

Macroeconomic Effects of the COLA and Salary Scale Adjustments in the Public Sector:
Preliminary Results from a Simple Model for Lebanon

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1. Introduction

In January 2012, the Lebanese Council of Ministers approved a cost of living and salary scale allowance to public employees at a cost of \$1.53 billion¹. Of this, \$564 million was paid in cost of living adjustments (COLA) starting in 2012²; while the remaining pay scale was transmitted to Parliament for referral. However, the Prime Minister and the Minister of Finance at the time both stated that the salary scale measure would not be implemented until new revenue sources were identified to cover the new expenditures. And that policy-stand remains the prevailing government position to this day.

What makes these COLA and salary scale adjustments interesting is that they were approved in a climate of receding growth due to regional upheavals and the ensuing domestic political paralysis that erupted in 2011. Growth had declined in 2011 to 2% after averaging more than 8% in 2008-2010, and the budget deficit stood at 6% of GDP. Granted the validity of these measures on social grounds, especially the COLA adjustments, the question that naturally arose was whether the government would be able to fund these expenditures without exacerbating the budget deficit. Alternatively, one could also argue that regardless of their short-run impact on the deficit, such measures were desirable in their own right given the noticeable slowdown in economic activity and the need for stimulus spending.

The aim of this short note is to investigate these questions from the standpoint of macroeconomic analysis. We will first present a simple, standard Keynesian macroeconomic model, and then use it to study the effect of these spending measures on budget deficits and GDP. We will also consider scenarios where these new expenditures could have been undertaken jointly with tax increases. The main conclusions that arise from these discussions are that it would have been better had the government combined these expenditures with measured tax increases; and, in fact, it would have been best if the government had the political will to embark on tax and expenditures reforms and to rationalize public institutions. These are admittedly difficult reforms, but their urgency could come sooner rather than later if banks' liquidity begins to dry up, as a result of slower deposits growth, and with it the source for financing the government's recurring budget deficits.

¹ A parliamentary subcommittee, chaired by MP Ibrahim Kanaan, adjusted the cost to \$2.1 billion. After review in Parliament, a new subcommittee, chaired by MP George Adwan, revised the cost to \$1.34 billion

² Effective from February 2012.

Table (1): GDI, 2008-2013 (\$Billion)

	2008	2009	2010	2011	2012	2013
GDP	29.2	35.5	38.4	40.1	44.1	47.4
R	11.9	16.2	12.7	8.9	11.2	12.1
T	4.8	5.9	6.6	6.5	6.8	6.7
TR	2.1	2.3	1.7	2.2	2.8	2.7
GDI	38.4	48.1	46.2	44.7	51.3	55.7

Source: CAS; MoF

Table (2): Macroeconomic Variables (\$Billion) and Ratios

	2008	2009	2010	2011	2012	2013
GDI	38.4	48.1	46.2	44.7	51.3	55.7
CP	25.7	29.8	33.7	35.4	40.3	41.5
M	19.9	20.3	23.1	25.7	26.8	26.6
MPC	0.69	0.62	0.73	0.79	0.78	0.74
MPM	0.52	0.42	0.5	0.57	0.52	0.48

Source: CAS; MoF

Table (3): Government Spending and Tax Multipliers and Average Tax Rate, 2008-2013

	2008	2009	2010	2011	2012	2013
GML	1.21	1.25	1.3	1.28	1.35	1.35
TML	-0.21	-0.25	-0.30	-0.28	-0.35	-0.35
ATR	0.16	0.16	0.17	0.16	0.15	0.14

Source: CAS; MoF

2. Model

The Lebanese *Central Administration of Statistics* (CAS) has recently compiled new *National Accounts* for Lebanon covering the 2004-2008 period only. We are going to utilize this opportunity to use the new data, based on a simple Keynesian macroeconomic model. The model is comprised of four equations:

$$(1) \quad CP = MPC \cdot GDI \quad \text{or} \quad MPC = CP/GDI$$

$$(2) \quad M = MPM \cdot GDI \quad \text{or} \quad MPM = M/GDI$$

$$(3) \quad GDP = CP + IP + CG + IG + X - M$$

$$(4) \quad GDI = GDP + R - T + TR$$

Equation (1) is private consumption, CP, as function of gross disposable income, GDI, with the marginal propensity to consume, MPC, as coefficient. Similarly, equation (2) is imports of goods and services, M, as function of GDI, with the marginal propensity to import, MPM, as coefficient³. Equation (3) is gross domestic product, GDP, as the sum of private consumption, CP, private investment, IP, government consumption, CG, government investment, IG, and exports of goods and services, X, minus M. This is all pretty standard. Equation (4) departs from the conventional interpretation, since it defines gross disposable income, GDI, in a way that takes into account Lebanese specificities. First, it is gross because there are no measures of depreciation provided by CAS; second, as Lebanese balance of payments (BOP) statistics carry a large errors and omissions component, we estimated foreign transfers and net factor incomes, R, as *the difference between the balance on BOP and the balance of trade in goods and services*⁴; third, we included in taxes, T, all indirect and direct taxes that are primarily defined by VAT, international trade taxes, and the corporate profit tax⁵; fourth, current domestic transfers, TR, included mostly subsidies, primarily subsidies to the electricity company (EDL)⁶; and fifth, social security contributions and retained earnings were not accounted for (or deducted) because of lack of data.

Equations (1)-(4) define four variables: CP, M, GDP, and GDI; while the rest of the variables are exogenous. Replacing (1), (2), and (3) in (4), and taking derivatives, yield the following multipliers:

$$(5) \quad GML = dCG/dGDP = 1/\{1 - (MPC - MPM)\}$$

$$(6) \quad TML = dT/dGDP = -(MPC - MPM)/\{1 - (MPC - MPM)\}$$

³ This formulation equates the marginal propensities to consume and import with their average propensity counterparts.

⁴ In other words, $R = BOP - BOT$, where BOT is the balance of trade in goods and services. Remittances are of course the most important of these flows, averaging more than \$7 billion annually.

⁵ These three taxes constitute close to 70% of tax revenues.

⁶ Also, EDL subsidies make up close to 70% of current domestic transfers.

Equations (5) and (6) are, respectively, the standard government expenditure and tax multipliers, which together add to the famous “balanced budget multiplier” of equal changes in government spending and taxes. Tables (1)-(3) generate the data for all the relevant variables and ratios. We decided to cover the 2008-2013 period, since it averages out the boom period of 2008-2010 and the cool period of 2011-2013. Notice that foreign transfers and net factor incomes fell notably in 2011, and domestic transfers increased markedly during the slowdown years. Also during the latter years, the MPC remained relatively high because changes in private consumption were larger than changes in income, largely due to the presence of Syrian refugees. As a result, the resulting spending multiplier, GML, maintained its relatively larger values.

3. Results

As mentioned earlier, the COLA adjustment resulted in an increase of \$564 million in government current expenditures in 2012. What was the income effect of that increase? Assuming an average spending multiplier, GML, of 1.29, the resulting increase in income equaled \$727.6 million. Given that nominal income increased by \$4 billion in 2012 – or 10% -- then 18.2% of the increase was due to the COLA government spending. This extra spending must have also helped the economy to grow at a real rate of 2.8% in 2012. But since the increase naturally stopped in the later years, both nominal and real growth declined in 2013, the latter falling to 2%.

As important, what was the impact of the COLA adjustment in 2012 on the budget deficit? To adequately capture this impact, we need to calculate the feedback of higher GDP on taxes, T . The average tax rate, $ATR = T/GDP$, was 0.16 over the 2008-2013 period⁷. So the feedback to higher taxes was \$116.4 million, meaning that the net cost to the treasury was \$447.6 (564-116.4) million. Between 2011 and 2012, the budget deficit increased by \$1.6 billion to a total of \$3.93 billion, making the contribution of the COLA adjustment to the increase in budget deficit equal to 28% -- 10% higher than its contribution to GDP.

What if the government had spent the full package of \$1.53 billion in 2012? Since we can't tell what the resulting final deficit and GDP would have been, we will consider its impact in relation to 2011 only. The higher spending would have increased nominal GDP in 2012 by \$1.97 billion, or 4.9% of its level in 2011. The feedback to higher taxes would have been equal to \$315 million, making the net cost of the package to the government at \$1.21 billion, which *on its own* would have constituted 50% of the deficit in 2011.

⁷ Taxes in Lebanon are hardly progressive, making ATR almost equal to the marginal tax rate. Mainly, there is a 15% corporate profit tax, 10% capital gains tax, 10% VAT tax, and a maximum 20% for the personal income tax. It is as if the tax system is characterized by a flat tax of 16%.

A more interesting scenario is if the government had been successful in imposing new taxes to finance the full spending package. These new taxes were expected to generate \$1.25 billion in new revenues⁸. If we abstract from the supply side or sectoral impact of these taxes, and assuming an average tax multiplier TML of -0.29, their effect on nominal GDP would have been to reduce it by \$363 million $\{1.25 \times (-0.29)\}$. Given that the extra spending of \$1.53 would have increased GDP by \$1.97 billion, the net impact on income would have been to increase it by \$1.6 billion, or 4% of the GDP level in 2011. Equally important, its feedback on taxes would have increased revenues by \$256 million. Note that without the tax feedback, the net cost to the treasury would be \$280 (\$1.53-1.25 billion) million; however, including the tax feedback, it would be almost covered, making the final net cost to the government practically nil.

4. Evaluation

The government took a “middle” course by spending only the COLA adjustments in 2012 and refrained from undertaking the expenditures on the salary scales. But even this “half measure” contributed more to the budget deficit than to GDP, though the impact on the latter was welcomed in a climate of economic slowdown. It would have been more prudent had the government undertook both spending increases and higher taxes, something that would have left government finances almost intact but would have contributed favorably to GDP. It is unfortunate that the government could not raise taxes, lacking the political will to do so. After all, the mark of a modern, well-governed, and civilized country is its ability to raise reasonable and needed taxes that would be neutral to the budget but sound to the economy.

Of course, it would have been best if the government did not raise taxes at all, but instead improved its tax collection capabilities. Clamping down on tax evasion could bring at least an additional \$1.5 billion to the treasury, enough to finance the full spending package. It could also be accompanied with reforms to public institutions that would justify the higher salary scales, and would rationalize government expenditures. But these are, of course, hard structural reforms that require time, political will, and an enlightened public

Lastly, the government was lucky that its financing needs for the COLA adjustments did not result in higher interest rates because of the ample liquidity at commercial banks, which also had the added, *important advantage of not crowding out private investments*. But the government could run out of luck, if liquidity starts to dry up due to the current declining growth rates of deposits. It is crucial that the government keeps this in mind when designing new spending packages or when contemplating to undertake the salary scale expenditures.

⁸ Among the new measures proposed were higher VAT by 1%; higher taxes on interest from deposits by 2%; higher property taxes; new fees and royalties on marine properties; and higher taxes on “sin” goods.

5. Conclusion

The note used a simple Keynesian model to gauge the effects of the recent spending package for public employees by the Council of Ministers in 2012. Although the results are preliminary, they are nevertheless indicative of the direction and magnitude of the impact of the new measures on the economy. Notwithstanding the legitimacy of these measures, the COLA adjustments had an expansionary effect as expected, but they saddled the budget with higher recurring deficits. The government missed an opportunity to impose needed tax reforms that would have financed the extra expenditures and, more importantly, would have signaled its intention to enhance the institutional capacities of the state. In hindsight, we are tempted to infer that perhaps banks' liquidity is a blessing in disguise, acting as a buffer for the government to delay sustainable reforms, since it can always tap that liquidity to finance its deficits. But the government should know better, and ought to avoid the complacency of using banks' liquidity as a "hedging mechanism". And it needs to act quickly, prior to likely exhaustion of available liquidity, by adopting a genuine reform program that would avert any possible fiscal or economic crisis and help reignite prosperity in the country.