Emmanuel Tumusiime-Mutebile: The impact of oil price volatility and its implications for the economy and for macroeconomic stability

Speech by Mr Emmanuel Tumusiime-Mutebile, Governor of the Bank of Uganda, at the Dialogue on "The Impact of Oil Price Volatility and its Implications for the Economy and for Macroeconomic Stability", Kampala, 25 February 2015.

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Good afternoon ladies and gentlemen,

1. Introduction

The theme of my talk will be uncertainty about the future path of oil prices and what this means for the medium to long term future of the Ugandan economy. Uncertainty is a very important concept in economics, in particular because it has profound implications for long term investment decisions by the private sector. Uncertainty in respect to oil prices, and thus public revenue in oil producing economies, also has important implications for fiscal sustainability.

In the second half of 2014 the global oil market suffered one of its largest price shocks for many years. Inevitably, this has led economic agents to re-examine their long term forecasts for oil prices. For example, one of the sources of economic forecasts that we use in the Bank of Uganda had made a forecast, in March 2014, of crude oil prices at $148 per barrel in the second quarter of 2019, The same source has now revised down its forecast for the crude oil price in the same period to $81 per barrel, a fall of 46 percent. I do not intend to offer my own opinion on the price of oil over the long term, because it is almost impossible to make such a forecast with any reasonable degree of confidence. The 2014 oil price shock, unexpected as it was, has forced many analysts to question the assumptions which previously underlay their long term forecasts and, as a result, the future path of oil prices has become much more uncertain.

The greater uncertainty about the future price of oil has prompted major oil companies to put on hold their investments in high cost oil production projects, such as deep water drilling in the Atlantic Ocean. Oil companies are now much less confident than they were before mid 2014 that long term oil prices will be high enough to allow these high cost projects to be viable.

The key point that I want to emphasise is not that long term oil prices will necessarily be lower than previously forecast, it is that the future long term path of oil prices has become much less certain. In 10 years time, global oil prices could be above $100 per barrel, but they could also be less than $50 per barrel. Furthermore, even estimating the probability that oil prices will be $100 per barrel, or $80 per barrel or $40 per barrel, is very difficult. This is the essence of uncertainty: it involves risks which cannot objectively be quantified.

2. Uncertainty and investment

Important innovations to the theory of investment decisions were made by economists in the 1980s. Researchers such as Ben Bernanke, Robert Pindyck, Dani Rodrik and Ricardo Caballero demonstrated that decisions by private sector investors to undertake irreversible investments – that is investments with sunk costs – are very sensitive to risk and uncertainty about future prices, costs and other variables which affect the financial viability of the investment. Faced with uncertainty about such variables, investors have incentives to delay their irreversible investments in order to wait for more information which will reduce that uncertainty. This is known as the option value of waiting. The greater is the risk and uncertainty about the future path of variables which affect the viability of an investment, the higher is the option value of waiting and the larger are the incentives facing the investors to delay their investment.

What does this mean for Uganda? Uncertainty has implications for investment in both the oil industry and the rest of the economy. Let me start with the oil industry.

Most of the capital investments in the oil industry are irreversible, especially those involving large scale infrastructure such as pipelines, so the option value of waiting will be a factor influencing investment decisions in the industry. Given the uncertainty about long term oil prices, the probability that future oil prices will be too low to enable investments in the oil industry in Uganda to be commercially viable over the lifetime of the projects is not zero. You may reasonably take the view that the probability that oil prices will be too low to ensure the viability of investments is small, but it cannot be dismissed entirely. Investors in the oil industry face a tangible risk that global oil prices over the long term will render their investments unviable. That risk is higher today than it was prior to the fall in global oil prices in mid 2014.

As a consequence, investors in the oil industry face incentives to delay or slow down their investments as they wait to see how global oil prices might evolve. That does not mean that oil companies will not invest in Uganda's oil industry, but it does mean that they will be more cautious about committing resources to irreversible capital projects than would have been the case before the fall in global oil prices. It is likely, therefore, that the pace of capital investment in oil production and the associated infrastructure will be slower than had been anticipated before the global oil price fall.

The uncertainty about the future path of oil prices will also have implications for private investment decisions in the non oil sectors of the economy. Oil revenues expand the national income of a country. An increase in national income raises demand for consumption and investment goods. The demand for traded consumption and investment goods can be met through higher imports, but the demand for non traded goods, such as most services and housing, can only be met from domestic production. Hence to enable the economy to maintain internal balance, between supply and demand, the structure of production within the economy must shift in favour of industries which produce non traded goods. The larger is the increase in national income derived from oil revenues, the greater the shift in the structure of production from the traded goods sectors to the non traded goods sectors. To bring about this shift in the structure of the economy, there must be capital investment in the non traded sectors, together with a reduction of investment, or even disinvestment, in the traded goods sectors. This shift in the production structure of the economy is facilitated by an appreciation of the real exchange rate, entailing a rise in the prices of non traded goods relative to those of traded goods, thereby making non traded goods production more profitable and traded goods production less so. Private investors have incentives to invest in the non traded goods sectors because they expect demand for non traded goods to increase in the future when the country begins to spend its oil revenue.

The global price of oil has important consequences for national income. In essence the bulk of the national income derived from oil takes the form of public revenues, because the oil companies themselves are foreign. Production sharing agreements in the oil industry are structured so that most of the risk of price volatility is borne by public revenues. A fall in global oil prices translates directly into a fall in public revenue and hence a fall in national income. Consequently, the uncertainty about the level of future global oil prices also translates into uncertainty about the amount of national income that will be derived from oil and hence the magnitude of any future rise in demand for non traded goods in the Ugandan economy. With future demand being more uncertain, private investors have incentives to delay irreversible investments in these sectors. This will not be offset by any increase in private investment in the traded goods sectors of the economy, because the future viability of these sectors is also uncertain. As a result, we can expect the uncertainty about future global oil prices to have a negative impact on private investment, which in turn will cause real economic growth rates to be lower than they would otherwise have been.

The uncertainty about oil prices also has implications for the exchange rate. Increased national income and expenditure as a result of the exploitation of natural resources leads to real exchange rate appreciation. Economic agents will, therefore, expect that the exchange rate will be more appreciated in real terms in the future, when the country begins to spend its oil revenue. If the exchange rate is expected to appreciate in the future, it will actually start to appreciate now, as rational investors purchase assets valued in the domestic currency. The more uncertain outlook for oil prices has almost certainly led economic agents to revise their expectations about the path of the real exchange rate in the long term, which in turn will affect the exchange rate now. I think that it is very likely that this is one of the reasons why our exchange rate came under strong pressure in the final quarter of 2014 and in January of this year.

3. Fiscal policy

Finally, I want to discuss the implications of oil price uncertainty for fiscal policy, which is crucial for macroeconomic stability. As I have noted, most of the national income earned from oil accrues to the Government in the form of public revenue. The Secretary to the Treasury has already spoken on this issue so I will keep my remarks brief.

We have to be honest and recognize that it has become more likely that public revenues from oil over the long term will be lower than we had previously expected. The uncertainty of future oil prices will affect public revenues through two channels. First, it is possible that oil production volumes will be lower if irreversible capital investments in the oil industry are delayed, as I discussed earlier. Secondly, the public revenue earned from each barrel of oil pumped out of the ground will probably be lower. The latter effect could be very significant given that the Government bears most of the risk of price volatility. Of course oil prices could recover strongly over the long term thereby yielding substantial revenues for the Government. But there is also a probability, which cannot be dismissed as negligible, that oil prices will not be high enough to enable Government to earn much revenue from oil. As a consequence, there is a huge amount of uncertainty about the magnitude of public revenues over the long term.

Given this uncertainty, it is imperative that Government should be very cautious about incurring expenditure commitments, the financing of which is contingent on substantial inflows of oil revenues in the future. Such commitments could include both a large expansion of the public wage bill and large public investment projects. If Government were to undertake such commitments and future oil revenues are too low to fully finance them, the fiscal position would be unsustainable; the Government would face a fiscal crisis. This is what happened in many oil producers in the early 1980s, when the oil price fell sharply.

Fiscal sustainability is essential for macroeconomic stability. If the country were to face a fiscal crisis, interest rates would spike, inflationary expectations would rise, the exchange rate would fall sharply and capital would flow out of the country. In these circumstances, it would be almost impossible for the central bank to maintain macroeconomic stability through monetary and exchange rate policy. The message that I want to convey is that we must have a far sighted long term fiscal policy which recognizes the inherent risks to the magnitude of future oil revenues and ensures that fiscal sustainability will not be put at risk, even if this means adopting very cautious spending plans in the Medium Term Expenditure Framework.

4. Conclusion

Volatility and uncertainty makes macroeconomic management more difficult. Nevertheless, the uncertainty over future oil prices does not presage disaster for Uganda. Even if oil prices are very low in the future and very little public revenue is earned from oil, our economy can continue to thrive and grow if it is well managed, as it has been for the last 25 years. What would be disastrous for our economy is if we fail to recognize the significant risks entailed in the uncertain future path of oil prices and incur expenditure commitments which subsequently prove to be unaffordable.