

Modeling the Governance Implications of the HIV/AIDS Pandemic in Africa: First Thoughts

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1. Models of the economic impacts of HIV/AIDS are increasing in quality. An important lacuna is a model for the governance impact of the pandemic. There is a small literature on the fact that the pandemic is expected to have major consequences for peace and security, consisting of a few papers with a broad focus,¹ and others delving into questions about implications for international peacekeeping and military policy.² This paper is a first cut at a model for governance outcomes, incorporating economic and demographic models as well. It is necessarily broad and speculative.

2. What will a governance model need to include? The major feature of such a model will need to be its comprehensiveness, including interactions between the different factors that constitute good governance. In short, it will need to be a model of *process*. Just as economic development is a process, the emergence of modern states is a complex process consisting of the interaction of numerous different factors. This paper briefly examines three major dimensions of a model, namely demography, economics and governance. In each case, in outline, the paper adopts a theoretical model for 'progress' for each case, and then examines what happens if it is run in reverse.

3. Why construct models? This paper is primarily an intellectual, theoretical exercise with only very modest recommendations for policy. Along with lack of good data, the absence of good theory has been a major impediment to developing good policy measures to combat HIV/AIDS and its effects. A robust theory is important as a conceptual tool for defining problems and identifying possible solutions. It allows us to know what signs to look for and measure (particularly important as so many of the wider effects of the pandemic are disguised), and to know what to plan for. Hence, this paper tries to develop a language that can allow us to envisage the governance outcomes of the AIDS pandemic, which may also help us to respond to it. This paper may be seen as an elaboration of the idea of 'AIDS-related national crises', introduced in the preceding discussion paper in this series.

4. HIV infection is the 'first wave' of the pandemic and AIDS morbidity and mortality is the 'second wave.' In much of sub-Saharan Africa these waves are with us and cannot be stopped: at best they can be slowed. Economic, social and governance impact is the 'third wave.'³ This wave is amenable to a wide range of different pre-emptive responses. The complacency and self-inflicted ignorance that characterised most national and international responses to the pandemic in its first two decades should not be replicated for responding to the impact wave in the coming decade. Unlike the infection and mortality waves, there is nothing inevitable about the impact wave. Even in the face of inescapable demographic realities, the governance impacts of HIV/AIDS can be shaped by political action.

Demographic implications

5. In severely affected countries, the HIV/AIDS pandemic entails two demographic changes that are unprecedented in modern history. One is a decrease in adult longevity, expected to last a decade or more, which in severely affected countries may cut life expectancy on attaining adulthood by as much as half.⁴ The second is a structural imbalance in the gender ratio. The larger proportion of women infected with HIV, and the younger

¹ International Crisis Group, 'HIV/AIDS as a Security Issue,' Washington, ICG, 19 June 2001.

² Roger Yeager, Craig Hendrix and Stuart Kingma, 'International Military Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome Policies and Programs: Strengths and Limitations in Current Practice,' *Military Medicine*, 165, 2000, 87-92. It is striking that this paper along with most others is based on data that is now seven years old or more. The lack of good data is a major impediment to effective public health policies in Africa.

³ Tony Barnett and Alan Whiteside, *AIDS in the Twenty-First Century: Disease and Globalization*, London, Palgrave MacMillan, 2002, p. 163.

⁴ The decrease in adult, especially male, longevity in the former USSR over recent decades is the nearest parallel.

average age of infection, mean that there will be an excess of adult men over adult women.⁵ There will also be an increase in infant and child mortality.

6. What will be the implications of these transformations? We simply don't know. Most existing models simply analyze the basic population rates: death rates, birth rates, life expectancy, gender ratio. But a demographic change of this magnitude is not simply the sum of these effects. It is a process, in which the different outcomes will interact with each other, just as the demographic transition from a high-fertility high-mortality demographic regime to a low-fertility low mortality one is a process.

7. Will the reduced cohort of HIV negative women of child-bearing age mean that these women are required to be full-time mothers, producing four, five or six children simply to maintain population replacement rates? Or, will the scarcity of adult women mean that they become comparatively more powerful? How will the excess of unmarried adult men respond? Will there be a major increase in commercial sex? Will poorer adult men seek wives from the widows of their predeceased peers? Will we see men seeking younger and younger women and girls as partners? What will be the impact on migration? Will migrants be attracted to AIDS-ravaged countries to fill the vacant opportunities, or will the non-PLWA population try to leave?

8. The best process-based model of impact may be to envisage these changes as a variant demographic transition in reverse. The normal demographic transition involves a decrease in mortality, followed by a decrease in fertility. This in turn cuts population growth, reduces the dependency ratio, increases the returns to education, increases women's age at marriage, and liberates women from being full-time mothers for all their adult lives. These changes have far-reaching social and economic implications, favourable to economic development and governance.

9. Clearly, running a demographic transition in reverse will not capture all the specifics of the changes entailed by HIV/AIDS. (For example it is unlikely that HIV/AIDS will increase overall population growth rates.) But it points to some possible effects. These may include a reduction in the age of marriage, pro-natalist social and cultural policies, a regression in the status of women to focus solely on their role as mothers, structural tendencies towards faster population growth (meaning that the rolling back of the pandemic will see a major 'rebound' in population growth rates), etc. These scenarios are open to challenge on numerous grounds. But they pose questions that cannot be ignored. They provide parameters that should inform response.

10. In passing, we should note that conventional measures of life expectancy may prove misleading in the circumstances of AIDS. Life expectancy at birth (LEB), the most commonly used figure, is a statistical construct derived from the age-specific death rates for a given population. It is bimodal, with high death rates among the very young and the elderly, and is thus powerfully influenced by infant and child mortality levels. Most of the increase in LEB in Africa in the last fifty years has come about through major reductions in infant and child mortality: adult mortality has decreased, but by much less. Thus LEB has an uncertain relationship to the *individual adult's subjective expectation of longevity*. Life expectancy on attaining adulthood (say, 16 years: LE16), has historically been unimodal, has varied less in recent centuries, and is thus more closely aligned with the individual expectation of longevity.⁶ The relationship between life expectancy and economic and social development is likely to differ, depending on whether we are concerned with LEB or LE16. This is one example among several about how an adequate modeling of the impact of the AIDS pandemic challenges our methodologies.

Economic implications of the pandemic: linear models

11. A model for the economic impact of HIV/AIDS will need to include two major components. One is the direct costs and other impacts of increased ill-health, including factors such as spending on health care, lower productivity, costs of funerals, etc., and their impact on saving and consumption. The second component is the implications of changed demographic structure, namely fewer adults (with losses unevenly distributed across age, occupation and gender) and decreased life expectancy. This paper will not attempt to summarise the rapidly-growing literature on this subject,⁷ but rather to outline some of the major assumptions in the most common models.

⁵ A significant gender imbalance is also expected in mainland China as a result of the one-child policy and the selective abortion of female fetuses.

⁶ For example, LEB in France in the middle of the 18th century was about 25 years but LE15 was about 40 years.

⁷ See: Barnett and Whiteside, *op cit*.

12. The earliest attempts to measure the economic impact of the HIV/AIDS pandemic focused primarily on the first component. Summing these changes is the basis for the first comparisons between AIDS and non-AIDS scenarios in different countries. This is essentially an accounting exercise.

13. The second, demographic component will prove more significant in the long term. The economic distortions due to shortened working lifespan, along with increased dependency ratios, decrease in saving and increase in consumption, also need to be accounted for. Modeling has since become more sophisticated, but most of it remains essentially linear: these effects are modeled individually and their impacts are summed. Such models are the basis for the widely-repeated claim that an HIV prevalence rate of 10% implies a reduction in economic growth of 0.4%.

14. Early models had rather modest (optimistic) estimates for economic impact, and some models imply that in a highly-affected country, GDP per capita will rise over the long term, because the reduction in population and workforce will be less than the reduction in GDP. Some recent models replicate this. This, for example, is the conclusion of the BER analysis of the South African economy, which finds that by 2015, GDP decline in the 'with AIDS' scenario compared to the 'no AIDS' scenario is (5.7%). This is significantly less than the decline in the overall population (18%) and labour force (21%).⁸

15. Closer analysis shows that this conclusion depends in part upon the assumption that capacity utilisation increases. As skilled labour is lost, it is assumed that companies will increase investment in machinery, equipment and new technologies. However, historically the trigger for increased capital spending has been increased actual demand, rather than a decline in the supply potential. We simply don't know if this outcome works in the other direction, when the driving factor is a decline in the supply potential instead of an increase in actual GDP. Another factor leading to this result is increased spending on health care, which, when monetised, contributes to GDP.⁹

16. This reflects problems with assigning a value to labour in the production function. One of the major econometric puzzles faced by most existing models is that in standard estimations of the effect of human capital (as measured by average levels schooling in the population) the human capital term turns out to be statistically insignificant. Thus models trying to infer the macroeconomic growth impact of HIV/AIDS run the risk of arriving at a very strange, albeit technical, result that HIV/AIDS has only a marginal impact on African economies because of 'surplus labour', and that GDP per capita may rise because reductions in economic growth are less than reductions in population growth.¹⁰ The World Bank's estimates for the impact of the pandemic are along these lines.¹¹

17. On the other hand, re-evaluations of the value of human capital, implicit in research on the economic costs of disease, can imply economic outcomes that tend towards the other extreme. For example, Jeffrey Sachs' research into the economic costs of disease implies that ill-health has much greater economic implications than hitherto suspected. For example, the economic impediment caused by endemic malaria is estimated at a loss of 1-1.3% in growth per annum. Controlling for other factors, countries with endemic malaria have only 33% of GDP per capita of others.¹² Bad though it is, can endemic malaria really have an economic impact 3-4 times greater than that of HIV at 10% adult prevalence?

18. Meanwhile we have seen the parallel development of costs of illness (COI) modeling, such as that of Becker, Philipson and Soares. Their models indicate that each 10% rise in LEB has an economic value of roughly 30% of per capita income, 10% due to longer period of earning power and 20% due to longer life independent of earning power. Reversing these calculations, the cuts in LEB indicated for Southern Africa would imply cuts in per capita income in the range 60-100%. Clearly this is an improbable outcome, but it does indicate the room for re-assessment of both the COI methodology (at least in this context) and the optimistic

⁸ Bureau of Economic Research, 'The Macro-Economic Impact of HIV/AIDS in South Africa,' Economic Research Note No. 10, September 2001.

⁹ Existing methods for estimating GDP value care for the sick when it is monetised, but not when it is voluntary. This is another methodological curiosity highlighted by the epidemic.

¹⁰ This paragraph owes much to the author's exchanges with Ali Abdel Gadir Ali, who considered current models of the economic impact of AIDS to be sufficiently imprecise that they warranted exclusion from his analysis of the long-term prospects for Africa's development.

¹¹ World Bank, 'Confronting AIDS: Public Priorities in a Global Epidemic,' 1999, p. 32 ff.

¹² John Luke Gallup and Jeffrey D. Sachs, 'The Economic Burden of Malaria,' *Suppl. Am. J. Trop. Med. Hyg.* 64.1, 2001 pp. 85-96.

scenarios of the World Bank. The Commission for Macro-economics and Health goes further and calculates that the 2.2 million Africans who died of AIDS in 1999 cost the continent 'an astounding 35.1% of GNP.'¹³ This is of course a hypothetical figure, but it should give us pause for thought. It also compels us to examine some of the methodologies used for such calculations, such as disability-adjusted life years (DALYs).

19. More recent economic models are growing in complexity, and their predictions fall between the above extremes. For example, Marcus Haacker at the IMF, concludes that South Africa will suffer a loss of 5.8% in GDP per capita in the 'medium term', Zimbabwe 7.3%, Botswana 10.2% etc, on the assumption of an open economy.¹⁴ One of the important facets of Haacker's model is the separate modeling of the impacts on 'open' and 'closed' economies. Globalisation will undoubtedly have major ramifications for how the pandemic affects economies. Bonnel includes a 'social capital' factor in an attempt to model the impact of the pandemic on institutions.¹⁵ Although the methodology has been questioned, the basic insight is valid and the attempt is laudable.

20. Economic and demographic historians debate the relationship between (increasing) income and (increasing) longevity, primarily utilising European data. The results are anything but clear. Higher survivorship appears to contribute to higher income, but even this linkage varies.¹⁶

21. A second shortcoming of linear models is that they are silent about rational economic decision making in the context of truncated LE16. A third is that it has no governance factor: it does not examine the economic costs of institutional dysfunction and political instability. These issues will be examined in this paper.

Economic implications: non-linear models

22. Non-linear models of economic development envisage development as a *process*. One of the most robust of these models is endogenous growth theory, which envisages development as a generalized process of capital accumulation. Capital is broadly defined to include both human and physical capital alongside the better functioning of institutions. The model includes the spill-over effects that result from increasing returns to the generation, dissemination, and use of knowledge. The interactions raise the rate of savings and investment, and thereby the rate of growth in a beneficial spiral.

23. For some years, Malcolm McPherson has been arguing that these models can be run in reverse with theoretical justification. He has developed a non-linear model for the economic impact of HIV/AIDS, based on endogenous growth theory. This model, applied to Zambia, indicates that a 1% loss in LEB implies 0.68% loss in GDP growth.¹⁷ It follows that the 10-20% reductions in longevity expected in seriously-affected countries (higher in the worst cases), imply much more substantial economic contractions (7-14%) than indicated by linear models. This is an exercise that needs to be replicated and elaborated: such models are the way for the future.

24. A noticeable feature of the HIV/AIDS pandemic is that almost all predictions for its spread have been confounded. The impact has usually been worse, and sometimes far worse. Economic modeling is far less precise than estimating HIV prevalence, and we have no way of knowing how African countries' economic performance would have been in 'no-AIDS' scenarios. But we cannot ignore the possibility that, as the prevalence of HIV increases and AIDS mortality climbs, we will encounter unanticipated and negative non-linear effects. By the same token, the economic impacts can be mitigated by early and concerted action.

Governance implications: linear models

¹³ Jeffrey Sachs and others, 'Macroeconomics and Health: Investing in Health for Economic Development,' Report of the Commission on Macroeconomics and Health to the Director-General of the World Health Organization, 20 December 2001.

¹⁴ Marcus Haacker, 'The Economic Consequences of HIV/AIDS in Southern Africa,' IMF Working Paper WP/02/38, February 2002.

¹⁵ René Bonnel, 'HIV/AIDS and Economic Growth: A Global Perspective,' *South African Journal of Economics*, 68.5, 2000, 820-55.

¹⁶ James Riley, *Rising Life Expectancy: A Global History*, Cambridge University Press, 2001, pp. 122ff.

¹⁷ Malcolm McPherson, Deborah Hoover and Donald Snodgrass, 'The Impact on Economic Growth in Africa of Rising Costs and Labor Productivity Losses Associated with HIV/AIDS,' JFK School of Government, Harvard, August 2000, p. 53.

25. Modeling governance is a difficult exercise at the best of times. The models outlined in the following sections are crude and preliminary. But just because an event cannot be accurately modeled does not, unfortunately, mean that it will not happen. More than anything else, this paper is a plea to Africa's economists, governance specialists and policymakers: open your eyes.

26. The World Bank's definition of governance is, 'The exercise of political power to manage a nation's affairs... It encompasses the state's institutional and structural arrangements, decision-making processes, and implementation capacity, and the relationship between government officials and the public.' While this focuses on rational bureaucratic functioning, a wider analysis, such as that developed by the Economic Commission for Africa, divides governance into three main components: political representation, institutional capacity, and economic and corporate governance. This allows for a more comprehensive evaluation of governance.

27. HIV/AIDS will impact on *representation in government*, through a reduction in the number of skilled and experienced public figures. Alterations in the age, class, ethnic, religious and gender composition of the electorate will impel political change, but it is difficult to predict what this may be. It is likely that ethnic, religious or regional differences in HIV/AIDS prevalence will impact. For example, if the HIV rate among black South Africans continues to rise, while it remains low among their white compatriots, we can expect friction. Or in Nigeria, if the south experiences a pandemic while the north escapes, we may expect further inter-communal tensions.

28. The impact on *institutional capacity* should be simplest to model and measure.¹⁸ There is compelling evidence to demonstrate that, in many African countries, teachers are dying faster than they can be replaced. Health professionals have been severely affected. Armies, police forces and government departments are becoming depleted. The loss of trained professionals represents a major loss of human capital. This is compounded by the cost of training and recruiting replacements, the problem of loss of institutional memory, and inefficiencies due to overwork and additional tasking of remaining staff. Morale is likely to suffer too. It raises the question of whether the key institutions of governance, from central banks to schools and clinics, will be able to perform with sufficient effectiveness. Or will they become incapacitated? Will essential tasks of government be left undone or delegated to other institutions? There is increasing work in the private sector in Southern Africa to monitor and model these impacts, which have relevance to the public sector as well.

29. *Economic and corporate governance* entails establishing a stable macroeconomic regime and an enabling environment for the private sector, both domestic and foreign. Evidently, public finance will be subject to major strain. While most models imply only a modest increase in inflation, governments will face fiscal problems as the tax base shrinks and the bill for health care increases substantially. Moreover, reduced capacity in central banks and regulatory institutions will impair the capacity to implement macroeconomic governance.

30. Institutional functioning will be subject to another constraint: the different structure of incentives for opportunistic or corrupt behaviour. Adults' shorter lifespan and their high immediate consumption demands to pay for drugs and care creates extra short-term demand, which in many cases can be met only through diversion of public funds or similar activities. For those facing certain death in a short period of time, most sanctions are less meaningful. Hence there is an increased likelihood of PLWAs holding public office to engage in such activities or to overlook them in others. This is a non-linear effect on capacity reduction.

31. In short, the pandemic undermines the effectiveness of bureaucracies and bureaucratic norms. It implies that the Weberian model of modernity, progressing from traditional or charismatic authority to rational bureaucratic power is likely to be halted or reversed. HIV/AIDS assails the sinews of discipline in a rational, ordered and conventionally 'modern' society.

Governance implications: non-linear models

32. The World Bank definition and ECA model are not historical or processual models: they do not analyze how 'good governance' comes about. For a model of process we must look elsewhere, and there is no shortage of theories of the development of the modern state, among them Weberian and Marxist. Rather than embroiling ourselves in these controversies, let us identify six contributory components of the modern state, likely to be broadly acceptable to all. These are:

¹⁸ See Malcolm McPherson, 'HIV/AIDS, Human Capacity, and Institutions: Sustaining Economic Growth,' forthcoming.

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- (i) The development of a property-owning middle class.
- (ii) The emergence of governing elite that can recruit into its ranks, maintaining both stability and the incremental change.
- (iii) The state's monopoly on the legitimate use of force.
- (iv) The functioning of a revenue, expenditure and financial system.
- (v) The provision of public goods including health, education, law and order, and justice.
- (vi) The elimination of demographic catastrophes: the ability of the state to protect the population against (foreseeable) disasters that would endanger its existence.

33. If we model state formation as an interaction between these six elements, then we have an elementary process-based model for governance. The model allows for the establishment of law and order, of institution-based governance, and the opening of political competition. It moves from personal or family rule, to authoritarian rule based on a bureaucracy, to pluralist democracy with complex institutions. Comparative analysis indicates that the likelihood of pro-poor policies and respect for human rights increases as these governance processes develop.¹⁹

34. Does this model run in reverse? Let us explore this possibility and its implications.

35. *Property ownership* will be affected by the pandemic, most probably in the direction of mal-distribution. There are increased asset sales and reduced levels of saving and investment. Mortgages will be harder to obtain and more expensive. Rents will fall and the supply of land will contract. In fact, the entire process of lifetime capital acquisition and inheritance by the next generation is affected by the pandemic and its foreshortening of LE16. Substantial numbers of adults are stricken by AIDS at precisely the point at which their accumulation of capital is at its height. This refers to both physical capital in terms of assets such as housing and business capital, and human resources in terms of educational achievement, personal networks and social standing. Moreover, capital accumulation in African societies has a crucial intergenerational component: it is the children of those who acquire skills and physical capital who are able to make best use of educational and business opportunities. The illness and death of the heads of households at this key stage in the generational cycle, and/or the additional burden of orphaned relatives on those who are not infected with HIV, strikes at this crucial stage in the accumulation cycle.

36. The development of the pandemic affects the *stability of the governing elite*. All countries are run by a relatively small group of people who dominate government, the army, business and the universities. In a number of African countries, the size of this elite is further reduced by ethnic exclusivism or at least preferential access for people from certain ethnicities, religions or regions. In other instances, access to the elite is largely limited to members of the armed forces of political parties that have rigorous recruitment methods, whether formal or informal. One of the challenges facing many African countries is how to ensure a smooth transition from a relatively closed elite, which recruits its members from a limited pool within the population, to a more pluralistic system with wider access. The HIV/AIDS pandemic is likely to accelerate the need to replenish this elite. It hastens the requirement to absorb members of other groups that have been hitherto marginalised or excluded. Alternatively, those in power may rely on a smaller circle of loyal comrades, or use more ruthless or corrupt methods to co-opt or buy support. Existing problems of regime transition are accentuated by the human capacity loss associated with HIV/AIDS. These processes need to be observed, measured and monitored.

37. HIV/AIDS directly affects the *state's monopoly on violence*. Soldiers and policemen are among the occupational categories with the highest prevalence of HIV. Occupation-specific HIV rates are likely to saturate at very high levels for existing cohorts. With this level of attrition, armies and police forces' level of readiness is reduced. Unit cohesion is undermined as the only way of forming full-strength units is by merging different units. They cannot perform their functions and individuals at all levels may end up undermining their roles by opportunistic behaviour. In the final analysis they may simply cease to be viable as institutions. The state risks losing its monopoly on violence.

38. As mentioned, *public finances*—already in a deplorable state in many African countries—will come under further strain. Pre-AIDS financial crises and collapses in some African countries provide us with a sombre model of what can easily occur. As mentioned above, there is a changed incentive/sanction structure that will favour greater opportunism and corruption.

¹⁹ Moore, Mick and James Putzel, 'Thinking Strategically about Politics and Poverty,' Sussex, IDS Working Paper no. 101, October 1999.

39. *Institutions for public service* are already severely affected by AIDS mortality, as indicated above. Health and education, already under severe pressure, are declining. Important utilities will lose capacity; maintenance will decline and their financial viability will be called into question. The administration of justice systems will suffer too. This can happen through various means, including: loss of trained personnel and the decrease in availability of replenishments, replacement of permanent staff by people in acting positions for long periods, increase in opportunistic behaviour, and the loss of 'key people' whose personal networks and contacts and long memories of how the institution functions can be key to making these otherwise cumbersome structures actually operate. To date, there is only anecdotal evidence for these kinds of behaviour: this is a field desperately needing further investigation.

40. AIDS-affected states will be less able to protect against *demographic crises*, including famines and epidemics of other communicable diseases. The combination of smaller economies, weakened institutional capacities, and a reverse demographic transition will render countries more susceptible to these crises, and less able to recover from them once they have struck. We may see an epidemiological transition in reverse: a regression to the dominance of epidemic infectious diseases as determinants of mortality. It is a sad reality of demographic history that countries hit by one demographic crisis tend to be susceptible to others.

41. These factors may interact with one another. A deterioration in one regard is likely to help spark a decline in others. Processes such as institutional decline may accelerate if they reach a critical threshold. As capacity is destroyed, morale plummets, salaries remain unpaid, and the working environment becomes frustrating, remaining staff are more likely to leave. This is a structural process of state formation run in reverse. Let me emphasise again: this is a *model* that needs to be elaborated and tested. It is important to generate some predictions that can be tested against reality, rather than continuing to operate on the basis of 'commonsense', anecdote and the comfortable assumption that things will continue much as before.

42. Unfortunately, many African countries are already highly vulnerable to these structural reverses, and some have already experienced them in one form or another. HIV/AIDS only heightens that susceptibility. Where the pandemic introduces a new factor is the way in which it massively inhibits countries' ability to recover from these shocks. African countries have shown remarkable resilience in recovering from state collapse. Chad, Uganda and Mozambique are fine examples, and even in Somalia the economy has prospered in the absence of a state. This resilience held out the hope that even the worst-governed African states could be set on the road to recovery: under even the most adverse conditions there has been an underlying impetus towards property ownership, consolidation of military authority, service delivery and financial rehabilitation. Under HIV/AIDS, we must question whether that impetus can continue.

43. Reversing the elementary model of governance development outlined above entails a regression from democratic pluralism to authoritarianism to personal rule, and even to civil war and state collapse. It entails institutional deterioration and the decline and collapse of service provision. This is the 'AIDS-related national crisis' (ARNC).²⁰

Confidence, leadership and regime stability

44. The governance impact of HIV/AIDS is mediated by a range of socio-political factors. What people believe is as important as the actual epidemiological and economic reality. If people *believe* that things will improve, that the pandemic will be reversed, and their country will resume on an upward course of economic growth and improved governance, then many of the worst effects can be avoided. It is arguable that Uganda's success in rolling back AIDS in the late 1980s and early 1990s was due to the optimism generated by the investment in reconstructing basic social and political institutions. Poor leadership that encourages cynicism, fatalism and opportunism, may have the contrary effect of making a manageable situation into a crisis.

45. This underlines the importance of leadership, at national and other levels. A leadership in denial can, in the short term, help to preserve existing positive economic and governance trends. After a while, however, reality will intrude. Parliamentarians, opinion-makers, investors and others will come to their own conclusions about the epidemic and the credibility of the government that is failing to respond to it. Public confidence is more likely to be bolstered by a leadership that acknowledges the reality and takes a lead in tackling it.

²⁰ See, Alex de Waal, 'AIDS-Related National Crises,' Justice Africa, AIDS and Governance Discussion Paper No. 1, September 2001.

46. In some countries, regime stability may ultimately depend on the credibility and effectiveness of leaders in tackling the multiple crises associated with HIV/AIDS. The experience of transient demographic crises, notably famines, is that they are powerful challenges to the legitimacy of governments. This is partly because of the highly visible and acute nature of famines and the powerful symbolism of failing to feed the nation. Epidemic diseases have rarely caused political crises of comparable severity. But no crisis comparable to HIV/AIDS has ever been experienced.

47. As cases of full-blown AIDS peak in the coming years, we may expect that alternative political and religious movements gain credibility and following. Religious leaders promising to cure AIDS, and politicians seeking to place the blame on personal immorality, religious transgression, or external conspiracy, may gain a powerful following, perhaps enough to take power by popular vote or other means.

Implications for *homo economicus*

48. Perhaps the most substantial implications of the pandemic will be found in the way in which substantially decreased adult longevity impacts upon economic rationality. The fundamental principle of *homo economicus* is rational expectations for the future. This is given meaning by LE16. For several centuries, those who reach adulthood have expected 40 or 50 years of life ahead of them. During the entire lifetime of economic science these 4-5 decades of adult lifespan have been taken for granted, enabling the development of such fundamentals as mortgages, the expectation of seeing one's children attain adulthood, etc.

49. What happens when LE16 is cut by half? This has never happened before. But we can model some of the theoretical implications.

50. Returns to individual saving and investment are reduced. Why save for a future that does not exist? This implies that current measures to increase sub-Saharan Africa's savings and investment rate are almost certain to be unsuccessful. In fact, we are more likely to see dissaving as individuals and households liquidate assets, partly to pay for health care costs and partly to better enjoy a truncated lifespan. Given the option of moving capital abroad, we can expect investors to divest from AIDS-stricken economies.

51. Returns to higher education and training are reduced. Why spend three or five years gaining a higher qualification if the opportunities for benefiting from promotion are reduced? Not only do companies face reduced returns for training employees, but employees' own incentives for acquiring skills are reduced. Human capital is not only lost, but not replenished.

52. The incentive structure for opportunistic behaviour—ranging from absenteeism to taking unsecured loans to diversion of funds to violent crime—is changed. Those who feel they have 'nothing to lose' cannot be deterred by a judicial system that imposes custodial sentences, or even the death sentence. This behaviour will happen at all levels, from the individual to the middle manager in a company to the army general or government minister.

53. These are social behaviours, and may change more slowly than the spread of the pandemic itself. Moreover they are mediated by existing worldviews. Thus we may not have seen the full impact in many cases, while in others the reverse may be true. An intriguing case is Sierra Leone in the early 1990s. Some young RUF fighters justified their highly violent and anti-social behaviour on the grounds that 'we're all going to die of AIDS anyway.'²¹ In fact at that time, HIV rates in Sierra Leone were negligible. AIDS was symbolic of the sense of fatalism and worthlessness felt by the young men of the country. With the advent of AIDS, changing this worldview becomes more difficult.

54. In conclusion, the advent of the HIV/AIDS pandemic compels us to reconsider some of the unstated assumptions embedded within the entire science of economics. Just as a doubling of longevity would entail major structural transformations of developed economies, a halving of adult lifespan in much of sub-Saharan Africa entails a structural change in the region's economies, that make it impossible for it to follow existing models for economic development.

Governance implications of treatment availability

²¹ Richards, Paul, 'Hurry, We are All Dying of AIDS: Linking cultural and agro-technological responses to the challenge of living with AIDS in Africa,' Unpublished paper, University of Wageningen, 1999.

55. One of the best hopes for containing HIV/AIDS is making treatment widely available. Current treatments such as HAART are well short of a cure. But, in principle, ARVs can improve and prolong the lives of PLWAs, making them more productive, and can also help to change the environment in which voluntary counseling and testing and prevention programmes are mounted. If providing ARVs is a means for a political leadership to affirm the value of human life, then it can be an important step towards establishing the confidence and positive futurity that may be essential to rolling back the pandemic.

56. But the widespread availability of ARVs also entails problems. We can expect a clash of several principles:

- (i) The ethical principle of equitable treatment availability for all on the basis of medical need.
- (ii) The principle of prioritising expectant mothers.
- (iii) The principle of rationing according to the economic or political value of the patient ('lifeboat ethics').
- (iv) The biologists' imperative of ensuring that treatment is provided to those most likely to comply with the treatment regimen, so as to minimise non-compliance and the attendant danger of the emergence of resistant strains.

As the cost of drugs falls, treatment will become more widely available, and questions of rationing, treatment availability and patient compliance will become prominent. If these issues are not addressed in a transparent manner, they will be dealt with along ad hoc lines, giving rise to many suspicions and allegations. (Similar principles apply to the provision of sickness and pension benefits.)

57. Rationing is already occurring. High-ranking individuals in government and the private sector are already obtaining treatment for themselves. Some private sector companies in South Africa are already providing ARVs to their employees and their families, recognizing that it is more efficient to treat infected employees than to train replacements. The absence of such treatment provision to public sector employees is certain to generate grievances. In the case of the military, the potential for political strife is obvious. In other cases, the selective availability of treatment within an institution, with triage formally or informally dictated by ethnicity, position, rank or favour, can also cause internal frictions. There are some indications that such tensions are already arising.²²

58. Scaling up AIDS prevention and treatment programmes will involve major inflows of new resources into African countries. It is widely accepted that responding to HIV/AIDS requires a comprehensive approach and not one located solely in ministries of health. Thus we are likely to see struggles to control these resources between different government departments, and between different interest groups. It is also possible that policy differences and turf battles between donor agencies will provoke or worsen such conflicts.

59. Scaling up AIDS programming will require an investment in human resources and institutional capacity in Africa on a scale not seen before. With existing health, educational and administrative infrastructure, African governments simply could not handle the expanded resource flows called for by the Commission on Macroeconomics and Health.

60. Bureaucratic modernity involves the extension of monitoring, planning and administration into more and more intimate areas of individuals' lives. The prevention of HIV and treatment of AIDS requires such bureaucratic power to intrude even deeper. Historically, any such extension of state control has been strongly resisted by Africans, even when it comes in relatively 'benign' forms such as development, environmental or public health programmes. There is a rich anthropological literature on the subversion and failure of well-intentioned top-down programmes. Unfortunately, while a case can be made for pluralist heterodoxy in grass-roots community development programmes, public health programmes demand a certain rigour if they are to succeed: 'empowerment' must go with a robust attention to the medical and epidemiological bottom line. We can expect to see popular resistance to top-down public health programmes, expressed in idioms drawn from popular religion and innovations in customary belief.

Implications for the course of the pandemic

61. All of the above has implications for the spread of HIV itself and the capacity to contain it. Clearly, poorer countries with weaker governance, lower levels of social cohesion, pro-natalist demographics, and adults with

²² Randy Cheek, 'Playing God with HIV: Rationing HIV Treatment in Southern Africa,' *African Security Review*, 10.4, 2001, 19-28.

foreshortened time horizons, will be less well placed to contain the pandemic. It appears that low social cohesion is an overall determining important factor influencing the course of the epidemic in countries.²³ Interventions that build key social institutions are pivotal to enabling countries to tackle the epidemic. Overcoming poverty, distress migration, low levels of education and poor health services, will all help to facilitate HIV prevention.

62. One of the challenges for research is to inquire into the sexual behaviour of children orphaned by AIDS, when they reach sexual maturity. The pandemic has been with us for sufficiently long for many AIDS orphans to have reached adulthood by now. Has the experience of seeing a parent die of AIDS made them more likely to practice safe sex? Or have the economic, educational and emotional impacts of their orphanhood left them more vulnerable to HIV infection? And what determines these different outcomes?

Reality checks

63. So far this has been theory: the next step is a first cut reality check. What about Uganda? How did the country first to be stricken by the pandemic not only manage to contain it, but also to post record growth throughout the 1990s? Tanzania, the second most affected country in the 1980s, has similarly done well economically in the 1990s, and mainland Tanzania has experienced political stability. There is no doubt that both countries would have done better without the HIV/AIDS pandemic, but neither seems to have been hit by the sort of reversed economic and governance spirals indicated in this paper.

64. These cases are cause for some optimism. But this must be moderated, for several reasons. One, economies of these countries were in such bad shape in the 1980s that there was nowhere to go but up. There was a tremendous slack in the economy, especially under-utilisation of human capital. Second, these are overwhelmingly agricultural economies and it may be that they are much better able to absorb the costs of illness and withstand these kinds of demographic shock. Third, both received high levels of international assistance, to the level of about 50% of the national budget. In addition, for reasons not well understood, HIV prevalence did not reach the general population levels now observed in southern Africa. Lastly, the pandemic and its impacts are not over yet in these countries. We have yet to see if the enduring moderate levels of HIV infection place a cap on economic performance or contribute to governance crises.

Implications for Policy

65. What do these observations and speculations mean for policy and programming? This paper is concerned primarily with stimulating thought and debate, but it would not be complete without reference to some of the policy implications of the lines of argument advanced here. These arguments are deliberately pessimistic. One reason for this is that Africa has coped with droughts and famines much better than most outsiders predicted, consistently refuting doomsayers.²⁴ But bouncing back from the HIV/AIDS pandemic is likely to be somewhat more difficult than coping with famine. Hence, it is necessary to discount a great deal of warranted scepticism. A second reason for pessimism is the reluctance of bureaucracies, both African and donor, to develop institutional mechanisms for dealing with the challenge. There is a tendency for AIDS to become an add-on to other 'more urgent' demands. *Governments are simply not set up to deal with the challenges posed by HIV/AIDS.*

66. One immediate implication is that all who are concerned with governance and development in Africa must become AIDS-literate. AIDS-literacy testing should be part of the process of recruitment of development practitioners working in and on Africa, it should be a component of awarding contracts to companies, should be a point to be raised when reviewing academic papers for specialist journals, and should be a consideration in setting agendas for conferences concerned with Africa.

67. Most immediately, high-level policymakers must open their eyes to the coming 'third wave' of the AIDS epidemic, its impact. AIDS will transform African societies in many ways. But while the coming AIDS

²³ Tony Barnett and Alan Whiteside, 'HIV/AIDS and Development: Case Studies and a Conceptual Framework,' *European Journal of Development Research*, 11.2, 1999, pp. 200-34

²⁴ This author repeatedly criticised exaggerated estimates of famine mortality throughout the 1980s and 1990s and mocked the relief agencies that predicted millions of famine deaths in Somalia, Zaire and elsewhere. See: Alex de Waal, *Famine that Kills, Darfur, Sudan, 1984-1985* (Oxford, Clarendon Press, 1989), Alex de Waal, *Famine Crimes: Politics and the Disaster Relief Industry in Africa* (London, James Currey, 1997).

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mortality wave in Southern Africa is inevitable, the coming impact wave can be met and mastered, if actions are taken soon enough in a well-informed way.

68. AIDS compels us to focus our priorities. The impact of AIDS on human resources and institutional capacity means that it will be necessary for African governments and their development partners to prioritise ruthlessly. Initiative such as NEPAD need to focus on doing just two or three things, each of them relevant to combating the pandemic, rather than trying to do everything from industrial development to judicial reform.

69. We need to examine policies for PLWA who are holding public office. Aspects of this are examined in the preceding discussion paper.

70. Overcoming AIDS and mitigating its impacts needs much, much better data than we have at present. The current quality of data is simply deplorable and means that many interventions are not properly guided by sound epidemiology. Obtaining the necessary data involves methods such as population screening which may generate opposition from some human rights activists. However, the main international human rights instruments all contain provisions for overriding consent, privacy etc., in the face of public health imperatives.

71. In the longer term, it will be necessary to train a cadre of development practitioners, economists, public health managers, and others who are specialised in the social and economic implications of HIV/AIDS. Just as humanitarian action has emerged as a field for study and training in the last 15 years, AIDS and development requires universities and institutes to establish specialist courses.

Conclusions

72. Much of what is outlined as the probable economic, institutional and governance impact of the HIV/AIDS pandemic describes conditions that already exist in much of sub-Saharan Africa. This may obscure the effects of the pandemic, which is an amplifier of existing social, political and economic pathologies.

73. This paper has identified three major possible *regressive processes*: demographic, economic and governance. They reverse the 'normal' processes of the demographic transition, economic development and the establishment of functioning states. In theory, an African country could succumb to a combination of these regressive processes, interacting with each other to produce the limiting case of a non-linearity: complete social collapse. This scenario of an ARNC cannot be ruled out and it is sufficiently disturbing to need to be taken seriously. Milder kinds of breakdown—more local, more specific—are also quite possible. The institutional collapse of an army, political party or government department may count as an ARNC.

74. More widely, the scenario is of AIDS-impacted populations, economies and governments simply failing to progress, and being caught for at least the next two decades in a structural impasse, in which development becomes simply impossible. This will happen if nothing is done to prevent it. But, as repeatedly stressed, the third (impact) wave of the pandemic differs from the first two waves in that, even in the worst-hit countries, it is not inevitable. Impact can be shaped by political action.

75. The analysis sketched in this paper underlines how little is known about HIV/AIDS and its governance implications. There is a host of unknowns, relating to the future trajectory of the pandemic. It is unfortunate that, twenty years into the pandemic, we should be at this modest position.

This paper will be posted on the Justice Africa website, www.justiceafrica.org
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