

It is simple economics Mr Mayor!

Recently, the incumbent mayor of Tshwane, Mr Kgosientso Ramokgopa, featured in the news with the protests around the announcement of the ANC's new mayoral candidate for the metro, Thoko Didiza. But earlier in June, Mr Ramokgopa also hit the local headlines when he announced the metro's budget for 2016/17. The new budget features steep increases in rates and taxes for the residents of Tshwane - water tariffs for example will increase by 12%, which is nearly 7% above national inflation. Mr Ramokgopa advanced all the normal reasons for these increases, ranging from inflation to increases in bulk purchase costs from Rand Water (in the case of water tariffs). Given the fact that the Rand Water price for bulk water purchases only increased by 7.85%, the additional increase of 4.15% in the water tariff was never explicitly motivated. I say explicitly motivated because in his address making the announcement of the budget and the increases, Mr Ramokgopa did advance an implicit motivation for these steep increases: he said the council remained unapologetic about the fact that poor households must have access to basic services, albeit through direct or indirect methods of subsidisation. So there we have it - it is subsidisation of poor households that are responsible for these steep, above-inflation increases. But is that correct? No, simple economics tell us that it is not subsidisation that is responsible for these increases. Simple economics tell us that the consistent wastage and bad management of the affairs of the metro are the likely causes of these steep increases. This situation is also not unique to the Tshwane metro. I get concerned when politicians try to hide behind poor people. Subsidisation of the poor is a necessary cause in a caring society and I am worried that incidents like this give subsidisation a bad name. Allow me to expand.

There are two categories of poor people in every community. Firstly, there are the registered indigent households (of which Tshwane reportedly has some 129 000) and then there are those households with income above the indigent threshold but still so low that they really struggle to pay for their basic municipal services. Every municipality receives a direct subsidy from national government for the basic services that are supplied to registered indigent households. So, if this subsidy is applied prudently, then simple economics tell us that these indigent households should not be the reason for any above-inflation increases. Simple economics also tell us that in the presence of significant wastage and persistent bad management, the subsidy from national government may not be sufficient to fully cover the costs of rendering services to the indigent households. Under that scenario, indigent households as well as those in the second category listed above may indeed require further subsidisation to make "ends meet". But can this subsidisation cause such steep tariff increases? No, once again simple economics tell us that this is unlikely! Before I go into this in more detail, let me first explain what I contend, is the real reason for these steep increases. I will do so by way of an example.

Imagine a young working lady Sylvia, who is very conscious of her monthly travelling costs. She considers buying a small car with a diesel engine that is so efficient it can do 500 km on a tank of 30 litres of diesel. At today's diesel price that equates to about 78c/km. Sylvia's calculations further indicate that with maintenance costs included, her direct travelling cost will be around R1.00 per kilometre. On that basis she decides to go ahead and buys the car. Unbeknown to Sylvia however, the car she bought has a latent defect - it leaks diesel and roughly half of the diesel in the tank leaks out while she is driving. What happens now? Sylvia will actually only do 250 km with a

tank of diesel and her direct travelling cost will equate to R1.78 per kilometre! She notices this, but alas she does nothing about it....soon she will be in financial trouble.

This example is exactly what is happening in Tshwane with our water. Nearly 50% of the potable water the metro buys from Rand Water or produces itself, leaks out of the system or is wasted somewhere. As in our example, the Tshwane Metro has been aware of this for years, but has done.....nothing! The situation is actually getting worse year by year. The simple economics in the example above clearly demonstrate the dramatic impact that such wastage and bad management (not doing anything to rectify the problem) has on costs and on the wellbeing of the owner. It is this wastage and bad management that is responsible for the dire financial position of the metro and not the needs of the poor people! And, as I have stated before this situation is widespread and by no means unique to Tshwane.

But how sure can we be that subsidisation does not actually lead to inflated water tariffs? A few years ago I published a small booklet, Less Water Than You Think, discussing this and other issues around water in this country. It all revolves around how a municipality determines the price that it charges its consumers for water supply. To correctly determine the price, a municipality (for a start) needs to know what its actual cost is to deliver water to its consumers (this cost is expressed in Rands per kilolitre). Once the cost has been determined, a suitable margin can be added and this is the price (in Rands per kilolitre) that should be charged. Or is it? If we were living in any part of the world where water is abundant and plentiful that would be the correct price to charge under most circumstances. But, South Africa is a dry and arid country with limited water resources. It is in our national interest to use water sparingly and it makes economic sense as well. We need to make do with whatever current water resources we have as developing any new resources will be very expensive. As our population grows and more and more people are provided with access to water, our existing water resources are coming under severe pressure. We need to counter this growing demand for water with using water more efficiently and more sparingly. How do we achieve that? We use the economic phenomenon of the “price elasticity of demand”.

The economic phenomenon of “price elasticity of demand” dictates that for any commodity (such as water), as the price goes up, demand will go down, and vice versa. So, to get people to use water more sparingly and efficiently we need to increase the price! But, we want to apply this concept selectively - the idea being that the demand of consumers who consume relatively small volumes (such as poor people) should not be impacted. On the other hand, we definitely want the demand of consumers who consume large volumes of this scarce resource to be impacted. In fact, we want them to consume less! To achieve this, we deploy a tariff structure based on the principle that as you consume more water, the price of each additional kilolitre consumed will be higher.

Let's say a specific municipality has determined its cost to be R10 per kilolitre and has decided to charge a margin of 20%, thus the price is R12.00 per kilolitre. This municipality has a water resource that can deliver 100 000 kilolitres per day, but if it charges R12.00 per kilolitre its population will want to consume more than 100 000 kilolitres per day. How should it price its water to protect its resource and avoid costly new resource development? A simple example of a pricing mechanism that can be deployed is for every 10 kilolitres per month consumed, the price increases by 20% starting from R11.00 per kilolitre. Thus a household that consumes 10 kilolitres will pay R11.00 per kilolitre, a household that consumes 20 kilolitres will pay R12.10 per kilolitre,

a household that consumes 30 kilolitres will pay R13.35 per kilolitre etc. This tariff structure is commonly referred to as a "rising block" tariff and is widely employed in South Africa (including Tshwane). Through statistical analysis of the consumption patterns of its consumers, a municipality can design its rising-block tariff structure to achieve two objectives: manage demand to match the target supply and achieve the required average price.

Now the key question is this: *in the example above, does the fact that some consumers pay less than R12.00 per kilolitre, amount to subsidisation?* The answer is no - it is simple economics utilised to achieve demand management. Unfortunately, the common perception out there is that it is subsidisation. Secondly, does the fact that some people pay less for their water imply there should be above-inflation increases? No definitely not. So, where would subsidisation feature in all of this? Apart from the subsidy paid by national government, subsidisation only enters into the equation if the lowest tariff tranche of the rising-block is deliberately reduced even more, to render the water more affordable to poor people. The consumption level for which this lowest price is charged is typically small - between 6 and 10 kilolitres per month. To put it into perspective, this amounts to roughly 50 litres per day for every person in a household of five. Want even more perspective? A single flush of a toilet uses around 13 litres of water. By comparison, a typical three bedroomed urban household will consume between 25 and 45 kilolitres per month depending on certain lifestyle factors (compare that with the consumption of your own household). Deliberately reducing the lowest tranche, implies that the higher tranches must all be adjusted slightly upwards – here the emphasis is on “slightly”, because the impact of subsidisation is in most cases far less than the impact of demand management, as discussed above.

It is unlikely that subsidisation is the reason why a municipality such as Tshwane, needs to resort to above-inflation price increases. Wastage and bad management of our scarce water resource are the more likely reasons for the price increases. Given the background of South Africa as a dry and arid country and the need to protect our scarce water resources as discussed above, I believe this widespread wastage is in fact criminal. I also believe Government must stand up and account for this criminality. Government should not hide its inefficiencies behind the poor people! Thoko Didiza take note!