

The Impact of AIDS on Insurance and Pensions in Africa

*Presented to the International Association of Black Actuaries by
Abednigo Sibanda*

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Some Questions I Hope to Answer

1. Is there life insurance in Africa?
2. What kind of products are offered?
3. Do African countries have viable pension industries?
4. How were these affected by AIDS?
5. How about health insurance?

Cautionary Statement

- AIDS is a tragedy that deserves sensitive treatment
- It involves matters of life and death
- This presentation is about business issues surrounding AIDS
- Other issues, though important, are not addressed

Broad Agenda

1. Spread of AIDS in Africa
2. Life Insurance
3. Pension Plans
4. Health Insurance
5. Current Developments

A Brief History of AIDS

- First diagnosed in 1981 (25 years ago)
- First attitudes were not sympathetic
- Disease developed a stigma
- Some governments were reluctant to admit its existence

Spread of AIDS in Africa

- Origins of disease not known
- Diagnosed in Africa from mid-eighties
- Uganda was hit particularly hard in early years
- Spread southwards steadily
- By mid nineties, Zimbabwe had worst AIDS problem in the world
- Followed by Botswana
- Now South Africa and Swaziland have the worst problem

For Your Convenience



Quote from Daily Sun, Nigeria of 6/24/2006

“.. In January, the National Insurance Commission (NAICOM), issued a directive to insurance companies to be wary of providing cover to people living with HIV/AIDS. The umbrella body had warned that HIV was a debilitating disease, which every practitioner must strive to shun if they intended to protect their businesses...

...Africa as a whole contributes just one percent to the world premium income. Out of that, South Africa has 87 per cent. Both Kenya and Zimbabwe are ahead of Nigeria....”

Presentation Focus – South Africa, Zimbabwe and Kenya

Nature of Life Insurance

- Present Value of Premiums = Present value of (Claims + Expenses + Profits)
- Long term contracts lasting years
- For traditional products, premiums fixed for years
- Based on expected claims
- AIDS changed the calculations by increasing claims
- Result: Danger of Insolvency!

Overview of Life Insurance Business

- Individual Business

- With profit
- Non profit
- Unit linked

- Group Business

- Group life assurance
- Pension administration
- Asset management

Traditional Individual Business

- Endowment Assurance WP
 - Sum assured plus bonus on death or at maturity
- Pure Endowment WP
 - Sum assured plus bonus at maturity
- Whole Life WP
 - Sum assured and bonus at death
- Term Assurance
 - Sum assured payable on death
 - Level Term Assurance
 - Decreasing Term Assurance

Reversionary and Terminal Bonuses

- Premiums exceed amount necessary to cover sum assured
- Surplus which emerges is used to declare uniform reversionary bonuses
- Normally expressed as a percentage of sum assured
- Unlike in the US, not paid as a dividend/reduction in premiums
- Terminal bonuses may be paid depending on investment performance
- Surplus not distributed available to cover adverse experience or to finance more business

Unit Linked Business

- Many shapes of policies
- Premiums are used to pay expenses and the balance is invested in units in a type of mutual fund
- Benefit payable is based on value of units
- For death benefits, a charge may be levied on premiums/units
- Mortality charges may be varied if mortality rates change, if policy conditions permit

Financial Management of Traditional Business

- Price each policy so that $PV(\text{future premiums}) = PV(\text{future claims+expenses}) + \text{Profit}$
- Actuarial valuations are carried out every year to monitor solvency
- For each policy, set up a reserve = $PV(\text{claims+expenses}) - PV(\text{future premiums})$
- At any time, total assets - sum of reserves = surplus
- With advent of AIDS, $PV(\text{future claims+expenses})$ increased
- Increase is AIDS reserve

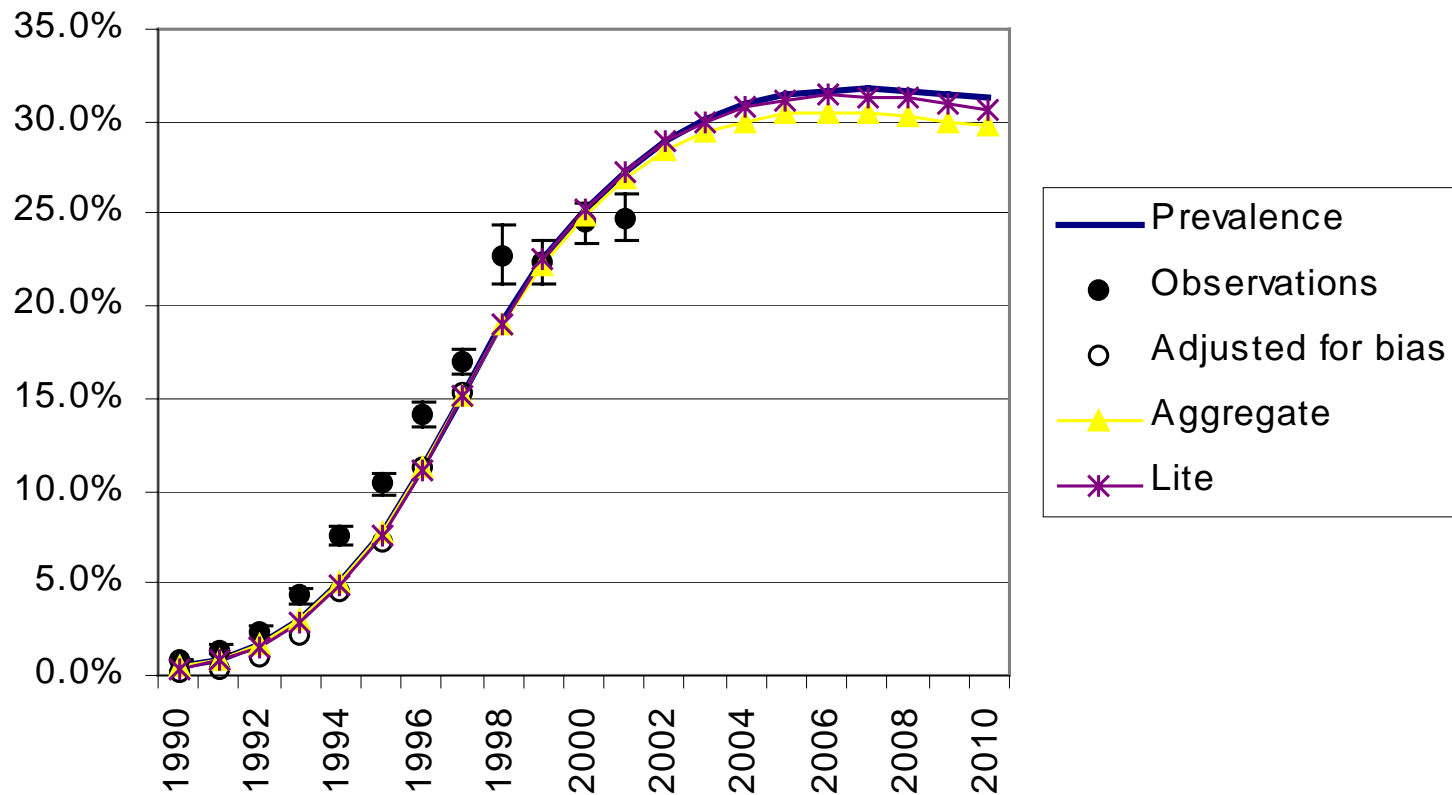
AIDS Reserves

- Can price a risk if you understand it and can manage it
- Future mortality increases were not known – difficult to calculate reserves
- One approach was to set aside part of emerging surplus using actuary's judgment
- More scientific approach was to use AIDS models to estimate future excess mortality

AIDS Models

- A number of models – Wilkie (UK), Doyle (South Africa), ASSA
- Model population behavior and infection rates
- Project prevalence and mortality rates
- Allow for possible effects of education
- Calibrate models against empirical statistics e.g. prevalence rates observed at maternity clinics
- Refine the models as more data is collected

Example – Comparison of Prevalence Rates from the ASSA Model vs Observations (from ASSA 2002 AIDS Update)



AIDS Strategies for New Business

- Exclude AIDS death claims
- Stop writing business with mortality cover
- Pass on mortality risk to policyholders
- Increase premium rates to cover AIDS
- More rigorous underwriting to screen for AIDS

New Business AIDS Strategies

- Exclusion of AIDS claims
 - People do not die from AIDS but from complications
 - Physicians might be reluctant to put AIDS down as cause on death certificate
- Stop Writing Business with Mortality Cover
 - Emphasize investment products
 - Investment products have poor return due to commissions
 - If no substitute products are available, agent force may be unhappy

New Business AIDS Strategies

- Underwriting

- HIV tests for large sums assured
- Expensive, so for smaller policies have only a questionnaire
- Underwrite at death i.e. check if questionnaire was answered honestly when policy becomes a claim
- Regular HIV screening for some policies
- Prospective policyholders reluctant to go for tests

- Pass on Mortality Risk to Policyholders

- May be difficult if increase in rates is large
- may still have to carry some mortality risk

Pension Plans

- Historically had both defined benefit and defined contribution plans
- Typical DC Plan:
 - Fixed employer contributions
 - Fixed employee contributions (automatically enrolled)
 - Additional voluntary contributions allowed
 - Pooled investments by the Trust
 - Interest additions calculated by the actuary
 - Smoothed
 - Lump sum payable on death in service

Defined Benefit Plans

Typically:

- Final average plans – say 2% of final 3 years
- 50% spouse's pension on death after retirement
- Lump sum on death in service – 2 x salary
 - Insured
 - Free cover limits
- Ill health pension – varied and could be
 - accrued pension actuarially reduced
 - accrued pension without reduction
 - pension based on projected service
- Spouse's pension on death in service – 50% of ill health formula

Defined Benefit Plans (cont'd)

- Termination

- Refund of contributions with interest
- Employer portion of contributions added depending on service
- Continuation option on life assurance

Effect of AIDS

- Group Life Assurance premiums were increased (doubled?)
- Continuation option price was increased (tripled?)
 - Initially Trustees went along with price increases
 - With time decided to cut GLA cover to keep costs manageable
- More spouse's pensions payable – increasing costs
 - Initially expected these to be short lived assuming infections from partners
- Disability rates went up

Effect of AIDS

- Employment policy issues such as
 - Retire employees when they become too sick to be productive?
 - Allow them to continue working for the sake of the lump sum on death in service?
 - Insurance rates will go up
 - Consider morale of rest of workforce
 - Expenses of recruitment and training replacement workers
 - Participant preferences varied
- Coordinate benefits with other employment insurance plans

Costs of Pension Plans

- Costs were escalating - pension plans becoming insurance plans!
- Continuation options were dropped
- Level of GLA cover was reduced
- In some cases equal premiums were paid for all participants
 - bigger benefits for younger employees
 - Longer serving employees have accrued more pension
- No lump sums allowed on ill health retirement
- Pay all spouses' pensions from the fund (receive mortality gains?)

Health Insurance

- Provided by Medical Aid Societies
- Community rather than being age based premiums
- Societies negotiate tariffs with physicians and hospitals
- Employers choose whether or not to cover retirees
- Different levels of benefits from basic to executive level
- Early coverage required to avoid anti-selection
- Most of the coverage is employment based
- Societies are profitable through active management
- No actuarial involvement!

Current Developments - Zimbabwe

- Inflation around 1,200%
- Effective term of policies reduced
- Some policies have annual premium escalators
- Some of the “old” policy types are being written
- Pension plans have largely been converted to DC
 - International trends
 - Cost reduction
 - Companies controlled from abroad

Current Developments – South Africa

- Special policies for people living with HIV and AIDS
 - Short term
 - Priced to take the higher mortality into account
- For normal business, HIV mostly affects population sector that can't afford insurance...
- Policies are loaded for AIDS mortality
- Retesting of policyholders has had mixed results
- Virtually all DB pension plans were converted to DC a number of years ago

Current Developments – Kenya

- Government insistence on policies where HIV status does not have to be revealed...

Summary

- Struggled to contain AIDS claims
- Changed products to minimize exposure
- Investment products were emphasized
- Strength of other environmental factors is critical to business strategies
- Pension plans have been converted to DC