Petroleum Revenue Management in Ghana: Perspectives on Benchmark Revenue

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Ghana's Petroleum Revenue Management Act faces a range of challenges in delivering its core objectives. One area of disagreement is Benchmark Revenue and the rules guiding its calculation. This is perhaps the most significant part of the law as it binds future governments to rules for how much of the petroleum revenues to spend. Yet issues related to Benchmark Revenue tend to be little discussed owing to the complexity of the calculation, a lack of transparency and a broad based understanding of its purpose. Here I consider some of the key features of this approach and its challenges.

What is Benchmark Revenue?

The Benchmark Revenue estimate is calculated every September and determines the US dollar amount of petroleum revenues for spending in the following national budget. This is known as the Annual Budget Funding Amount (ABFA), set at a maximum of 70 percent of Benchmark Revenue. After meeting the budget allocation for spending, the remaining petroleum revenues are saved into the Ghana Petroleum Funds. (Under the amended law the process has become more complex but the principle of saving the residual after financing ABFA is the same).

How is Benchmark Revenue calculated?

The PRMA explicitly sets out the key assumptions for determining Benchmark Revenue every September. The government must estimate petroleum revenues using an average of 7 years of oil prices (including two forecast years) and an average of 3 years of quantity or 'government take' in oil (including one forecast year). Following the amendments there is now a similar process for gas revenues.

Why use a moving average in the calculation?

The law in essence forces the government to shape spending plans based on an average of petroleum revenues rather than the expected revenues for the following year. When revenues are doing relatively well there will be surpluses, when doing badly there will be shortfalls. Managing this requires building up and depleting savings over time. This is known as expenditure smoothing and should help shelter government spending programmes from revenue volatility.

Averaging the assumptions for prices and quantity means that when petroleum revenues begin to grow, the benchmark will be less than what is expected. For example, consider a situation where the government is projecting a windfall next year, perhaps due to a rapid increase in prices. The process of averaging with previous years of lower oil prices will create a lower benchmark than is forecast. This holds down spending while petroleum prices are performing well to deliver more savings.

Has the PRMA reduced discretion over the calculation of Benchmark Revenue?

A key concern of resource revenue management is that political pressures can lead to spending too much now and building inadequate savings for when petroleum revenues unexpectedly fall. In Ghana, the government need only overestimate Benchmark Revenue to increase spending and reduce savings. Therefore, clear and transparent rules for the calculation are important.

The PRMA attempts to prevent gaming of the rules by forcing the Ministry of Finance to use an external expert to certify the estimate of Benchmark Revenue. However, in practice this does not create a satisfactory safeguard. Beyond publishing the moving average assumptions, the full calculation for Benchmark Revenue is not made available. Ghana's Public Interest and Accountability Committee (PIAC) also do not oversee the government committee tasked with creating the estimate. This creates obvious risks for the integrity of the calculation.

Aside from this, has the calculation worked as expected?

In 2011 and 2012, PIAC raised concerns that Benchmark Revenue estimate was being overestimated. This was a concern given the movement in oil prices and the rapid growth in production at the time. We would have expected the opposite. In this situation, the moving average of prices and quantity should create a Benchmark Revenue estimate below actual petroleum revenues and deliver more savings. While this was partly related an overestimation of corporate income tax payments, in the absence of transparency it is not clear whether the calculation was applied appropriately.

While these problems are important, it is worth noting that there is little consensus on what stakeholders should expect from the Benchmark Revenue calculation, nor the rationale for its use. In contrast to what the law states, Benchmark Revenue is not 'expected revenues'. The moving average creates an estimate always different from actual revenues, even if the government has perfect forecasts of prices and quantities. A more accurate way of thinking about this is that 70% of the Benchmark Revenue should be allocated to the budget *as-if* it were expected. Savings are then determined by the excess over this amount. The amendments to the law in 2015 provided for an initial allocation to the funds but maintained the spirit of this approach

Why does this matter?

The idea that Benchmark Revenue is 'expected revenues' or a forecast has been the source of much misunderstanding since the inception of the law. If the government allocates 70% of Benchmark Revenue to spending and Benchmark Revenue is always significantly different to actual revenues, savings will never be 30% of petroleum revenues. This is a concern for many stakeholders who saw the spirit of the law as saving 30% of petroleum revenues. Instead, as one of the Ministry of Finance officials who spearhead the creation of PRMA recently put it: 'it is more accurate to say that Ghana will save 30% of petroleum revenues *over the long-run* but we should not aim to achieve this in a given year. Sometimes it's more, sometimes it's less'.

What has been the impact of this?

Confusion about these issues was most obvious in the public discussions about the 2015 national budget. The Benchmark Price was USD99 when actual oil prices had already fallen below USD70. This differential is only telling us that prices are performing very badly relative to an average of prices over 7 years. This was essentially saying to the government: 'ignore the falling prices, use an average of oil prices and this will limit the harm that the fall in oil prices will cause to spending plans'. In short, keep spending as if oil prices were much higher by depleting savings built up during the good times.

The difference between Benchmark Revenues and actual revenues has been widely seen, including in PIAC reports, as a problem with the predictive ability of the Benchmark Revenue calculation. PIAC have therefore recommended that Benchmark Revenues is altered to a better projection. This interpretation mistakes the original intention of Benchmark Revenue which is to create an estimate that deliberately deviates from actuals to smooth changes in spending.

Does that mean the Benchmark Revenue calculation is working fine?

No. The fall in oil prices demonstrated the limits of this type of approach to revenue management. The moving-average rule is designed to manage shorter-term volatility in prices or quantity. However, the trend in oil prices has recently exhibited some longer-term shifts. In 2016, if the oil price had rebounded back to USD100, the mechanism would have perhaps worked better. However, the longer-term shift downwards in oil prices demanded a more rapid, downward adjustment in ABFA. In this environment a moving average approach can lead to rapid and unwanted accumulation and depletion of petroleum revenue savings. This may be unmanageable as Ghana found out in 2015.

What were the consequences?

Rather than using pre-existing flexibility in the law to gradually reduce the Annual Budget Funding Amount, the government amended the PRMA. This amendment introduced the ability to revise Benchmark Revenue with the approval of parliament. This has further weakened the approach and has meant tying the spending of petroleum revenues back to a forecast of revenues. This means, contrary to the spirit of the PRMA, budget spending is now linked directly to the volatile revenues rather than a benchmark.

The complexity of the calculation, the discretion over the setting of Benchmark Revenue and overall lack of transparency now gives a lot of scope for the government to adjust Benchmark Revenue (and by implication the spending and saving of petroleum revenues). The rules for Benchmark Revenue are no longer a credible constraint to hold future governments to rules for savings and a consistent expenditure smoothing strategy.

Where do we go from here?

To reduce the risk of the government adjusting Benchmark Revenue to its advantage, PIAC must advocate for greater transparency around the calculation and request to sit on the committee that creates the estimate. This will help provide some integrity to the final calculation and should open important debates about how reasonable the PRMA's benchmarks are given developments in the rest of the budget. These are conversations to have openly in advance of the budget.

The Benchmark Revenue calculation has proved much too complex, undermining oversight of the law and has not improved public financial management. The government and stakeholders must therefore consider the range of options for simplifying the First Schedule. Smoothing spending is not a science and keeping the calculation as simple as possible will be vital for oversight and consistent implementation.

There are a number of options for simplification that would not undermine the efforts: using a straight moving average of petroleum revenues or just using a moving average of oil and gas prices are two obvious options. This would deliver similar budget outcomes but with the benefit of being much more intuitive for oversight actors and easier to implement.

Will this solve the problems with the PRMA?

No. Rectifying the problems with Benchmark Revenue are important but we must not lose sight of the bigger concerns about delivering fiscal sustainability. One of the lessons of recent years is that Ghana cannot practically manage volatility in just one part of an already volatile set of revenues. Ghana's revenue base is heavily reliant on a number of primary commodities. Therefore, petroleum revenue allocations are useful insofar that they contribute to efforts at smoothing changes in *overall* expenditure and building fiscal buffers (a combination of savings and debt). It is now clear that the

PRMA cannot deliver these aims in the absence of fiscal rules and credible commitments to limiting overall expenditure growth and the size of the fiscal deficit.