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Nursing the Economic Miracle Patient Named Kenya

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Abstract

Demographics dividends are derived from management of population characteristics. It is a result of complex components and rationales measurable and non-measurable. The Kenyan economy is an economic miracle. The country's economy has been able to positively respond to almost all the measures incorporated in demographics. Its economic variable relationship is a good case study of the benefits of demographics management as advanced by the UN as countries focus on dependency, productivity, savings investment and social challenges in relation to population characteristics. Analysis of Kenya's demographics variables is carried out using panel data for the period 1960-2020. Results from the analysis show significant resilient in the Kenyan economy with policy injections giving positive results. The study proposes the adoption of a dividend support tool to assist the country to maintain the recorded trajectory away from the contradicting results of most African countries. The findings present new insights that positively support the notion of economic growth derived from population characteristics supported by good governance.

Keywords: demographics dividends, Dependency ratio, Sex ratio, Total fertility rate

INTRODUCTION

The relationship between Demographic Dividends and economic growth has wide adoption in developing nations (Feyrer, 2007). For some countries this relationship seems rational and theoretically sound. Elsewhere this approach appears unfounded and not home grown. For the later, the discussion is based on the notion that economic growth[1] is sum of many other determinants apart from age structure and savings. More importantly, this approach as rudimentary used in most countries, ignores variables such as the employment levels, working hours, a populations propensity to save, corruption effects, taxation levels, sex ratio at birth (SRB), labor market activity and the dividend

[1] Economic growth

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stages of given countries. Moreover, the many other positive consequences of fertility decline on households, state budgets and the environment are not significantly considered.

In Africa, the Concept of Demographic Dividends[2] was adopted in the 1970s. It gained momentum in the early 1990 and 2000s. Its agenda was significant supported by United Nations Fund for Population Activities and the World Bank. During this period its main aim was to promote family planning. The economic idea behind Demographic Dividends was that lower fertility will lead to a lower dependency and in the long run higher economic growth.

Kenya had implemented the controversial economic strategy prescribed by the World Bank. The World Bank had identified individual economic incentives as a recipe for productivity. The strategy prescribe was the government to stimulate economic growth rather than encouraging redistribution of the country's limited wealth. The Kenyan government still registered significant level of economic growth.

The years 1970s gave room for demographic dividends policy makers, economic and population researchers in Kenya to start supporting the notion that economic growth derived from demographic dividend to sustain positive economic transition. As it were then and now, understanding the consequences of population cohorts and how they bulge has become important for Kenya's social, economic, legal and environmental policy decisions. The relationship between population cohort distribution and economic development is still contentious (Birchenall, 2016). The discussions of Malthusians and Boserupians, illustrate that global environmental sustainability evaluations, emergence of below replacement fertility and the emergence of economic powers such as China and Taiwan both support and contradict the relationship.

The country, domesticated the concept in 2013. The Kenya definition was aligned to economic windows[3] and the temporary opportunity to achieve fast socioeconomic development as a result of its manipulation of fertility rates and investment in health, education, economy and governance (Kenya's demographic dividend roadmap 2020-2030). the case of Kenya's demographics dividends were captured by professor Loftie in the 1990s equating the economy to a patient very responsive to economic injections and calling it an economic miracle. Since then, the country's efforts have been supported by

[2] The accelerated economic growth that may result from a decline in a country's mortality and fertility and the subsequent change in the age structure of the population.
Numbers of people younger than 15 and older than 65 divided by numbers of people aged 15–64 years.
[3] The UN nation on its part hypothesis that a country's window of opportunity for accelerated socio-economic growth when the proportion of those aged less than 15years fall below 30% while that of the aged proportion of the total remain less than 10% of the total population (UN,2004).

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agenda 2030, African union agenda 2063, the big four agenda and bottom-up economic transformation agenda (BETA) to gap shortfalls recorded through the years (KDHS, 2022).

Problem Statement

Historically, there have been serious concerns about whether the country would always maintain the strong economic and political trajectory initiated by President Jomo Kenyatta. In the years 1978-2002[4], President Daniel Arap Moi became Kenya's head of state. During his reign, economists in the World Bank and the United States Agency for International Development (USAID) took view that, although Kenya's economic performance was impressive, its economic and political performance were inadequate in harvesting the benefits of its demographics come 2024, the doubt is evident. The Kenyan youth "the generation zee" have taken to the streets expressing frustration about management of resources and the common household's exclusion from the nations eating table.

The aims of this study are to advance the discussion and hypothesis advanced by the UN that management of countries demographics significantly contributed to economic development.

LITERATURE REVIEW

The Concept of Demographic Dividends conceptualized in 1970s was given momentum in 1990 by the United Nations Fund for Population Activities, the World Bank, individual governments and economic think tanks (Garenne, 2023). Theories and hypothesis based on the life cycle by Modigliani (1970) supported the notion with arguments that the elderly were expected to save less than working-age populations.

Romero *et al* (2017) in their paper on the debate on effects of demographics on economic growth found that the demographic transition experienced by developed countries initially produced positive effects on the first demographic dividend. The findings illustrated that the positive effects could be extended into a second demographic dividend with increase of savings. These results were recorded by decomposing demographic dividends using a general equilibrium overlapped generation's model for Spain.

Zhen and Qiang (2020) investigated the role of the SRB in population dynamics. The authors focused on changes in age distribution. Using a simple methodological framework based classical stable population model, they demonstrated that a change in the SRB could affect the size, structure, and growth of a population. Nzimande (2023) study found that South Africa was in the last stage of the first demographic transition

[4] Presidents Jomo Kenyatta (1963-1978): Daniel Moi (1978-2002):Mwai Kibaki (2002-2012):Uhuru Kenyatta (2012-2022):William Ruto(2022-)

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(FDT) but was depicting aspects of the second transition with lower levels of fertility closer to an average of 2.1 children per woman, declining infant and childhood mortality leading to increasing life expectancy at birth. The author illustrated that the expected second demographic transition (SDT) was expected to be driven by Such lifestyle changes of declining marriage rates, increasing attention on human development, and changing family formation patterns. Munir & Shahid (2021), study using the demographic transition theory and annual panel data on the role of demographic factors in economic growth of South Asian countries found that real stock of capital, fertility rate and life expectancy were positively related with economic growth, while an increase in young dependency ratio reduced economic growth in South Asian countries in the long run.

Elke *et al* (2015) compared several types of economic dependency ratios for select countries in Europe. The dependency ratios took into account the differences in age-specific economic behavior alongside the demographic structure of the population. The age- specific economic behavior included labor market activity, income and consumption as well as age-specific public transfers. For selected simulations, it was illustrated that population ageing would lead to a pronounced increase in dependency ratios. The findings further demonstrated that the differences in the data were related to differences in age-specific economic behavior and age composition. The conclusion was that the choice of the dependency ratio to use in a specific policy context could squarely be determined by the nature of the question framed.

Mason, Leer and Jiang (2016) studies subdivided demographic dividends into first dividends and second dividends. The authors characterized the first dividend to be defined by a fertility decline that led to sustained transitory number of workers relative to the number of consumers. On one hand, the first dividends come early but disappear eventually. However, at a later stage of the demographics transition, low fertility was expected to reduce the working population while a higher number of working members experienced gains in life expectancy. This increased the elderly leading to a fall in the support ratio and the first dividends disappearing. The author extended the analysis showing that second dividend were characterized by fertility decline leading to increased productivity per worker as a consequence of increased capital and human inputs. The second dividends were delayed but proved permanent or self-sustaining. The prerequisite condition was that the capital per worker had to be high.

Sanchez-Romeo *et al* (2013) modeled income, support ratio and productivity growth rates based on Bloom and Williamson's (1998)[5] analysis. The authors used

[5] $$\frac{Yt}{Nt} = \frac{Yt}{Lt}\frac{Lt}{Nt}$$

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logarithm and differentiation with respect to time to obtain equation (1) expressed in growth rates. The equation implies that the evolution of income per capita depends on the evolution of both the support ratio and the productivity growth rate.

$$g\left(\frac{Yt}{Nt}\right) = g(SRt) + g(Lt) \qquad (1)$$

Cunning, Raja and Yazbeck (2016) recognizing that Demographic change is a potentially powerful development factor. Operating through multiple channels, they developed a support tool that theorized the different stages that countries went through from pre-dividend to post dividend. The author's recognized that armed with demographic information, a nation could provide an enabling environment (education, health, economics and governance) to register demographics dividends. The authors also provided associated strategic options to kick start and sustain the cycle. The information supported by other authors is captured in table 1.

Table 1 Dividend Support Tool

Stage	Characteristics	Authors
Pre dividend	Sparking the demographic transition Improving human development outcomes to accelerate the fertility decline and create a population age structure with fewer child dependents and a larger working-age share of the population	Canning, Raja, & Yazbeck 2016 Shekar, Yazbeck, Hasan & Bakilana 2016)
Early dividends	Accelerating job creation Creating productive jobs for the growing share of the population in working ages to reap the first demographic dividend	Canning, Raja, & Yazbeck 2016Shekar, Yazbeck, Hasan & Bakilana 2016)
Late dividends	Sustaining productivity growth Creating conditions necessary to reap the second demographic dividend and beginning to prepare for aging	Canning, Raja, & Yazbeck 2016Shekar, Yazbeck, Hasan & Bakilana 2016)
Post dividends	Adapting to aging Maintaining and improving welfare in the context of a	Canning, Raja, & Yazbeck 2016

Where Y_t stands for income, N_t is the total population, and Lt is the working population in each period t. The first term on the right-hand side of this equation is the support ratio (SR, proportion of working population with respect to total population) while the second term reflects productivity (I, income per worker).

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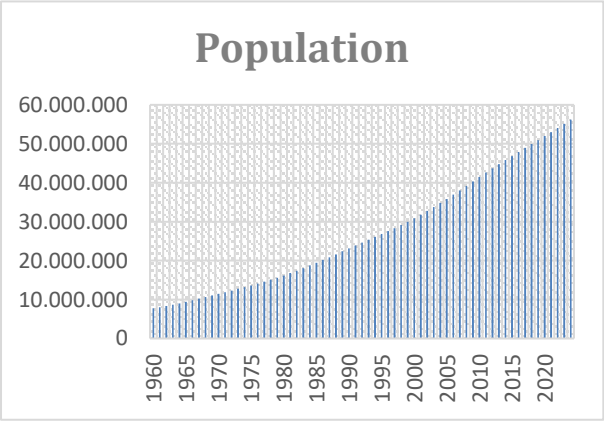
	declining working-age share and a growing old-age share	Shekar, Yazbeck, Hasan & Bakilana 2016)

METHODOLOGY

Population dynamics is a field rich in theory and poor in long-term observational data. However, panel data is available from 1960-2020 and were used to analyse the status of Kenya in relation to the topic.

RESULTS AND DISCUSSIONS

Figure 1: Population Statistics of Kenya, 1960-2020



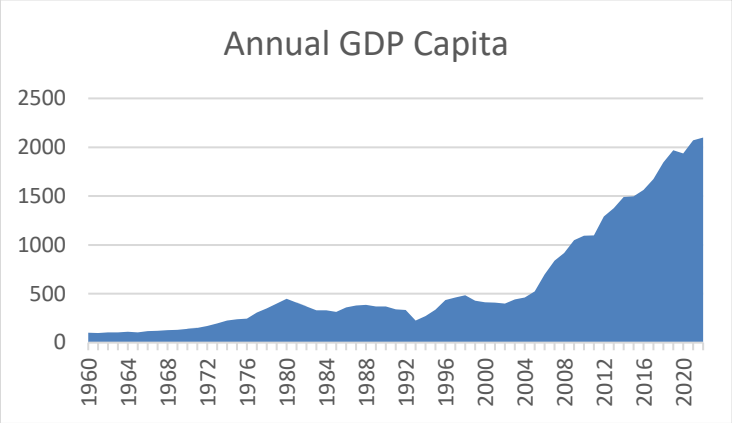
Source: Authors' elaboration using United Nations, Department of Economic and Social Affairs, Population Division (2024). World Population Prospects 2024, Online Edition.

Figure 1 shows the population of Kenya for the period 1960 to 2023. As observed, there increasing trend of demographic explosion. Sustained population growth for Kenya could imply availability of resources to support the increase although this could pointers of challenges of population growth for the country in the provision of public and merit goods. Increase in population numbers by themselves for a country such as Kenya should not worry at all. Other pertinent issues to be attached to the population growth is the quality effects of the population, level of associated GDP per capita, competitiveness of the economic resources, price of export commodities on international markets (oil, gas, minerals, agricultural /other products, foreign private investments, transfers from the migrant community, international public and private aid, and, of course, internal management of the economy.

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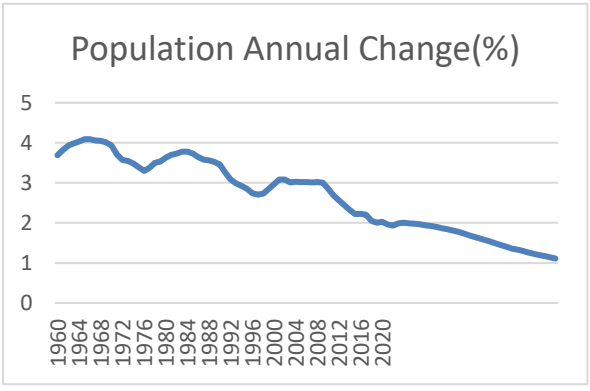
Figure 2: Annual GDP per capita, 1960-2020



Source: Authors' elaboration using United Nations, Department of Economic and Social Affairs, Population Division (2024). World Population Prospects 2024, Online Edition.

As observed from figure 2, annual GDP per capita, has an increasing trend from 1960 to 2023. This trend is however is defined by brief period of oscillations with three valleys between 1979 and 2003**.** The period 2003 to 2020 was characterized by steep growth. The period appears different in behavior of the population trends that were smooth. The explanations could be linked to several factors notably the later period could be associated with spillover of the government management of the economy and economic policy injections of the government. Some studies (Lee, 2003:) find no significant effect of demography on national saving rates and eventually economic growth.

Figure 3: Population of Kenya Annual Growth, 1960-2020



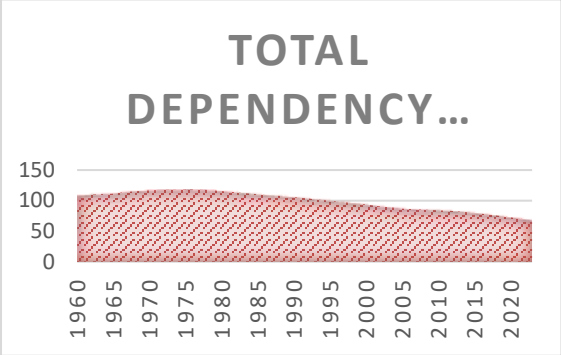
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Over the years since 1960 Kenyan population has been increasing at a decreasing rate. The smoothing of the falling trend line of the annual population change starts 2002 to 2020. Although introduced in Africa in 1960 and family planning programs results registered in 1985, significant benefits were enjoyed in the 2000s. This could be associated with the time lags of injections of intense family planning efforts of 1990s.

Figure 4: Total Dependence Ratio Period 1960-2020



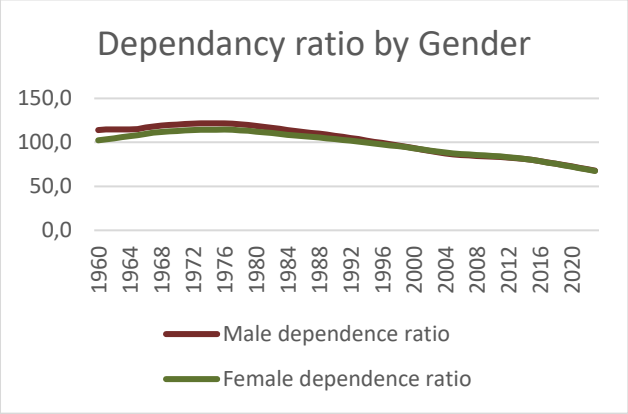
Source: Authors' elaboration using United Nations, Department of Economic and Social Affairs, Population Division (2024). World Population Prospects 2024, Online Edition.

Figure 4, shows that the resultant dependence ratio for Kenya decreased during the period 1960-2023. The increase in GDP values could be associated with high household purchasing power and or saving and investment supported with high productivity capacity of households and firms. The trends totally deviate from the African scenario. During this period dependency ratio increased starting from 1950 to 1985 for sub-Saharan African. Mortality declined. Fertility increased first then decreased after 1985. During the period (2015–2019) both remained high relatively, averaging 0.80. In theory, transitions to lower population growth entail a long period of reduced dependency, in which society benefits from lower spending on children while it has yet to pay for higher old-age dependency. Put differently, even if the rate of population growth towards the United States and other industrial nations is lower than the optimum in terms of consumption per capita. Transition back to the optimal growth rate of population entail a large transitory cost.

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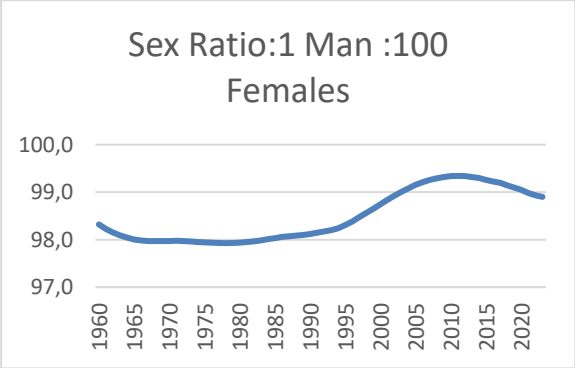
Figure 5: Dependence Ratio by Gender period 1960-2020



Source: Authors' elaboration using United Nations, Department of Economic and Social Affairs, Population Division (2024). World Population Prospects 2024, Online Edition.

Figure 5, shows that Dependence Ratio by Gender for the period 1960-2020.The trends show that male dependence ratio was slightly higher during the periods 1960-1978.The gap decreases starting 1978 till 1996 when they converge.

Figure 6: Sex Ratio 1960-2020



Source: Authors' elaboration using United Nations, Department of Economic and Social Affairs, Population Division (2024). **World Population Prospects 2024, Online Edition.**

A gender-equitable environment is critical to achieving a demographic transition. Chahnazarian (1988) provide that to measure a country biological health, stable a sex ratio at birth (SRB) of 1.05 male births to 1 female birth is considered biologically stable. Figure 6, shows that between 1960 and 1963 the ratio decreased. The sex ratio steadily increased to 1997. From 1997-2011 the country recorded a sharp increase in sex ratio.

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The period 2011 to 2020 was characterized by a declining trend. Guilmoto argues that a rise in the SRB will lead to an addition of male infants within the population. The male population is relatively subject to a higher mortality rate[6]. Thus, more deaths of the new, young cohorts are anticipated. Moreover, a higher proportion of male births implies fewer female births, and therefore fewer women to give birth in the future. The pursue of sex ratio and fertility rates are tricky: for instance only few African countries achieved a total fertility rate (TFR) of below 2.6 over this period, a threshold considered by UNFPA as necessary for benefiting from a favorable dependency ratio. In addition, in light of the mounting concern regarding the rapid rise in the SRB, governments of various countries are encouraged to introduce national programs to address gender inequality and sex selection at birth, lowering abnormally high sex ratios (Guilmoto 2012).

CONCLUSIONS

The impact of the demographic dividend on economic growth appears illusory. Economic growth responds primarily to other rationales. The components of economic growth are complex, since they involve not only aggregate savings but also other measurable and non-measurable components, in order to prove or measure an effect of the demographic dividend countries should take into account all the factors of economic growth, which is difficult to do. The basic measures with their deficiencies are still reliable indicators. The Kenyan economy has been able to positively respond to almost all the measures of demographics discussed. The effects demographics transitions are evident and what remains is good governance to avoid imminent turbulence.

REFERENCES.

Birchnall,J (2016)"Population and development redux"journal of population economics,29(2),627-656.

Bloom & Williamson's (1998) The world ban k economic review, 12, (3):419-5

Canning, D,Sangeeta R, & Yazbeck, A. S.(2016). Africa's Demographic Transition: Dividend or Disaster? World Bank Publications, (eds.) 214

Chahnazarian, A. (1988). Determinants of the sex ratio at birth: Review of recent literature. Social Biology 35(3–4): 214–235.

Chao, F., Gerland, P., Cook, A.R., & Alkema, L. (2019). Systematic assessment of the sex ratio at birth for all countries and estimation of national imbalances and regional reference levels. Proceedings of the National Academy of Sciences 116(19): 9303–9311.

[6] Mortality rates

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De Boer, A & Hudson, V (2017) Patrilineality, Son Preference, and Sex Selection in South Korea and Vietnam. Population and Development Review, 43 (1).119-147.

Feyrer, J. (2007). Demographics and productivity. The Review of Economics and Statistics 89(1): 100–109.

Garenne, M. (2023) Where Are the Demographic Dividends in Sub-Saharan Africa? World, 4, 612–623.

Guengant, J.P. (2012). How Can We Capitalize on the Demographic Dividend? (Paris: Agence Francaise de Developpement).

Guilmoto, C.Z. (2012). Skewed sex ratios at birth and future marriage squeeze in China and India, 2005–2100. Demography. 49(1): 77–100.

Human Development Report 2004.

Kenya Demographic and Health Survey 2022 (KDHS 2022)

Lee, R (2003) "The Demographic Transition: Three Centuries of Fundamental Change," *Journal of Economic Perspectives:* 17(4),167-190.

Li,Q (2007) Population aging caused by a rise in the sex ratio at birth Demographic Research: 43,(32)969.

Liu, Kaiyuan & Chen, Lansun. (2008). On a Periodic Time-Dependent Model of Population Dynamics with Stage Structure and Impulsive Effects. Discrete Dynamics in Nature and Society.

Lofchie, M. F. (1990), Kenya: Still an Economic Miracle? History, 89, (547), 209-212

Loichinger, E, Hammer, B, Prskawetz, Alexia, Freiberger,M, &Sambt ,J (2015)Quantifying Economic Dependency Springer Science Business Media Dordrecht .

Mason, A., et al (2016). Ageing and the changing nature of intergenerational flows: policy challenges and responses. NTA Working Papers. 16-05.

Mester, L. J. (2017). "Demographics and Their Implications for the Economy and Policy." Speech, Cato Institute's 35th Annual Monetary Conference: The Future of Monetary Policy - Washington, DC.

Modigliani, F, (1970), "The life-cycle hypothesis and intercountry differences in the saving ratio," in W. A. Eltis, M. FG. Scott, and J. N. Wolfe, eds., Induction, growth, and trade: essays in honour of Sir Roy Harrod, Oxford. Oxford University Press. 197–225.

Munir, K. and Shahid, F.S.U. (2021), "Role of demographic factors in economic growth of South Asian countries", Journal of Economic Studies, Vol. 48 No. 3, pp. 557-570

NCPD (2020), Kenya's demographic dividend roadmap (2020-2030). Nairobi: NCPD.

Nzimande, N. (2023), "Demographic Dynamics of South Africa's Youth and the Implications for Harnessing the Demographic Dividend", Maja, B. and Ngcaweni, B. (Ed.) Youth Development in South Africa: Harnessing the Demographic Dividend (Diverse

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Perspectives on Creating a Fairer Society), Emerald Publishing Limited, Leeds, 11-26

Ogundari, K. & Awokuse, T. (2018), "Human capital contribution to economic growth in Sub-Saharan Africa: Does health status matter more than education". Economic Analysis and Policy, 131-140

Patxot, A & Souto, R (2017). The welfare state and demographic dividends. Demographic, 36 , 1453-1490

Rhonda S. et al., (2009) Family Planning Saves Lives, 4th ed. Washington, DC: Population Reference Bureau,

Rocca, C. & Schultes, I. (2020), Africa's youth: Action needed now to support the continent's greatest asset. London: Mo Ibrahim Foundation.

Sanchez-Romeo,M et al (2017) The welfare state and demographic dividends. Demographic Research: 36(48).

Schultz. T. P (2003) “Returns to Women’s Schooling,” in Women’s Education in Developing Countries: Barriers, Benefits and Policy, ed. Elizabeth King and M. Anne Hill (Baltimore: Johns Hopkins University Press,).

Singh, S & Darroch, J (2012) Adding It Up: Costs and Benefits of Contraceptive Services, Estimates for 2012 (New York: Guttmacher Institute,)

Spijker J & MacInnes, J (2013) Population Ageing: The time bomb that isn't? BMJ: British Medical Journal, 16(347)7933, 20-22

United Nations. (2015). Integrating population issues into sustainable development, including the post-2015 development agenda. In Economic and Social Affairs: A Concise Report. New York: UN.

Wang, Y., Tian, H. and Xu, Y. (2023), "Labour protection, social security contributions and corporate innovation: evidence from China", International Journal of Manpower, 44 (8), 1571-1586

Zhen Z & Qiang L (2020) Population aging caused by a rise in the sex ratio at birth, Demographic Research, 43 (7 - 12)969-992

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