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**ETHICS, ECONOMICS AND AIDS
POLICY IN SOUTH AFRICA**

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Ethics, Economics and AIDS Policy in South Africa

Introduction

This evening's lecture is about the economics of AIDS policy in South Africa. But, as one of my colleagues in the Politics Department wryly observed, a lecture on the government's AIDS policy would be 'rather short'. So, I will also be using the topic to touch on the role of the economist in society and on good and bad uses of economics per se.

The fundamental problem addressed by economics is scarcity. Economists typically point to opportunity costs and budget constraints – thus earning the discipline its reputation as the 'dismal science'. Yet this role of slayer of unfeasible dreams and proponent of almost Victorian notions of 'good housekeeping' is an important one. As McCloskey, the foremost critic of economic rhetoric, argues, we can all learn a 'thing or two about ethics from economists'... (most notably that)... 'bourgeois values have their value and that we must be grown-ups and face scarcity when after all it exists' (1990: 147-8).

This 'ethical lesson' about scarcity appears to be well (albeit not universally) accepted in South Africa today. In spite of grumblings from the trade union movement about 'neo-liberalism', opinion polls consistently show that most South Africans believe government spending is constrained, and that there are no easy means of expanding available revenues. This has made it easier for the government to pursue economic strategies which reduce, rather than expand, government spending.

The theory (or what McCloskey would call 'the story') behind the government's economic strategy goes something like this: 'Once upon a time there was a wise government which realised that increased spending leads to inflation, high deficits and irritable investors. So, they cut government spending. This pleased investors, so investment increased, jobs were created and everyone got richer.'

McCloskey accuses economists of peddling 'snake-oil' – i.e. magical cure-all solutions – when they tell stories like this. And there are many such snake-oil cures in economics. The crude Keynesian alternative goes something like this: 'Once upon a time there was a wise government which realised that the economy was stuck in a low-level trap because there was not

enough spending power. So they increased the fiscal deficit to boost government spending. This injection of demand increased sales and employment – and everyone got richer.’

Keynesian stories, having fallen into disrepute during the inflationary 1970s, have experienced something of a comeback. It has, for example, become respectable to recommend that the Japanese government radically increase spending to kick-start its sluggish economy. But in South Africa, such Keynesian policy prescriptions remain the preserve of the marginalised left.

Here is the best Keynesian riposte I have seen to the South African government’s economic policies. It is in the form of a poem by Jeremy Cronin (1997: 34):

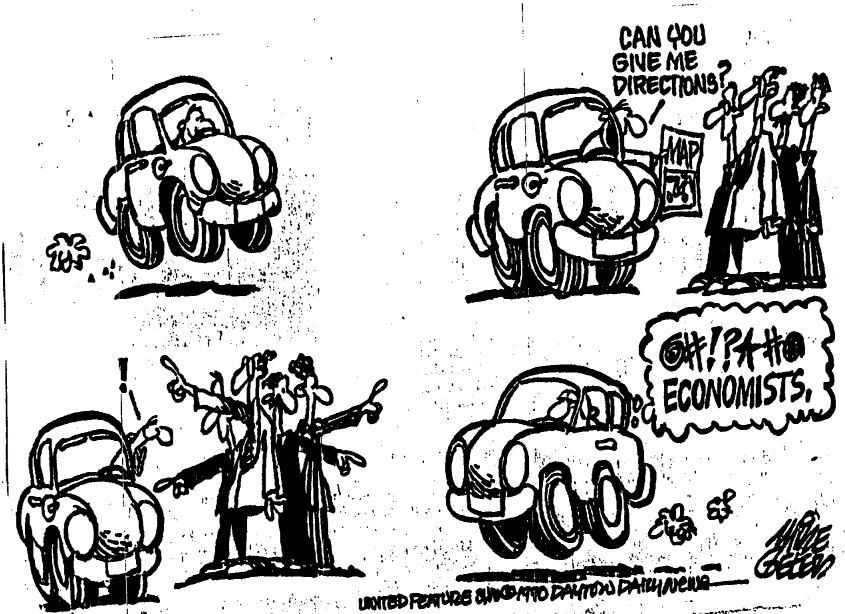
Epitaph for a Finance Minister

Grounded, here lies our beloved minister
 Propagator of the Passenger
 Theory of Propulsion

He asked us to tighten belts
 Not because of, but in order to
 Take off

Neoclassical economists of course disagree that fiscal discipline amounts to no more than an ineffectual ‘passenger theory of propulsion’. They argue that saving (i.e. belt-tightening) is a precondition for investment and growth. But I have yet to see a neoclassical economist write poetry as well as Jeremy Cronin.

The clash of divergent theories and approaches in economics has resulted in a fair amount of ridicule being heaped on us economists. The media complains about the confusing array of economic opinions. Here is a typical example of how it teases economists:



Our students are often impatient with the many theories, desiring to learn just one correct interpretation of how the world 'actually works'. But unless we respond with simple snake-oil stories, we cannot meet this request. Often the only intellectually respectable thing to do is to open their eyes to complexity and equip them to be sceptical of all easy answers – or as my mother (also an economist) used to say, teach them 'to beware of economists bearing gifts'.

Yet economics used well (and with a self-critical modesty) can offer society real help in coming to grips with hard choices, but only if it informs – rather than substitutes for – social debate. This means being honest about the assumptions that guide economic analysis, and avoiding the confusing jargon so characteristic of the profession

The rhetoric of economic expertise is seductive because it functions as a marker of professionalism for those who use it - but the price of such pretension is often a failure to communicate. And, when politicians engage in the rhetoric of economic expertise, there is a real danger that social debate and dissent may be crushed entirely by the sheer force of language.

For example, our Finance Minister – the one whose epitaph Jeremy Cronin has helpfully provided – is fond of statements such as 'the economic

fundamentals dictate the need for further fiscal discipline'. The rhetorical devices he uses help to silence criticism. After all, who wants to argue against something as worthy as 'discipline' – particularly when it is 'dictated' by a 'fundamental' (whatever that means – I certainly have no idea).

Statements like 'the provision of anti-retroviral drugs is not affordable' have a similar effect. The use of the gnomic present – 'is not affordable' – conveys to the listener a sense of timeless truth. McCloskey argues that this discursive sleight-of-hand is typical of the narrative of economic expertise: 'The experts claim that their stories are "positive, not normative", "is" instead of "ought" the way things are as against how they should be. The claim is at the centre of modernism. But stories carry an ethical burden. Concealing the ethical burden under a cloak of science is the master move of expertise, the secret ingredient of the snake oil' (1990: 35).

As I will argue tonight, precisely such an 'ethical burden' lurks behind the government's claims that anti-retroviral therapy for HIV+ pregnant women is not 'affordable' or 'cost-effective'. These terms are more than technical labels (as economic technocrats would have us believe) – they are symbols of a prior – and highly contestable – process of choice and analysis.

Economic models of choice typically show how an optimal distribution of scarce resources can be achieved – *given a set of assumptions and information about social preferences*. Such models can be used to allocate labour and food in a prison camp just as easily as reallocating tax revenues from the rich to the poor. Social objectives, values and preferences enter the calculus in the form of variables that can be changed with the stroke of a pen. This is why social control over economic decision-making is so vitally important.

But how can economists behave in ways that support rather than erode social control? I believe this can be achieved in two ways. Firstly, economists can explain the nature of an existing choice, thus inviting a discussion about which social values to include. Secondly, they can analyse choices that have already been made – thereby holding a mirror up to society and saying: 'This is the choice that was made – and the implicit assumptions which guided it. Do you like them?' Both these roles are pertinent when it comes to allocating scarce resources in the health sector.

Allocating Scarce Resources in the Health Sector

This can be illustrated by an anecdote about a specialist I know who works in a large public hospital in Cape Town. One day, a young man in his early twenties was admitted with gun-shot wounds to the chest. He stood a good chance of recovery – but required time in the intensive care unit (ICU) to recover. My friend took the unconscious man to the ICU, where he met another specialist, with an elderly and very ill patient, also looking for an ICU bed. But there was only one available. This was scarcity in stark clarity – and the two medics had to decide how to allocate the scarce resource – i.e. the bed.

My friend immediately argued (according to the old World War 1 principle of triage) that his patient was more likely to recover, and had more years of life ahead of him, and so should get the bed. The other specialist countered this by pointing to the gang-tattoos on my friend's patient.

'Your patient is a gangster,' he said. 'He is a threat to society, a no-good bum, whereas my patient is a loving grandmother.'

A passing orderly overheard the conversation and came over to examine the gangster. He raised the unconscious man's arm and pointed to the row of seven crosses tattooed on his side.

'Kyk daar,' he said, 'it means this skollie has killed seven people.'

'It probably also means,' added the specialist with the elderly patient, 'that there are at least seven vengeful gangsters out to get him. Your patient's life-expectancy is probably no better than my patient's!'

My friend could see that the case was swinging sharply against him, so he changed strategy:

'I refuse to engage in amateur sociology!' he yelled. 'This is a young man who will recover if you give him an ICU bed – that is all we should be considering here!'

The tactic worked. The gangster got the bed and recovered shortly thereafter, and the grandmother died that evening.

But all was not well with my friend. He was plagued by remorse and anger – worried that he may well have brought about a socially inferior outcome, and angry that he had been forced to argue one way or the other.

'Surely you economists should be helping us out,' he said. 'What we need is a flow chart to help us manoeuvre our way around these ethical choices and dilemmas.'

Can economists provide any help in such situations? Well, a few guidelines can perhaps be gleaned from health and welfare economics. For example, a popular measure used by health economists for ranking medical

interventions is the number of ‘disability-adjusted life years’ (or DALYs) saved. The DALY calculation takes years of life saved by a health intervention, and then weights them according to age and disability (Murray and Acharya, 1997). This means that a year of life saved for a disabled person counts for less than one saved for an able-bodied person, and a year saved for a middle-aged person counts for more than one saved for a child or an elderly person.

While the ethical basis of the DALY is questionable, supporters of the DALY (which includes the World Health Organisation) claim that the measure reflects underlying social norms. Indeed, age-weighting was implicit in my friend’s argument in favour of giving the bed to the young man rather than the grandmother.

But what about the argument made by the other doctor – i.e. that gangsters have less of a moral claim on treatment than grandmothers – simply because they are gangsters? Can and should social attitudes towards categories of people – such as gangsters – be incorporated in a DALY-type calculation?

I discussed this question over tea one day with the department’s resident welfare economist. He rose to the challenge by suggesting that we include a further weighting which gives a ‘social score’ to the patient. Depending on social preferences, this score could range from 0 in the case of gangsters to 1 in the case of upstanding social citizens.

Such a scoring system could possibly allocate higher values to those with dependants than those without, and some occupations may be ranked higher than others. Some of my colleagues agreed with the general notion of a social score – although one pointed out that an occupational ranking was probably not a good idea. ‘Think about it,’ he warned us, ‘which are the three most reviled occupations? Lawyers, politicians and economists! – I am not sure we really want to pursue this idea!’

More seriously, you will have noticed that there is something unsavoury about including a ‘social score’ in a model for making choices. It is the kind of thing that gives economists a bad name. Yet value-judgements *already* pervade decision-making explicitly through the use of the DALY formula that effectively discriminates against the disabled, the very young and the elderly. My colleague’s suggestion of a social score is in fact an invitation to discussion – a challenge to society to formulate all the values/prejudices that either should, or should not, enter into a decision-making process.

But what if social discussion results in an unjust outcome? Is there not a case for removing some decisions from the public domain? It is, after all, accepted in most liberal democracies that just because a belief is widely

held, it does not necessarily mean that it should determine policy. Banning the death penalty, despite widespread public support for it, is a case in point. Does this not, perhaps, imply that economic decision-makers should take their cues from some moral philosophy and not from public opinion?

Amartya Sen, the greatest living welfare economist, has devoted a lot of energy to this issue. I was fortunate enough to have attended his lectures as a graduate student. One lecture stands out in my memory. He began the class by presenting us with a dilemma rather like the one faced by my specialist friend:

A doctor in India is called out to a far-distant village because a child is sick and in need of immediate treatment. He gets there, and finds two sick children – but has only enough medicine to cure one. He is faced with the following choice: treat both (with a much reduced chance of survival for both) or treat one – and if the latter, which one? He makes inquiries about the personal circumstances of the children (the income of their household, their school marks, disabilities, the occupation of their parents etc.) and then tries to decide what to do.

‘Can welfare economics help the doctor make the decision?’ Sen asked the class. We hazarded a few guesses as to which factors should be prioritised. Some of us evoked Rawls’ ‘maximin principle’ (1971: 152-7) – which suggests that we should maximise the welfare of the worst-off – to argue that the child from the poorest household should be saved. Others suggested that the child with the greatest expected life-time income (proxied by school-marks and social class) should be saved.

Sen put up with our musings for a short while, and then exploded in irritation.

‘I don’t want to hear which child you would save!’ he said. ‘It is not your role, or the role of the doctor to decide on such matters.’ He glared at us. ‘Economists must *never* play God,’ he said. ‘There is *no* way of deciding which child to save.’

We looked at him cautiously.

‘But then what should the doctor do?’ asked someone eventually.

‘He must ask the family and community leaders whether he should try and save both, or just one,’ replied Sen. ‘If they tell him to save one, then he should ask which one. The decision must be theirs. Only they can decide what to do.’

Sen was arguing that economic decision-making should not be biased by any underlying moral philosophy, that it should remain cold and clinical, and that *all* moral choices have to be made by society – whether just or not. He was, in other words, insisting that economic decision-making comply with society’s ‘revealed preferences’ – warts and all.

However, such an approach immediately begs the question as to how decisions are actually made in society. Does the structure of authority and accountability ensure that the ‘general will’ prevails? Economists are not well-equipped to answer such questions. But by exposing which value-judgements prevail – and showing how these impact on social choice - the economist can help provoke a general discussion about values and decision-making procedures. This is what I mean by ‘holding up a mirror to society’ and inviting discussion.

In Sen’s example, the problem was framed in terms of allocating a scarce resource between people with identical needs. In almost all cases, however, the choice is among people needing different kinds of treatment – and with different resource implications. The problem of maximising the number of DALYs or lives saved thus becomes one of maximising the number of DALYs or lives saved per Rand spent. This is the typical measure of ‘cost-effectiveness’ in the health sector. But here too, there is a heavy hidden ethical burden that requires closer examination and public discussion. I will now demonstrate this using the case of mother-to-child transmission of HIV.

The ‘Cost-Effectiveness’ of Reducing Mother-to-Child Transmission of HIV in South Africa

Babies born to HIV+ mothers have a high risk of contracting HIV. Fortunately, there is a wealth of scientific evidence to show that treating pregnant women with a short course of anti-retrovirals can dramatically reduce mother-to-child transmission. Yet (with the exception of the Western Cape) the government is not making use of this technology – justifying its inaction primarily on the grounds that these programmes are ‘unaffordable’.

This is a classic example of an apparently ‘technical’ statement which in reality is little more than a dubious economic story. This can be shown by a simple back-of-the-envelope calculation:

Assume we have 1000 pregnant women. Twenty-three percent (230 women) are likely to be HIV+. Of these, 28% will transmit the HI virus to their babies if nothing is done to prevent it. This will result in 64 HIV+ babies.

There are various interventions that can reduce mother-to-child transmission. I am going to discuss the following three treatment programmes:

- A short course of AZT (administered from 36 weeks into the pregnancy and then three-hourly during birth) and the mother

- continues to breastfeed;
 - A short course of AZT (as above) but the mother feeds her baby with formula for six months rather than breastmilk;
 - A dose of Nevirapine (and the mother continues to breastfeed).¹
- (All these treatment regimes include dose of Bactrim syrup for child)

As can be seen from the table below, AZT combined with formula-feeding is the most expensive mother-to-child-transmission reduction programme and Nevirapine is the cheapest. At present Nevirapine costs less than R30 an intervention – and would cost nothing if the government accepted the manufacturer’s offer of providing the drug free of charge. In this calculation, Nevirapine is costed at R0.

AZT with formula-feeding is the most expensive programme – but it is also the most effective because it saves the most lives. So, how does one choose between the options? The standard approach is to use a measure of cost-effectiveness – i.e. cost per life. As can be seen from the table, the Nevirapine option is ‘optimal’ in that it results in the lowest cost per life saved. This is simply because Nevirapine is so cheap compared to the alternatives that this more than compensates for the fact that it does not save the most lives.

This raises some interesting ethical questions about using this measure of cost-effectiveness as a decision tool. Consider for the moment the two treatment regimes using AZT. For an extra R435 per child saved, one could save 25 more children if the more expensive programme (AZT with formula-feeding) was selected. Under such circumstances, choosing the ‘technical’ solution of AZT and breastfeeding because it is ‘cost-effective’, may not be socially optimal. If the choice was to come under social scrutiny, I would be willing to bet that the option of spending R435 more per saved child in order to save double the number of children, would be the preferred option. This is why social scrutiny of ‘technically efficient’ solutions is so important.

Now consider the choice between the Nevirapine intervention and the AZT plus formula-feeding option. This time, if one wanted to maximise the number of children saved, the fifteen extra children saved by the AZT plus formula-feeding programme would come at a cost of just over R4000 more per saved child. Perhaps this relatively high cost was one of the reasons why, when the government was considering a mother-to-child transmission prevention programme, that it opted for Nevirapine rather than AZT? However, as even this intervention appears to have been halted (while the cabinet reconsiders the programme) the issue remains moot.

¹ This analysis draws on the methodological approaches developed in Nattrass (1998), Skordis (2000) and Skordis and Nattrass (2001).

<i>Assume 1000 pregnant women. 23% will be HIV+ = 230 women Without treatment, 28% of these women will pass the HI virus to their babies = 64 babies</i>	AZT and breast- feeding	AZT and formula feeding	Nevirapine and breast feeding
Cost of the treatment programme for an HIV+ woman and her baby	R371*	R993**	R26***
Cost of 1000 HIV tests & treatment programmes for 230 HIV+ women	R121 330	R264 390	R41 980
Reduction in HIV transmission from 28% to:	17%	6%	13%
Number of HIV+ babies drops from 64 to:	39	14	29
Number of children saved	25	50	35
<i>Cost (HIV tests and treatment programme) per child saved</i>	R4 853	R5 288	R1 200
Hospital costs for HIV+ babies****	R468 000	R168 000	R348 000
Total costs (1000 HIV tests, 230 treatment programmes & hospital costs for all HIV+ children)	R588 330	R432 390	R389 980
Hospital costs for the 64 babies who would have been born HIV+ in the absence of a programme	R768 000	R768 000	R768 000
Amount saved by the intervention	R179 670	R335 610	R378 020

*Includes the cost of AZT (R345) administered from 36 weeks into the pregnancy and then 3 hourly during labour, and Bactrim syrup for the child (R26)

** Includes the cost of AZT (R345), Bactrim syrup (R26), 40 minutes of counselling (R22), formula feed, bottles etc. (R600).

*** Assumes that Nevirapine is free, the only cost being Bactrim syrup (R26).

**** The R12 000 is an estimate of the cost of 12 days' hospitalisation for an HIV+ child during its life. It does not include the cost of medication for treatment of illness. NB: Basic costs and statistical probabilities are drawn from references in Skordis (2000).

But this ‘cost per saved child’ measure is limited because it does not include the cost to the health sector of those babies born HIV+ despite the treatment programme. These children will not thrive, will require frequent medical attention and will die before their fifth birthday. The medical costs of caring for them should thus enter into the calculation. Given available evidence (see Skordis, 2000), one can estimate conservatively that each HIV+ child will visit a hospital twelve times during the course of its life, costing the state about R1000 a visit. Once we factor in these costs, the AZT plus breastfeeding option suddenly becomes more costly to the state than the AZT plus formula-feeding – simply because the breastfeeding regime results in so many more HIV+ children than the formula-feeding regime. Notice also that Nevirapine remains the cheapest intervention, but the difference between it and AZT plus formula-feeding is far closer than it had appeared previously. Under such circumstances, society may well opt for the more expensive option because it is only marginally more costly, yet saves substantially more lives.

The national government’s current position is that none of these programmes is affordable. Dr Simela, the Director responsible for HIV/AIDS policy in the Department of Health, wrote the following in an article published in the *Mail and Guardian* last year: ‘For those who have to find equitable, cost-effective and sustainable solutions, the luxury of cherry-picking remains the domain of researchers. The health sector needs to respond to the needs of not only HIV+ women and their infants, but to the needs of all people who have HIV related medical problems, as well as other South Africans who have non-HIV related medical problems’ (*Mail and Guardian*, 28 July 2000).

On the face of it, this is a reasonable claim. The argument is that those pushing to save children from HIV are effectively a single-issue lobby group, and that the government has the more difficult task of balancing the entire spectrum of competing claims. Note that the argument also implicitly says that only the government has ‘the big picture’ – thus effectively silencing those who argue that the costs of the intervention are ‘relatively low’.

The problem with the Director General’s argument is that it does not take into account that preventing mother-to-child transmission means less pressure on the health system because there will be fewer children requiring treatment for AIDS-related illnesses.

As mentioned earlier, 64 children will be HIV+ if no programme to prevent mother-to-child transmission is put in place. The costs to the health sector are thus 64 multiplied by R12 000, which is R768 000. As can be seen from the table, this exceeds the total costs to the health sector if a mother-to-child transmission programme had been in place. Indeed, the government will save money by saving children from HIV infection.

This example shows how a broader and (more appropriate) discussion of costs results in radically different policy conclusions from the conventional measure of cost-effectiveness. It illustrates the importance of keeping a critical eye on tools of economic analysis.

So far, the cost discussion has been presented in terms of 1000 pregnancies. Jolene Skordis (one of our star graduate students) has produced a more concrete analysis by calculating the actual number of pregnancies and HIV cases each year under different treatment regimes. As can be seen from the table below, an AZT plus formula-feeding regime could save about 45000 children each year, at a cost of 1,6% of the Health Budget. This is broadly in line with other South African studies showing that mother-to-child transmission reduction programmes would cost less than 3% of the Health Budget (see overview in Geffen 2001). Notice that the Nevirapine intervention is only marginally less costly than the AZT and formula-feeding option. This is because the cost of caring for the extra HIV+ children born under a Nevirapine programme almost swamps the cost advantage of the free drug.

Jolene's study is original and important because she takes the further step of comparing the cost of the intervention with the costs of *not* intervening. Using available demographic and medical data, she estimated that it costs the government about R856 million a year in hospital costs for HIV+ children. As this exceeds the health costs of all the treatment regimes, it follows that it *saves* the government money to save the children – rather than to let them get sick and die from AIDS. This devastates the Director General's argument about affordability.

There are, of course, various objections to this kind of costing exercise. One is that it does not take into account the costs of orphans. When asked why the government was not intervening to prevent mother-to-child transmission, the late Presidential Spokesman Parks Mankahlana replied: 'That mother is going to die and that HIV negative child will be an orphan. That child must be brought up, who is going to bring that child up? It's the state, the state. That's resources you see' (Presidential Spokesperson Parks Mankahlana quoted in the American Magazine *Science*, and reported in the *Mail and Guardian*, 5/8/2001.)

Remarks such as these give the impression that the government is deliberately trying to reduce the number of AIDS orphans by ensuring that as many of them as possible contract HIV. No wonder that the *Mail and Guardian* observed in an editorial that the government 'should not be

surprised to hear charges of genocide directed against it' (21 July 2000).

The problem of orphans is certainly going to increase significantly as deaths from the AIDS pandemic escalate. But this does not constitute an economic argument in favour of killing off as many orphans as possible. Firstly, the vast majority of orphaned children is cared for by their extended families – and not by state institutions. Increasing the number of HIV+ children simply places extra burdens on these families.

But it also increases the level of unproductive expenditure by the state. The most common form of state support for these children is the child support grant which, in the case of a child with a normal life expectancy, can be regarded as a form of investment in human capital. However, when spent on an HIV+ child who is likely to die before its fifth birthday, the child grant can only be regarded as an unrecoverable form of consumption spending.

The Health Cost of Doing Nothing in South Africa (J. Skordis)

	AZT and Breast-feeding	AZT and Formula-feeding	Nevirapine and Breast-feeding
Lives saved by the programme to reduce mother-to-child transmission of HIV	22 800	44 900	31 400
Total health costs (i.e. costs of the HIV tests, the treatment programme and costs of treating HIV+ children)	R676 mil	R508 mil	R495 mil
Total costs as % of health budget	2,13%	1,60%	1,56%
Cost of treating all HIV+ children born assuming no intervention to reduce mother-to-child transmission of HIV	R856 mil	R856 mil	R856 mil
Amount saved by the programme	R180 mil	R348 mil	R361 mil
Amount saved as a % of the health budget	0,57%	1,10%	1,14%

Source: Mid-point estimates from Skordis and Natrass (2001).

Secondly, emerging anecdotal evidence suggests that orphans are more likely to be abandoned to state institutions by their extended families if they are HIV+ than if they are HIV-. Taken together, this suggests that the government could end up spending more on institutional child welfare than would be the case if a programme to reduce mother-to-child transmission of HIV had been in place.

Another objection is that our calculations assume that the government will actually treat HIV+ children. If hospitals are instructed *not* to treat HIV+ children then clearly it would pay the government to let the children die rather than to save them.

Costa Gazi, the fearless medic who has waged a war against the government over its failure to prevent mother-to-child transmission, made this objection to me at a recent conference. He reported that the Pediatric Ward at Dora Nginza hospital outside Port Elizabeth only allows each HIV+ child one hospital admission during its lifetime. HIV+ children continue to be treated for opportunistic infections, but all care has to be home-based. I responded by pointing out that even if a child spends only one day in hospital and is given over R200 worth of drugs to fight opportunistic infections at home, it will still be more cost-effective for the state to administer Nevirapine than to do nothing.

Costa Gazi does not need to be convinced of the advantages of administering Nevirapine. He has been administering Nevirapine to HIV+ pregnant women for some time now – and paying for the medicine himself. He has been helped in this endeavour by various donations, and hindered rather than helped by the Ministry of Health. His moral stand has exposed the inadequacy of the government's response to HIV and challenges the government to do better.

A similar challenge pervades the cost-effectiveness calculations I have presented here. The conclusion that 'it costs the state more to treat HIV+ children than it does to save them from HIV' is not a statement about an objective reality (although it sounds like it). Rather, it is a conditional conclusion that reads: 'unless the government has decided not to treat HIV+ children, pediatric costs will exceed the costs of reducing mother-to-child transmission.' The not-so-subtle charge against the government thus becomes: 'Either you have not done your economic calculus properly, or you have decided not to treat the HIV+ children – which is it?' This is the kind of 'reverse engineering' of choices that economic analysis can do in order to provoke critical engagement.

Conclusion: Cost-Effectiveness and Treatment for People Living with AIDS

In many ways, reducing mother-to-child transmission of HIV is the easiest AIDS policy case to argue for. It is harder (but certainly not impossible) to argue for generalised access to chronic anti-retroviral treatment for those already infected with HIV.

Over the past two years, AIDS drugs have fallen by about 80% in price and could fall further if the government imports generic drugs or negotiates more effectively with the large pharmaceutical companies (Andrews, 2001). According to information from Medscheme, the price of dual therapy (i.e. a cocktail of two anti-retrovirals) has dropped from about R20000 to R3360 per annum, and the price of triple therapy (a cocktail of three anti-retrovirals) has dropped from over R36000 to just under R7788 per annum (Regensberg, 2001).

If one includes the costs of two CD4 tests and two viral load tests per year, then the entire treatment regime for someone on state-of-the-art triple therapy comes to just over R800 per month. As Medscheme, which runs an 'Aid for AIDS' programme, has shown, this is in the same ball-park as many chronic conditions (such as high blood pressure, high cholesterol, non-insulin dependant diabetes, etc.) currently routinely paid for by medical schemes. For those whose CD4 count falls within the 200-350 range, triple therapy can extend their survival from 4 years to over 10 years (Regensberg, 2001).

This is good news for people living with HIV/AIDS who also happen to belong to medical aid schemes. But what about all those who do not? For them, the only hope is the state – and the government is understandably reluctant to commit the substantial resources needed to fight the HIV/AIDS pandemic with triple therapy.

But just as costs saved need to be taken into account when looking at the economics of mother-to-child transmission of HIV, so too should they be taken into account when examining the cost-effectiveness of anti-retroviral therapy as a long-term treatment option. Here are some of the ways that an anti-retroviral treatment campaign can reduce costs for the government.

- An HIV+ person on anti-retrovirals has a lower chance of passing on the disease (therefore there will be fewer new HIV+ cases and lower associated medical costs).
- The possibility of treatment will encourage more people to be tested and to receive post-test counselling – which in turn should help change behaviour and reduce the incidence of new HIV cases (and their associated costs).

- HIV+ people on anti-retrovirals have a lower incidence of opportunistic infections (therefore the costs of treating such infections will be lower).
- HIV+ people on anti-retrovirals can continue to look after their children. The costs of child-support will thus be lower, and the problem of AIDS orphans will be reduced.
- HIV+ people who are employed will continue to work and firms will be saved the costs of replacing and retraining such workers. This will impact positively on profitability and hence on government tax revenue.

In other words, once one adopts a broader notion of cost-effectiveness, it may well be the case that the costs of not treating HIV+ people exceed the costs of treating them. Students are beginning to work on this issue and I am looking forward to their results.

Note that I have said nothing yet about the value of a human life. My calculations have simply looked at the government's balance sheet. Justice Edwin Cameron, South Africa's highest profile HIV+ activist, places the value of human life and dignity at the centre of his argument in favour of providing anti-retrovirals to those who need them: 'The calculus of disease and death from AIDS renders all the evasive counter-rhetoric dramatically unconvincing. None of it is persuasive when the brute fact is brought home that life is available and within reach, but is being denied to those who crave it' (2001: 6-7).

His challenge to society is to grasp the nettle of the value of a human life and put that into the calculation as well. Rather than look at the health costs alone, society should be asking why we are spending money on armaments rather than on saving the lives of those with AIDS; on a presidential jet, rather than anti-retrovirals,; etc. It is to the great credit of organisations like the Treatment Action Campaign – which is challenging the government in court over its mother-to-child transmission policies – that these questions are beginning to be posed in the public arena.

Once the debate moves beyond the narrow bounds of the health budget to include questions about the size and allocation of the government budget, the economic calculus expands to include macro-level dynamics. How government policy affects the generation of income and wealth – and thus the resources available for redistribution by means of taxation and government spending – becomes pertinent to the cost-effectiveness calculation.

In my opening remarks, I pointed out that there were rival economic narratives and that South Africa's economic policy makers were peddling a 'belt-tightening' variety of economic snake-oil. But what if those punting fiscal austerity are wrong – as Keynesian critics have been maintaining for some time now? What if, instead of cutting the fiscal deficit, we had increased taxation and borrowing in order to finance a coherent national AIDS treatment programme? How would that have filtered through the economy?

Would investors have been put off by the increase in the deficit (as is assumed by the government's economists) or would they have been impressed by the dedicated and professional response to a national health emergency? Would businesses have been annoyed by the lack of tax relief, or would they have been relieved by the fact that fewer of their workers were taking sick leave and subsequently dying? Would national savings have been lowered by the increased demands of government borrowing, or would national savings have been raised because less money would have been spent by people on funerals and on rushing sick children and adults to hospitals and clinics?

There are no simple answers to these questions. But that does not mean that such questions should not be asked. Indeed, the horror and suffering of South Africa's AIDS crisis requires that we challenge the entire spectrum of government's economic choices and strategies.

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