Prescott filter is applied to the cyclical component of the log of the coincident indicator.

Table 1: The regression Output

Dependent Variable: D(LOG(IMP))
Method: Least Squares
Sample (adjusted): 2008M01 2021M12
Included observations: 168 after adjustments
HAC standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.004290	0.011864	0.361647	0.7181
D(LOG(CPI))	1.236754	0.469825	2.632369	0.0093
D(LOG(S*CPI))	-0.679047	0.235559	-2.882703	0.0045
D(LCICYCLE)	1.343144	0.206693	6.498241	0.0000
RES(-1)	-0.846048	0.113539	-7.451625	0.0000

R-squared	0.475644	Mean dependent variable	0.001048
Adjusted R-squared	0.462777	S.D. dependent variable	0.193409
S.E. of regression	0.141760	Akaike info criterion	-1.040054
Sum squared residuals	3.275626	Schwarz criterion	-0.947079
Log likelihood	92.36455	Hannan-Quinn criterion	-1.002320
F-statistic	36.96445	Durbin-Watson stat	2.122445
Prob. (F-statistic)	0.000000	Wald F-statistic	23.35860
Prob. (Wald F-statistic)	0.000000		

What the coefficient -0.679047 indicates is that a 1% increase in the price of imports due to the higher customs rate will reduce import value by less and by around 0.68%. As such, *higher import prices from the higher customs dollar rate will have a reduced impact on imports and will lead to higher customs revenue.* So this settles the first objection, primarily that the import sector will not be drastically affected. And the reason is that a lot of Lebanese import goods are inelastic in demand and are in the nature of necessities or raw materials (their quantity demanded does not change much with price changes). For if we disregard precious stones, needed goods such as foodstuffs, mineral and chemical products, base metals, machinery, and transport equipment, constitute around 67% of total imports ($9.1 billion out of $13.6 billion in 2021).

What about the second main objection that the higher rate will lead to more inflation and poverty? To answer this question we will resort here to simple arithmetic. Table 2 below lists customs revenues and imports for the period 2014-2021 (2021 is latest year for full available data):

Table 2: Customs Revenue and Goods Imports

Year	Customs Revenue (Billion LBP)	Goods Imports (Billion USD)
2014	766	20.5
2015	713	18.1
2016	706	19.1
2017	742	19.6
2018	745	19.9
2019	632	19.2
2020	328	11.3
2021	469	13.6

If we restrict ourselves to the representative period 2104-2018 (the same holds true for earlier periods) of the "old normal" when the exchange rate was fixed at 1,507 LBP, then customs revenue averaged $487.32 million and imports averaged $19.44 billion; so based on these numbers, the customs tax or levy applied to imports should have averaged 2.5%[6]. Now the proposed government rate is 20,000 LBP, which is 1300% higher than the existing rate of 1,507 LBP. As a result, this higher exchange rate when applied to the customs levy *should increase import prices in LBP by 32.5% (1300% x 0.025)*. Needless to say, this is quite a *hefty increase*. But what would be the resulting impact on imports and customs revenue? If we extrapolate from our latest year for full available data i.e. 2021, then based on our econometric elasticity estimate of -0.68, a 32.5% increase in LBP import prices should reduce imports by 22.1% (32.5% x -0.68) and imports would fall to $10.6 billion. And the resulting customs revenue would then amount to 10.6 x 0.025 x 20,000, which is equal to 5,300 billion LBP, or more than 10 times the customs revenue collected in 2021, barring smuggling and the illicit entry of imported goods. Moreover, it is important to note also that there will be an added effect on government revenues through VAT, as the higher import prices in LBP will increase VAT receipts by 3.6% (32.5% x 0.11) from the LBP imports purchased by the final consumer.

The above represent, of course, big numbers and a huge impact. So a more reasonable rate is called for. If we apply the rate applied to "Lollars" according to BDL Circular 151, then the rate would be set at 8,000 LBP. This is equivalent to 530% the old official rate, and would lead to higher import prices in LBP by 13.2% (530% x 0.025), which is a more reasonable and acceptable increase. If we follow the same exercise outlined above, the results will show imports falling to $12.4 billion; customs revenues increasing to 2,480 billion LBP; and VAT receipts from LBP imports rising by 1.5%. Recently, Lebanese private economic associations have suggested a rate of 10,000 LBP, which is also quite reasonable, as it will generate results equal to half of those calculated for the rate of 20,000 LBP.

Of course, the main aim of increasing the customs rate is to reduce price distortions in the economy, but more importantly at the moment is to increase government revenues to pay for the higher cost of living adjustments to public employees, *without resorting to printing money and increasing currency in circulation (CC) by BDL because of its*

[6] This is of course the average, general levy. And as different import categories are subject to different levies, the impact of the higher customs dollar rate on these import categories requires detailed analysis at the categories level.

calamitous effect on the exchange rate. To wit, between October 2019 and December 2021, CC increased from 7.3 trillion LBP to 45.8 trillion LBP and, in correlation, the exchange rate shot from 1,800 LBP to 27,650 LBP; whereas, between December 2021 and July 2022, CC actually *fell* to 41.6 trillion LBP, however the exchange rate still managed to increase but only to 30,090 LBP.

Currently, the public personnel cost is about 10 trillion LBP a year, so a doubling of that (by roughly doubling wages) would necessitate an additional 10 trillion LBP. The 20,000 rate will bring additional customs revenue by 5 trillion LBP but import price inflation will be more than 30%; while an 8000 to 10,000 rate will produce almost half of these magnitudes. However, neither will completely close the gap of doubling the wage bill, and the resort to deficit monetization would backfire "big time" if adopted. That should necessarily imply the need for a comprehensive reform program as a first-best option, but that is unfortunately not on the cards right now. That leaves us with a second-best option of a customs rate increase (in addition to other revenue-generating policy measures); but which one to select is the policymaker's decision (or conundrum!), for economics is nothing if not ultimately the science, or perhaps the political art, of choosing between tradeoffs!

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