

THE HEALTH CARE POLICY IMPLICATIONS ON DEMOGRAPHIC AND AGING PHENOMENA AND ITS ECONOMICAL THREATS: AN EMPIRICAL EVIDENCE FROM AFRICA

Demographic Dividend in Africa: Prospects, Opportunities and Challenges

Ntogwa N. Bundala

Tanzania Police Force, Mwanza Regional Police

Community Policing and Training Department

Mob: +255(0)752 360 418/+255(0)782 33 87 70

E-mail: bundalantogwa@gmail.com

Extended abstract

1.1 Introduction

One of the health care policies born challenge is that of causing the aging in both developed and developing countries. The challenge of the demographic crisis, such as overpopulation and population aging are globally noticed. Most of the studies such as John, *at el.*(2011), Burtless (2013), NIA(2013), UNFPA(2006), Lee, Mason and Cotlear (2010), Chan(2011) and others , find that most of countries are suffering from this kind of demographic and aging problems. They confirm that overpopulation and population aging problems experienced in US, Canada, Thailand, Singapore, Japan, China and others etc. NIA (2013) evidenced that; we are aging- not just as an individual or communities but a world. In 2006, almost 500 million people worldwide were 65 and Older. By 2030, that total is projected to increase to 1 billion-1 in every 8 of the Earth's inhabitants (NIA, 2013). This paper aimed to explore the health care implications on demographic and aging in Africa, exploring the challenges and opportunities of the population dividend in Africa.

Africa is still experiences the high population and un-weighted working age structure population, the population is skewed to elderly than in working ages of less 60 years. This phenomenon threatens the economic growth of Africa, since workforces are weakened by aging. The problems are claimed to be borne by the successful health care policy implementation and practice since 1950 (Ashton, Hill, Piazza and Zeitz, 1984). The good and stable health policy implemented and practiced by Africa since 1950 reinforced the primary care for both rural and township, contributed to reinforce the foundation of the life expectancy in Africa (Liang, Tu, and Chen, 1986). Cangping (2013) and Riley (2004) suggest that advances of health care and nutrition in developing countries , reduces the mortality rate, total fertility rate, infant mortality rate, less than 5 mortality (child mortality) rate and maternal mortality rate and increases the life expectancy. This situation causes the *demographic crisis*, the demographic shifts to an elderly society, the aging problem.

Does the one child policy threat the workforce of Africa? Jackson and Howe (2004) suggest that Africa's workforce ages, young workers will be even less available and Africa's

manufacturing and services sectors will be forced to keep existing workers for a longer tenure or find older workers. This could also slowdown the ability for Africa to be an outsource supplier for developed countries (Jackson and Howe, 2004; Cai and Wang, 2006). Ultimately, it means that Africa will no longer be able to rely solely on inexpensive labour to fuel its growth. Instead, Africa may only be able to grow in line with the growth of its labour force. Africa may try to respond by moving more into electronics and other medium-tech industries; however increased investment in Africa's labour force and management cadre is necessary before such a transformation can be successful (WHO, 2012; Hou, 2011; and Peng, 1987). The one problem facing by Africa is the future loss of economic power due to paralysing its manpower or age work population (Banister, Bloom and Rosenberg, 2010). This study aimed to examine empirically the implications of the health care policies, and demographic dividend in Africa, by assessing the challenges and opportunities by 2030.

1.2 Statement of the Research problem

The improvement of health care services in developing countries, including African countries caused the rapid decrease of the fertility and mortality rate (Hou, 2011; Wang, 2011 Singh, 2012 and others). This creates the favourable environment to population shrinking and increase the longevity. This phenomenon caused the unbalanced age in the population - aging problem. Aging problem now, is looks like the disaster in both developing and developing countries (Banister, Bloom, and Rosenberg, 2010, and Peng, 1987) .One of the challenges is that, aging is result from the success and improvement of health care policy implementation. Population aging is now suspected to cause *economic threats in future* in many countries, but, recently no scientific study done, empirically and quantitatively to prove the expected economic threats in future, particularly in Africa. Most of the findings of the studies are qualitative in nature that lacks their credibility to generalize their findings. Due to this methodological gap, this paper examined scientifically the empirical economic threats of the health care and demographic problems in Africa.

1.3 Research objectives

The study aimed to achieve the following specific objectives:-

- (i) To examine the *implication threats* of the depopulation policies and practices in African economy by 2030
- (ii) To examine the *implication threats* of health care policy implementation and practices in African economy by 2030
- (iii) To examine the *African workforce Intensity* to African economy and to establish economic remedial strategies in Africa

1.4 Research conceptual framework

If we let the economic growth (ω), depends on health care (γ), and age work population (ρ); and the population decay is depends on the total fertility rate (λ), total population (η) and time (τ). (The maximum time is the life expectancy)

Under the assumptions that,

- (a) Economic growth is direct propositional to life expectancy and total fertility ratio

- (b) Economic growth is negatively related with maternal and infant mortality rate
- (c) Economic growth is positively related to the population growth
- (d) *Population economic gearing effects* increase as the population increase, and inversely proportional to the one child policy
- (e) The population is decaying at the marginal rate as approaches to the maximum limit(age of life of expectancy) and it is a function of total fertility rate and time

Therefore

Economic growth $(\omega) = f(\text{Health care}(\gamma), \text{Age work population}(\rho))$

$$\omega = f(\gamma, \rho) \dots\dots\dots(i)$$

Taking the first partial derivatives of the function in the equation (i)

$$\frac{\partial \omega}{\partial \gamma} = K_1, \quad \frac{\partial \omega}{\partial \rho} = K_2 \dots\dots\dots(ii)$$

Whereby,

K_1 = Heath care Economic Gearing Effects (HEGE); the total number of CYN geared by a unit of mortality rate in the economy

K_2 = Population Economic Gearing Effects (PEGE); the total number of CYN geared by a unit rate of population growth rate in the economy

Since,

$$\text{Economic growth } (\omega) = \alpha + \beta_1\mu + \beta_2\lambda + \beta_3\eta + \beta_4\nu + \beta_5\chi + \varepsilon \dots\dots\dots(iii)$$

Where,

α = Constant Value represents the amount of dollars at K_1 and $K_2 = 0$

β 's = the coefficient values of the variables of both health care and population

μ = Life expectancy in number of years

λ = Total fertility Rate

η = Population growth rate/population

ν = Maternal Mortality Rate

χ = Infant Mortality Rate

ε = Estimated error

If the equation (iii) holds, then,

The economic growth will be affected by the declining of the population or reducing the age work population. If we assume that the population is decaying with *a multiple of decay factor* (ϕ),

Therefore, Decaying population (ϕ) = (Total Fertility Rate minus Total mortality Rate *Times* Number women *Times* Time period (T).

That is,

$$\phi = p(\lambda - (\nu + \chi))T \dots\dots\dots(iv)$$

$$\phi = \varphi T \dots\dots\dots(v)$$

Taking the partial first derivative of the equation (iv) w.r.t Time period (T),

$$\frac{\partial \phi}{\partial T} = \psi \dots\dots\dots(vi)$$

ψ = Decaying Population Intensity (DPI). The number of people deviated from the normal growth of the population in a country.

1.5 Research hypotheses

The study aimed to test the following pair of the hypotheses:-

H_{0.1}: There is no significant relationship between economic growth and Decaying Population Intensity (DPI)

H_{1.1}: There is a significant relationship between economic growth and Decaying Population Intensity (DPI)

H_{0.2}: There is no significant relationship between economic growth and life expectancy

H_{1.2}: There is a significant relationship between economic growth and life expectancy

H_{0.3}: There is no significant relationship between economic growth and population growth rate

H_{1.3}: There is a significant relationship between economic growth and population growth rate

H_{0.4}: There is no significant relationship between economic growth and Crude birth rate

H_{1.4}: There is a significant relationship between economic growth and crude birth rate

H_{0.5}: There is no significant relationship between economic growth and crude death rate

H_{1.5}: There is a significant relationship between economic growth and crude death rate

2.0 Methodology

The study use the exploratory research design, with quantitative approach by using the panel data from 1950-2015 of the Africa demographic profiles. The data extracted from the International Monetary Funds (IMF), United Nations (UN), *Worldometer* population, World Health Organisation (WHO), and World intelligence Agency. The data is analysed in stepwise regression, with 0.05 and 0.01 levels of significances, i.e. 95 level of confidence and 99 level of confidence respectively. The multivariate regression model was run to the MINITAB software

3.0 Findings of the study

The study finds that the health care policy implementation and practices and the implementation of depopulation policies threat the economic growth in Africa by 2030. The study recommends that, the *redefining of the working age population* to reflect the life expectancy level in a country. The higher the life expectancy is the higher the retirement age or widening the working population age; the *job redesigning* should be done to increase the capacity and ability of the elderly staff to stay in the office and to *encourage the immigration* as the means of supplementing the workforce in the country.