

EXPERT REPORT IB (C)

THE SOCIO-ECONOMIC AND DEMOGRAPHIC IMPACT OF THE HIV/AIDS EPIDEMIC IN SOUTH AFRICA

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28 August 2003

Communities, households, and individuals in South Africa experience the impact of the HIV epidemic in a variety of aspects of life. The most obvious are the direct effects to health and life. Direct and indirect consequences of ill health include things like compromises to labour productivity and income. Equally important is the impact of the HIV epidemic on population size and structure. As highlighted at a *Scientific Meeting on the Empirical Evidence for the Demographic and Socio-Economic Impacts of HIV/AIDS* at the University of Natal Durban, “AIDS is having considerable demographic impact.”¹

The impact of the HIV epidemic on health, wealth and population is not in isolation. The epidemic affects each directly and indirectly and in turn influences the other. In their annual report, *The State of the World Population 2002: People, Poverty and Possibilities*, the United Nations Population Fund discusses this relationship.

HIV/AIDS is a demographic, social and economic disaster. As it kills predominantly younger adults, the worst-affected countries are seeing the hollowing out of an entire generation in the productive age group, with all the attendant consequences: personal tragedy, families forced deeper into poverty, communities threatened, the social fabric weakened and now looming economic crisis.²

Health and income have a mutually reinforcing relationship that can become a “virtuous” or “vicious” spiral. Health improves economic growth; economic growth improves health. Similarly, poverty causes poor health; poor health worsens poverty. In general, it is difficult to measure the value of the change in human productive capacity due to health. There are many health indicators that represent health status, among them life expectancy and adult height. However, the real effects will depend on policies in both the health and non-health sectors.³

¹ Health Economics and HIV/AIDS Research Division, REPORT OF THE SCIENTIFIC MEETING ON THE EMPIRICAL EVIDENCE FOR THE DEMOGRAPHIC AND SOCIO-ECONOMIC IMPACTS OF HIV/AIDS 3 (2003)

² United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 10 (2002).

³ World Health Organization, THE REPORT OF WORKING GROUP 1 OF THE COMMISSION ON MACROECONOMICS AND HEALTH (2001). Available at

http://www3.who.int/whosis/cmh/cmh_papers/e/papers.cfm?path=cmh,cmh_papers&language=english#1

In general, sub-South Africa, and South Africa specifically, experience the “vicious cycle”, where the health-income relationship moves in reverse.⁴ The concurrent influences on and by demographic factors amplify this vicious cycle. Without significant changes, these effects will only worsen in the coming decades as South Africa is just beginning to feel the impact of the HIV epidemic. The relationships between these factors are complex and prolific. This paper will highlight the more important mechanisms of action.

HEALTH

The determinants of health are social and biological, identified in five levels including, systematic, societal, institutional, household, and individual. Important population attributes include size, growth rate, age-structure, and geographic distribution. Living conditions are important, although not to be confused with lifestyle choices, which can produce “behavioural risks”. Overall, the determinants of health constitute a complex network of risks that are the product of a particular set of social and biological determinants.⁵

Mechanisms that drive change in population health at the aggregate level include, fertility decline (which alters the age structure), changes in risk factors (which affects the incidence of disease), and improvements in health care technology and organization, which alter case-fatality rates.⁶ Attributes that characterize different experiences include the pattern of change (patterns of mortality, morbidity, and disability), the pace and direction of changes, the sequence of stages, the starting moment and the distribution of health profiles among different groups.⁷

The health profile identifies a country’s progress in its “health transition”, which is the dynamic process of health and disease patterns responding to demographic, socio-economic, technological, political, cultural and biological changes. Paramount is the interaction of health and disease patterns, the process of change in health and disease over time and a change in the patterns of societal response to health conditions.⁸

In many middle-income countries, such as South Africa, a steep decrease in mortality from an array of causes characterises the health transition. Such causes are the determinants of the health transition that act through a variety of mechanisms defining the attributes of this transition for a particular country.⁹ These are all especially important and complicated in the case of the HIV/AIDS epidemic because of its ability to act in a variety of ways.

⁴ David Bloom & David Canning, *The Health and Wealth of Nations*, SCIENCE 1207 (1999).

⁵ Julio Frenk et al., *Elements for a Theory of the Health Transition*, In: Health and Social Change in International Perspectives (eds. L. Chen, A. Kleinman, N. Ware). Boston: Harvard University Press, 1994.

⁶ Case fatality rate is the likelihood of death given infection or disease.

⁷ Julio Frenk et al., *Elements for a Theory of the Health Transition*, In: Health and Social Change in International Perspectives (L. Chen, A. Kleinman, & N. Ware eds., 1994).

⁸ Julio Frenk et al., *Elements for a Theory of the Health Transition*, In: Health and Social Change in International Perspectives (eds. L. Chen, A. Kleinman, N. Ware). Boston: Harvard University Press, 1994.

⁹ Julio Frenk et al., *Elements for a Theory of the Health Transition*, In: Health and Social Change in International Perspectives (eds. L. Chen, A. Kleinman, N. Ware). Boston: Harvard University Press, 1994.

In general, the world's mortality decline in the 20th century began in Europe in the late 1900s and spread to the rest of the world by the second half of the 20th century. Most low and middle-income countries have undergone, or are undergoing, a transformation of health and mortality levels. "Many developing countries have made significant progress in improving the capabilities of their populations overall: life expectancies (an indicator of health), nutrition, economic and educational attainment have all improved since 1960."¹⁰ Exceptions occur in 'AIDS-ravaged' countries in Africa and among adult males in Central and Eastern Europe.¹¹ HIV infections lead to an unprecedented increase in mortality and stall or reverse the mortality decline.

Most important is awareness that the health transition affects its own determinants and is therefore cyclical; factors that contribute to the health transition also alter the transition. Two major dynamic processes dictate the health transition, the mortality decline, a shift from infectious diseases (HIV/AIDS, tuberculosis, malaria, etc.) to non-communicable diseases (heart disease, stroke, cancer, etc.), and the fertility decline, a shift to lower fertility rates.¹²

When mortality and fertility decline together, it leads to changing demographic and social patterns, including longer life expectancy. Additionally, positive social implications include healthier workers. Historically, countries have experienced these transitions in one of three ways. The Western or Classical Model experienced by Western Europe and the US, which involved a gradual mortality and fertility decline related to social, economic, and environmental improvements, before major medical improvements.¹³

South Africa, like most developing countries had been experiencing health gains according to a Delayed Model, which involved rapid mortality decline related to introduction of medical technology, especially pharmaceutical products, and organized health programs (maternal and child health, sanitation, disease prevention and eradication, etc.).¹⁴ The rapid increase in mortality, due to HIV/AIDS, which is projected to last through the next decade have nullified many health gains to present and will continue to do so in South Africa. "HIV/AIDS is destroying lives and livelihoods alike, wiping out decades of progress."¹⁵

South Africa is a country that is and will continue to carry what the World Health Organisation ("WHO") calls the 'double burden of disease'. There are two elements to the double burden of disease, the 'unfinished agenda' and the epidemiological consequences of the health transition. The former is the burden from morbidity and mortality from HIV/AIDS and other infectious diseases for which cost-effective interventions exist. The latter is the consequences from past

¹⁰ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 43 (2002).

¹¹ World Health Organization, WORLD HEALTH REPORT 1999: MAKING A DIFFERENCE. Chapter 1 (1999).

¹² Benefits from both the mortality and fertility decline accrue by age and sex differently. Typically, children, and young women benefit the more than men do. Julio Frenk et al., *Elements for a Theory of the Health Transition*, In: Health and Social Change in International Perspectives (L. Chen, A. Kleinman, & N. Ware eds., 1994).

¹³ Abdel Omran, *Epidemiologic Transition in the U.S.: The Health Factor in Population Change* 32(2) Population Bulletin (1977).

¹⁴ Abdel Omran, *Epidemiologic Transition in the U.S.: The Health Factor in Population Change* 32(2) Population Bulletin (1977).

¹⁵ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 43 (2002).

health transition gains, which include higher prevalence of cancer cases and strokes, as well as non-communicable diseases such as depression and heart disease.¹⁶

THE HEALTH AND INCOME RELATIONSHIP

Historically, development theorists worried that improved health led to reduced income per worker because of increased population growth, lower capital-to-labour ratio, and reduced labour productivity. Now it is widely believed that investment in human capital via health, education, as well as physical capital, increases productivity. For instance, longer life expectancy is likely to increase personal saving and investment. Overall, evidence is growing stronger that investment in health is one way to stimulate development. The theoretical arguments and related empirical evidence demonstrate a large effect of health improvements on productivity, household incomes, and economic growth.¹⁷

Mechanisms through which income affects health include through better (or worse) nutrition, access to safe drinking water and improved sanitation, and access to better quality health services. Mechanisms through which health affects income include through labour productivity, investment in educational attainment, investment in physical capital, the demographic dividend,¹⁸ and lower life expectancy, particularly for women.

Health and income have a mutually reinforcing relationship; the causal relationship is bi-directional. Life expectancy, a typical indicator of health, demonstrates the income-health relationship. There is a positive correlation between income and life expectancy, as income increases, life expectancy increases. Moreover, a country with 5-year higher life expectancy will grow 0,3 to 0,5 percent per year faster, all else being equal.¹⁹

In general, income improvements lead to mortality decline. However important income growth maybe, according to the WHO, the changing relation between mortality and other factors, like access to health technologies, especially medicines and vaccines, is likely to be more important. For instance, half of the global gains in health between 1952 and 1992 result from access to better technology.²⁰

HEALTH AND INCOME INEQUALITIES

The WHO convened a Commission on Macroeconomics and Health (“CMH”) to explore the relationship of health status, economic growth, and poverty reduction. One CMH paper concludes that ill health disproportionately affects poor people.²¹ “Poor health may mean that employment is erratic and low-paid. Their very poverty excludes them from the means of

¹⁶ World Health Organization, *WORLD HEALTH REPORT 1999: MAKING A DIFFERENCE*. Chapter 2 (1999).

¹⁷ David Bloom & David Canning, *The Health and Wealth of Nations*, SCIENCE 1207 (1999).

¹⁸ The “demographic dividend is a window of opportunity when high proportion of population is working age. It is discussed below.

¹⁹ David Bloom & David Canning, *The Health and Wealth of Nations*, SCIENCE 1207 (1999).

²⁰ World Health Organization, *WORLD HEALTH REPORT 1999: MAKING A DIFFERENCE*. Chapter 1 (1999).

²¹ World Health Organization, *THE REPORT OF WORKING GROUP 1 OF THE COMMISSION ON MACROECONOMICS AND HEALTH* (2001). Available at

http://www3.who.int/whosis/cmh/cmh_papers/e/papers.cfm?path=cmh,cmh_papers&language=english#1

escaping it.”²² Health is both a direct component of human well-being and a form of human capital that increases an individual’s capabilities. A “health shock” is often catastrophic to a person with little money and lack of access to food and medicine. In particular, the large effect improved health has on household incomes and economic growth makes it an important tool for poverty reduction.

The goal of the poverty mitigation and that of reduction of health inequalities are distinct but highly related. The ultimate objective of those working for both of these goals are similar and far out weighs the differences. Thus, there should be more cooperation between them.²³ Moreover, in working towards these goals, it is important to look at distribution or variance within particular indicators. Addressing inequalities requires more of an emphasis on reducing variance and less on the average; distribution of income and health are more important than income per capita and averages health indicators.²⁴

In South Africa, as in many countries, income inequality, an indicator of social arrangements and stress, largely determines levels of mortality.²⁵

Apart from consideration of human rights, justice and equity, inequality within and among nations contributes to political unrest and drives migration in search for more favourable conditions. It also affects general levels of health. Life expectancies are lower in societies with greater inequality. Both the level of available resources and the equity in their distribution contribute to a society’s health.²⁶

Among other factors, income inequality explains why some populations are healthier than others are. Growing research is showing that the size of the economic gap within a population is an important predictor of health. Generally, poor health is a cause and effect of income poverty.

[Poverty] diminishes personal capacity, lowers productivity and reduces earnings. The effect of ill health on productivity and earnings is likely to be greater on the poor. This is because, among other things, low-paid, less-educated workers are more likely to do physically demanding and often unsafe work in which they can easily be replaced.²⁷

²² United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 14 (2002).

²³ Donald Gwatkin, *Health Inequalities and the Health of the Poor* 78(1) BULLETIN OF THE WORLD HEALTH ORGANIZATION 3 (2000).

²⁴ Donald Gwatkin, *Health Inequalities and the Health of the Poor* 78(1) BULLETIN OF THE WORLD HEALTH ORGANIZATION 3 (2000).

²⁵ World Health Organization, THE REPORT OF WORKING GROUP 1 OF THE COMMISSION ON MACROECONOMICS AND HEALTH (2001). Available at

http://www3.who.int/whosis/cmh/cmh_papers/e/papers.cfm?path=cmh,cmh_papers&language=english#1

²⁶ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 14 (2002).

²⁷ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 15 (2002).

For instance, the distribution of income influences the life expectancy of a society. Redistributing income to the poor will raise life expectancy even if the average level of income stays the same. This is true both between and within countries; empirical evidence supports this.²⁸ In the income-life expectancy relationship, there are diminishing returns to rising income. The relationship is strong in for very low levels of income, absolute income deprivation, and then plateaus at a certain standard of living. This means that income growth benefits the life expectancy of those with lower income much more than those with higher levels of income.²⁹

Recognising these relationships, world leaders have agreed on a variety of new initiatives, including the Millennium Development Goals, with “an agenda for the social action against poverty, centred on individual men and women. Key aims were improvements in health and educations, both as personal goals and as public goods.”³⁰

The new goals recognise that poverty concerns dignity, opportunity and choice as well as income. Escaping poverty is not purely individual act. It depends on the support of institutions – the family, the state, civil society, the private sector, the local community and cultural organisations – the political, economic and social environments they create, and the support and opportunities they provide.³¹

Poverty lines and poverty indices are among commonly used methods to assess poverty.

Construction a poverty line and computation of various poverty measures that take into account the way actual household expenditures fall short of the poverty line

Construction of a poverty index using a range of qualitative and quantitative indicators.³²

A well-known assessment of poverty is the international \$1/day indicator published by the United Nations Development Programme. Taking these indicators on face value can be deceiving.

Based on expenditure measures the proportion of the population in developing countries living on less than \$1 a day decreased from 28.3 per cent in 1987 to 23.4 per cent in 1998. The percentages reflect

²⁸ Ichiro Kawachi, *Income Inequality and Health* In SOCIAL EPIDEMIOLOGY 76-94 (Lisa Berkman and Ichiro Kawachi, eds., 2000).

²⁹ Ichiro Kawachi, *Income Inequality and Health* In SOCIAL EPIDEMIOLOGY 76-94 (Lisa Berkman and Ichiro Kawachi, eds., 2000).

³⁰ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 6 (2002).

³¹ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 6 (2002).

³² United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 17 (2002).

population growth; absolute numbers have remained relatively stable at about the 1.2 billion.³³

It is profoundly important to recognise that there are different kinds of poverty. Some of the most important dimensions of poverty are poor health, illiteracy and inadequate schooling, social exclusion and powerlessness, and gender-based poverty.³⁴ Specifically, “There is a distinction between lack of income and lack of capacity.”³⁵

Income is the common way of measuring poverty, but poverty has many dimensions. The poor are deprived of services, resources and opportunities as well as money. Their limited resources are inefficiently deployed. Energy, water, and food all cost more per unit consumed – paradoxically, poverty is expensive for the poor.³⁶

The concept of income poverty has recently been extended to include economic vulnerability, describing households or individuals pushed into permanent poverty by temporary spells of unemployment, ill health or other misfortune.³⁷

HIV/AIDS, HEALTH AND INCOME INEQUALITIES

HIV/AIDS “poses a greater threat to development prospects in poor countries than any other disease. The impact is hardest among the poor, who have no economic cushion and the weakest social support of any group.”³⁸

Initiatives that only seek to change behaviour are insufficient to stem the epidemic. Determinants of the epidemic go far beyond individual volition. We will not stop the pandemic by treating it only as a disease. HIV/AIDS accompanies poverty, is spread by poverty and produces poverty in its turn.³⁹

³³ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 14 (2002).

³⁴ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 15 (2002).

³⁵ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 14 (2002).

³⁶ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 14 (2002).

³⁷ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 14 (2002).

³⁸ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 43 (2002).

³⁹ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 10 (2002).

“Damages to public services such as education and health will drive the poor further into poverty.”⁴⁰ “Malaria, tuberculosis and, increasingly, HIV/AIDS overwhelmed the health care system in the 1990s...The result was to deprive many Africans of any health care at all.”⁴¹

Differentials in health services and access to affordable HIV/AIDS treatment determine survival rates and divide rich and poor countries and communities. As the struggle to reduce drug prices and expand treatment continues, public health services will determine the ability of households and communities to deal with the epidemic. Failure to provide health services, whatever the difficulties of meeting the short-term costs, will spell disaster for the development and poverty eradication efforts.⁴²

The cost of denying health care, education and empowerment to the world’s poorest people cannot only be counted in money...The imagined economic cost, or the forgone benefits, must be multiplied by the impact on children, families and communities, over generations.⁴³

“The relationship between poverty and HIV transmission is not simple. If it were, South Africa might not have Africa’s largest epidemic, for South Africa is rich by African standards.”⁴⁴

Inequality sharpens the impact of poverty, and a mixture of poverty and inequality may be driving the epidemic. A South African truck driver is not well paid compared to the executives who run his company, but he is rich in comparison to the people in the rural areas he drives through. For the woman at a truck stop, a man with 50 Rand is wealthy; her desperate need for money to feed her family may buy him unprotected sex, although she knows the risks.⁴⁵

“HIV/AIDS accompanies poverty, is spread by poverty and produces poverty in its turn.”⁴⁶
“Even in the industrial countries most infections are among the poor.”⁴⁷

⁴⁰ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 10 (2002).

⁴¹ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 44 (2002).

⁴² United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 44 (2002).

⁴³ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 12 (2002).

⁴⁴ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 43 (2002).

⁴⁵ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 43 (2002).

⁴⁶ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 11 (2002).

⁴⁷ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 43 (2002).

Malaria, tuberculosis and sexually transmitted diseases that predispose to HIV infection are more common among the poor. Poor people know less about HIV/AIDS and are less able to protect themselves.⁴⁸

Poverty's companions encourage the infection: undernourishment; lack of clean water, sanitation and hygienic living conditions; generally low levels of health, compromised immune systems, high incidence of other infections, including genital infections, and exposure to diseases such as tuberculosis and malaria; inadequate public health services; illiteracy and ignorance; pressures encouraging high-risk behaviour, from labour migration to alcohol abuse and gender violence; an inadequate leadership response to either HIV/AIDS or the problems of the poor; and finally, lack of confidence or hope for the future.⁴⁹

Poverty and inequality “combine to increase the impact of the pandemic.”⁵⁰

Individuals, households and communities living with HIV/AIDS find that lost earnings, lost crops and missing treatment make them weaker, make their poverty deeper and push the vulnerable into poverty. The cycle intensifies.⁵¹

THE IMPORTANCE OF POPULATION FACTORS

Demographic variables that impact health, household income and aggregate economic performance include life expectancy (through savings and productivity), total population growth, growth of the working-age population, fertility levels, and dependency ratio, which is a function of age structure.⁵² Since, individual economic behaviour varies at different stages of life, changes in age structure, the proportion of the population in every age group, can significantly affect household and national economic welfare.

Population age structures have a profound impact on development.⁵³ Typically, young people require intensive investment in health, prime-age adults supply labour and savings, and older people require health care and retirement income.⁵⁴ The youth and the old tend to consume more

⁴⁸ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 10 (2002).

⁴⁹ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 43 (2002).

⁵⁰ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 10 (2002).

⁵¹ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 43 (2002).

⁵² David Bloom et al., *Demographic Change and Economic Growth in Asia* POPULATION AND DEVELOPMENT REVIEW (2000).

⁵³ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 5 (2002).

⁵⁴ David Bloom et al., THE DEMOGRAPHIC DIVIDEND: A NEW PERSPECTIVE ON THE ECONOMIC CONSEQUENCES OF POPULATION CHANGE (2002).

output than they produce, unlike the working age group who produce more output and savings than it can consume.

Accordingly, the value of output per capita tend to increase when the working group is relatively large, and conversely, the value tends to be depressed when a relative large part of the population is composed of young and elderly dependents. Therefore, level of income per capita will change correspondently to the population age distribution.⁵⁵

Nations, in which a large share of the population has reached ages for working/saving, may even enjoy a *boost* to income growth stemming from the higher share of the population that is working, from the accelerated accumulation of capital, and from reduced spending on dependents.⁵⁶ Africa has the world's highest youth dependency ratios. This in turn leads to low productive capacity per capita and lower rates of saving and investment.⁵⁷

Age structure is dictated by a country's progress in its "demographic transition". This entails a shift from very high birth and death rates to low ones; a move from low population growth to a period of high rates and an increase in total population, then back to low or zero growth rates. It results in a shift from an age distribution with many young and few elderly, to one with nearly equal numbers in most age groups eventually. There are social, economic, and epidemiological changes ensuing the demographic transition.⁵⁸

The asynchronous changes in mortality and fertility rate create a disproportionately high percentage of the working-age adults after a time lag. The bulge in the age structure of the population creates an opportunity for economic growth. The "demographic dividend" is the "bulge" in the age structure of the population. Labour supply, savings, and human capital are important contributions of the ensuing positive economic consequences of this dividend.⁵⁹ Determinants of capitalising on this opportunity include investments in education and the ability to absorb the addition to the work force.⁶⁰

The importance of the policy environment for engaging the opportunity for economic growth or averting the detrimental consequences of a changing age structure, including health and population, labour, financial markets and human capital, and planning for an older population. The demographic transition offers significant opportunities for developing countries that may never be present again.⁶¹

⁵⁵ David Bloom et al., *Demographic Change and Economic Growth in Asia* POPULATION AND DEVELOPMENT REVIEW (2000).

⁵⁶ David Bloom et al., THE DEMOGRAPHIC DIVIDEND: A NEW PERSPECTIVE ON THE ECONOMIC CONSEQUENCES OF POPULATION CHANGE (2002).

⁵⁷ David Bloom & Jeffrey Sachs *Geography, Demography, and Economic Growth in Africa*, 2 BROOKINGS PAPERS ON ECONOMIC ACTIVITY 207 (1998).

⁵⁸ World Health Organization, WORLD HEALTH REPORT 1999: MAKING A DIFFERENCE. Chapter 1 (1999).

⁵⁹ David Bloom et al., THE DEMOGRAPHIC DIVIDEND: A NEW PERSPECTIVE ON THE ECONOMIC CONSEQUENCES OF POPULATION CHANGE (2002).

⁶⁰ World Health Organization, WORLD HEALTH REPORT 1999: MAKING A DIFFERENCE. Chapter 1 (1999).

⁶¹ David Bloom et al., THE DEMOGRAPHIC DIVIDEND: A NEW PERSPECTIVE ON THE ECONOMIC CONSEQUENCES OF POPULATION CHANGE (2002).

In general, increases in the working age population are positively associated with economic growth while increases in the 0-15 age group are negatively associated with growth taking into consideration the level of development and the economic policy that accompanies the demographic transition. Currently, the demographic transition and its impact on economic development are playing out differently in different regions of the world and different segments of a country's population.⁶²

For instance, East Asia represents the most success in reaping the demographic dividend. The working-age population grew four times faster than the dependent population. Strong policies enabled national economies to absorb this boom generation into the workforce. Real per capita income growth averaged 6 percent per year between 1965-1990.⁶³ "Taking advantage of the demographic window has accounted for a third of the annual economic growth of the East Asian 'tigers'".⁶⁴

However, in many parts of sub-Saharan Africa the demographic transition is stalled. More importantly, the depletion of the working-age population by HIV/AIDS results in the average age of population remaining low with no demographic dividend to date.⁶⁵

Normally, primarily by fertility decline and much less by falling mortality rates result in changes in the dependency ratio. However, in South Africa, the HIV/AIDS epidemic is driving changing dependency ratios. The impact of the youth dependency dominates.

In poor families, where options for financing are restricted to household consumption, this results in substituting for other forms of consumption.⁶⁶

At the household level, changes in the age structure increase the "dependency burden" and reduces the family well-being among the poor.⁶⁷

THE HIV/AIDS EPIDEMIC AND POPULATION FACTORS

AIDS is South Africa's leading cause of adult deaths and projections suggest that increased deaths, fewer births and reduced fertility will slow or even reverse population growth. "The

⁶² David Bloom et al., *THE DEMOGRAPHIC DIVIDEND: A NEW PERSPECTIVE ON THE ECONOMIC CONSEQUENCES OF POPULATION CHANGE* (2002).

⁶³ David Bloom et al., *THE DEMOGRAPHIC DIVIDEND: A NEW PERSPECTIVE ON THE ECONOMIC CONSEQUENCES OF POPULATION CHANGE* (2002).

⁶⁴ United Nations Population Fund, *STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES* 5 (2002).

⁶⁵ David Bloom et al., *THE DEMOGRAPHIC DIVIDEND: A NEW PERSPECTIVE ON THE ECONOMIC CONSEQUENCES OF POPULATION CHANGE* (2002).

⁶⁶ Allen Kelley & Robert M. Schmidt, *Saving, Dependency, and Development* 9(4) *JOURNAL OF POPULATION ECONOMICS*: 365 (1996).

⁶⁷ United Nations Population Fund, *STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES* 16 (2002).

death of young working adults and the increase in widows, widowers and orphans will increase dependency as well as poverty.”⁶⁸

The HIV/AIDS pandemic may close the demographic window before it opens, because the death of young adults stunts the growth of the working-age population. The disease both devastates the present and steals the future.⁶⁹

⁶⁸ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 43 (2002).

⁶⁹ United Nations Population Fund, STATE OF THE WORLD POPULATION 2002: PEOPLE, POVERTY AND POSSIBILITIES 12 (2002).