Original Research Article

Unemployment and Human Capital Loss in Nigeria

ABSTRACT

The paper compares trends in unemployment and human capital loss over a life-cycle period. Brain drain, infant mortality rate and out of school children are used as proxies for human capital loss, and their trend relationships with unemployment rate were analyzed between the period 1999–2019. The study adopted descriptive method of analysis. Findings showed that unemployment exacerbates brain drain, infant mortality rate and out of school children over a life time period. The author however recommends the development of tertiary education, and most especially vocational education in order to contribute to job creation and reduce the negative effect of unemployment. Also, implementation of requisite health policies and programmes that will reduce infant mortality rate will also reduce human capital loss in Nigeria.

Key words: Human Capital Loss, Unemployment, Brain Drain, Infant Mortality Rate.

JEL Codes: J24, J64, J61, I0

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1. Introduction

One of the major challenges developing nations face is that of unemployment and human capital loss. Each of these challenges comes with a plethora of vicissitudes and thus stifling development efforts. Ifere, Eko and Orlu (2017) for instance, link unemployment to conflicts and violent crimes in Nigeria, especially in the resource rich Niger-Delta region of the country. Accordingly, failure of government to evolve practicable policies to absorb the ever-growing work force has rather strengthened the armed militia (e.g. Boko Haram) and further manifesting in the form of insecurity and economic losses.

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The World Development Index (2018) further shows that increases in growth rates of unemployment further exacerbates human capital loss. Human capital loss could manifest in form of brain drain, school dropout and/or poor enrollment rates in primary, secondary and tertiary institutions. All of these exert untold hardship to victims, who rather than live in a country where basic survival is dicey, fall prey to slightest opportunities to explore greener pastures abroad. Joseph (2018) in Ilemona (2018) highlights that brain drain accelerates the 'international transfer of resources in the form of human capital and mainly applies to the migration of relatively highly educated individuals from developing to developed countries.' Thus, part of the reason developing nations are trapped in a web of underdevelopment is that the best brains travel to take advantage of better work opportunities abroad while those who do not have opportunity to travel grapple with gruesome economic hardship and become less productive.

Unemployment also stifles development through poor rates of literacy. This pass-through effect cannot be underestimated. World over, countries associated with higher literacy rates have often achieved higher development, better leadership and a higher quality of life. On the other turn, low literacy rate has been associated with poor economic performance and underdevelopment. Ever wondered why it is South Korea and not North Korea that produces the popular Samsung and automobile (Hyndai) brands? Well, a snapshot of these stylized facts might suffice. According to the Index Mundi (2018), North Korea unemployment rate towers at 25.6 per cent (2013 est.) and far higher than that of their sister South Korea, which stood at 3.1 per cent (2013 est.). This is not unconnected to differences in levels of literacy rates in these countries (Acemoglu & Robinson, 2012). Conversely, economic growth rates and quality of life further explain this disparity. While North is growing at -1.1 per cent (2013 est.), South grew at 2.8 per cent (2013 est.) (Index Mundi, 2018).

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Several findings in the empirical literature indicate that long-term unemployment may lead to a loss of human capital (Bagliano, Fugazza & Nicodano, 2019). Thus long term unemployment has the tendency to bring about human capital shortage over a life time period. Very importantly, it should be known that besides exacerbating human capital loss, unemployment further widens the mismatch between vacancies and skill-set in a self-reinforcing manner (Joachim, 1989).

Recent studies especially by Bagliano *et al.* (2019) have made very significant feats in modelling the life cycle of human capital investment and the expected discounted utility of consumption, however, this study will compare trends in unemployment and human capital loss in Nigeria using brain drain, mortality rate and children out of school as indicators of human capital loss. Much of these discussions will ensue in the following subsections of the paper.

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2. Literature Review

2.1. The human capital theory

The theory of human capital have been attributed to the works of Schultz (1871), Sakamota and Powers (1995) and Psacharopoulos and Woodhall (1997). The theory presupposes that formal education is key to improving the productive capacity of a people. This can be interpreted to imply that a more educated population is a more productive and prosperous population and can contribute even more to national economic growth and development.

Olaniyan and Okemakinde (2008) clearly highlight that the economic prosperity and functioning of a nation depends primarily on its physical and human capital stock. Although physical capital development has formed the focus of economic study, attention has now been shifted to human capital. The authors further explain, 'Human capital theory emphasizes how education increases the productivity and efficiency of workers by increasing the level of cognitive stock of economically productive human capability which is a product of innate abilities and investment in human beings. Thus, provision of formal education is seen as a productive investment in human capital, which proponents of the theory have considered as equally or even more equally worthwhile than that of physical capital'. The human capital theory therefore underpins this study.

2.2. Empirical literature

Moller (1989) investigated the deterioration of human capital during spells of unemployment. In his model, the probability of leaving the unemployment pool decreases with the duration of unemployment. It can be shown that with a linear deterioration function and a simple distribution function for the reservation productivity of firms, unemployment duration is suitably described by a distribution of the Gompertz-Makeham type. In a numerical simulation it could be demonstrated that deterioration of human capital during unemployment affects the relation between vacancies and unemployment in a specific way: in the case of labour market slackness the steady-state Beveridge curve markedly bends away from the standard u-v-curve in an outward direction while in an almost full employment situation, the effects are negligible. For higher deterioration parameters the beveridge curve may even be upward sloping in a situation of excess supply on the labour market implying the existence of multiple equilibria. Empirical estimation of the distribution function with German labour market data 1984-1987 revealed that the multiple equilibrium case is likely to be relevant in reality.

Olaniyan and Okemakinde (2008) studied human capital theory and its implication for educational development. The authors asserted that, the belief that education is an engine of growth rests on the quality and quantity of education itself in a particular country. The study demonstrated that formal education attainment is *sin qua non* to improving a country's productive capacity. Empirical evidences of human capital model were identified and findings showed that investment in education contributes significantly to human capital development *cum* economic growth and development.

Potrafke (2012) investigated how unemployment-induced employment-breaks at different career stages influence pension benefits. The analysis is based on German data. The author distinguishes four different career phases and investigated the extent to which the prevailing social security policy compensated for earning losses. The results revealed that losses in pension benefits were the greatest, if unemployment occurred in the middle of a career (between 31 and 50). Moreover, social security policies have had a mitigating effect on losses in pension benefits. These findings indicate that institutions have influence on how career patterns translate into pension benefits.

In their study of unemployment and human capital, Alvarez and Shimer (2009) found that the average wage is a poor indicator of the quality of an industry. Indeed, positive productivity shocks may lower the average wage by inducing an inflow of unskilled workers. Instead, the ratio of unskilled-to-skilled workers or the skill premium may be a better indicator. Likewise, an industry in a good state may tend to shrink over time; As unskilled workers accumulate skills, they reduce ω, which lowers the unskilled-to-skilled ratio, possibly inducing some of the remaining unskilled workers to exit the industry. On the other hand, high ω industries are most likely to grow rapidly as positive productivity shocks induce a large inflow of unskilled workers.

However, Bagliano, Fugazza and Nicodano (2019) captured the theme more comprehensively. They submit that The recent Great Recession highlighted that long-term unemployment spells may entail persistent losses in workers' human capital. Their paper extended the life-cycle model

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of savings and portfolio choice with unemployment risk, by allowing the possibility of permanent reductions in expected earnings following long-term unemployment. The optimal risky portfolio share becomes flat in age due to the resolution of uncertainty about future returns to human capital that occurs as the worker ages. This may help explaining the observed relatively flat, or only moderately increasing, risky shares of investors during working life, and have important consequences for the design of optimal life-cycle portfolios by investment funds.

Empirical studies suggest that employment-breaks cause income losses in Germany. Licht (1992) use data from the German Socio-Economic Panel (GSOEP) in the period 1984-1989 and find persistent losses in income directly after an employment-break, as well as an indirect effect due to the lack of human capital accumulation. Income increases, however, after reemployment (restoration effect), which somewhat compensates for the aforementioned negative effects. Using a dataset from the German social security system (IAB employment sample), Beblo and Wolf (2002) examined the wage effects of different types of career interruptions. The results suggest that for both men and women, early job experience contribute less to current income than recent experiences gained from employment.

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3. Methodology

The study adopts a descriptive approach to data presentation and analysis. To this end, data is presented in tables, percentages and charts, in order to do trend analyses. More so, the scope of the study covers the two decades of democratic dispensation in the country (specifically from 1999 through 2019). The author considers the period in order to assess influence of unemployment on human capital loss using indicators to wit: brain drain, children out of school and mortality rate. Howbeit, data for the study was sourced from the (Federal Reserve Economic Database [FRED] 2021), Index Mundi (2021), and World Development Indicators (2021).

4. Results and Discussion

Data analysis is carried out on unemployment rate and different proxies of human capital loss. First, we compare and analyze unemployment rate with infant mortality rate (per 1,000 live births) as presented below;

Table 1. Unemployment and infant mortality rate (per 1,000 live births)

Year	Unemployment rate	Mortality rate, infant (per 1,000 live births)
1999	9.1	114.5
2000	8.9	111.6
2001	9.1	108.6
2002	9.2	105.6
2003	9.2	102.5
2004	9.0	99.4
2005	9.0	96.28
2006	8.8	93
2007	8.5	89.9
2008	8.6	86.8
2009	9.5	83.9

2010	9.7	81
2011	9.7	78.3
2012	9.8	75.7
2013	9.8	73.3
2014	12.6	71
2015	16.3	68.7
2016	20.7	66.68
2017	19.9	64.6
2018	22.6	75.7
2019	21.3	74.2

Source: Federal Reserve Economic Data (FRED), 2021; World Development Indicators, 2021

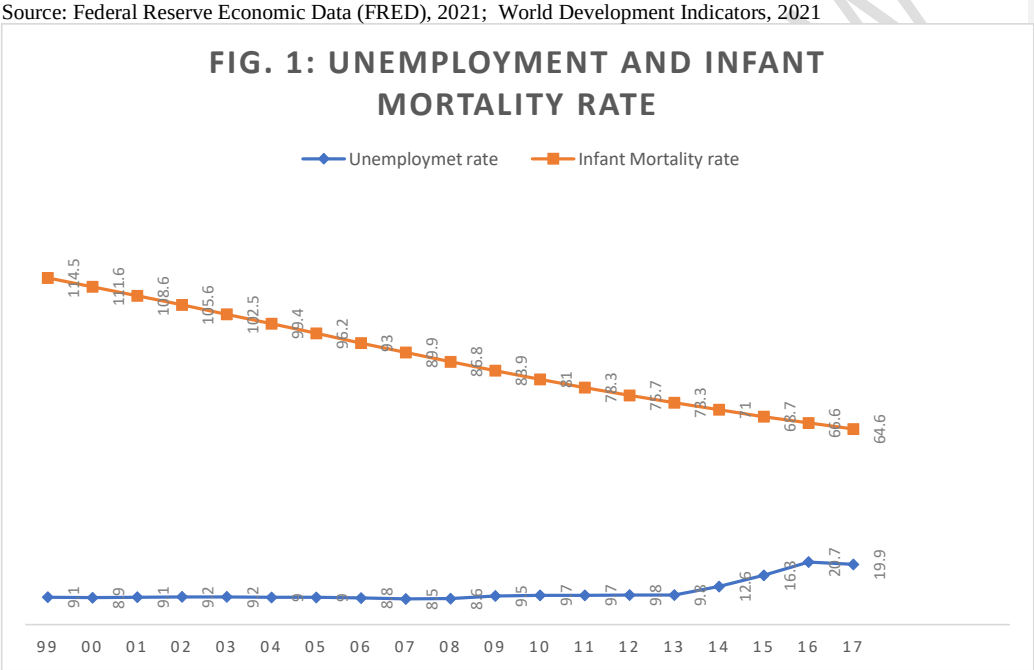

Table 1 and Fig. 1 above show the relationship between unemployment and the first proxy of human capital loss – infant mortality rate. The infographics affirm the fact that unemployment and infant mortality rate move in a similar direction. In 1999 for instance, unemployment stood at 9.1 per cent while infant mortality for every 1,000 live births stood at 114.5 per cent. A marginal decline to 8.9 per cent in unemployment in the following year also led to a decline in infant mortality rate to 111.6 per cent. Five years later, a slight increase in unemployment to 9 per cent also led to an increase in infant mortality rate to 96.2 per cent. The trend has been the same even for the preceding years except for the years 2009, 2011 through 2017.

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Table 2.Unemployment and Net Migration

Year	Unemployment rate	Net migration
1999	9.1	_
2000	8.9	_
2001	9.1	_
2002	9.2	-170000
2003	9.2	_
2004	9.0	_
2005	9.0	_
2006	8.8	_
2007	8.5	-300000
2008	8.6	_
2009	9.5	_
2010	9.7	_
2011	9.7	_
2012	9.8	-300000
2013	9.8	_
2014	12.6	_
2015	16.3	_
2016	20.7	_
2017	19.9	-300000
2018	22.6	_
2019	21.3	_

Source: Federal Reserve Economic Data (FRED), 2019; World Development Indicators, 2019

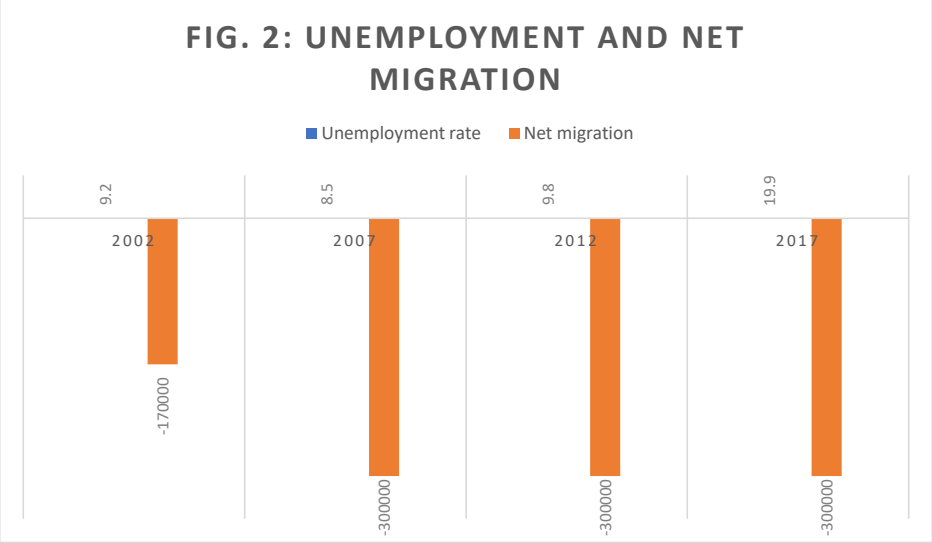

Table 2, Fig. 2 also compares trends in unemployment and another proxy of human capital loss - net migration. Net migration is the difference between immigrants and emigrants in a country. A

positive value connotes the country had more immigrants whereas a negative value shows the country has more emigrants (World Bank, 2018). This index has been adopted in this study to capture brain drain which is one of the manifestations of human capital loss in developing countries. Conversely, the paucity of data characteristic of a developing country such as Nigeria will limit the extent of analysis of the relationship between these two variables as evident in the Table 2. Conversely, the infographics above affirm the fact that citizens become vulnerable to brain drain in a country characterized by unemployment persistence, although, beyond 2007, net migration has been constant at -300,000.

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Comment [A30]: You need to expatiate properly on unemployment and net migration. Most people with good and well paid jobs usually resign, and travelled out of their various countries for greener pastures and not necessary because of unemployment.

Therefore, make your reader understand what you are trying to pass across.

Table 3, Fig. 3 overleaf compares trends in unemployment and tertiary enrollment rate, another proxy for measuring human capital. Obviously, the data for tertiary enrolment is sparse as reported in Table 3 above. Howbeit, available data suggests that unemployment persistence barely reduces tertiary enrollment rate in Nigeria. This is attributed to the fact that individuals constantly seek opportunities to improve on their skill-set either via formal or informal education, given the scarcity of jobs and the competitive nature of the labour market.

Table 3.Unemployment and Tertiary Enrollment

Year	Unemployment rate	Tertiary Enrollment
1999	9.1	6.1
2000	8.9	_
2001	9.1	_
2002	9.2	_
2003	9.2	9.7
2004	9.0	9.9
2005	9.0	10.5
2006	8.8	_
2007	8.5	_
2008	8.6	_
2009	9.5	_
2010	9.7	9.6
2011	9.7	10.2
2012	9.8	_
2013	9.8	_
2014	12.6	_
2015	16.3	_
2016	20.7	_
2017	19.9	_

Source: Federal Reserve Economic Data (FRED), 2021; World Bank 2021

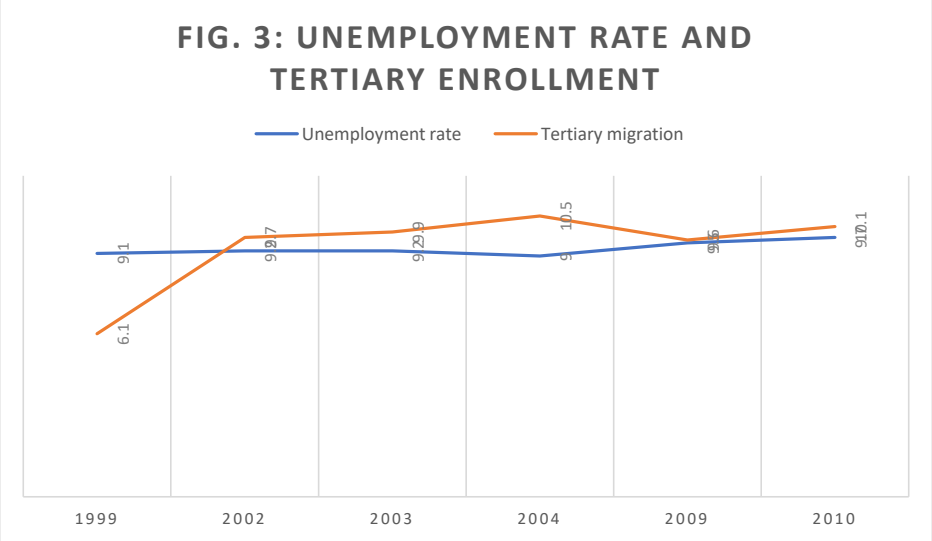
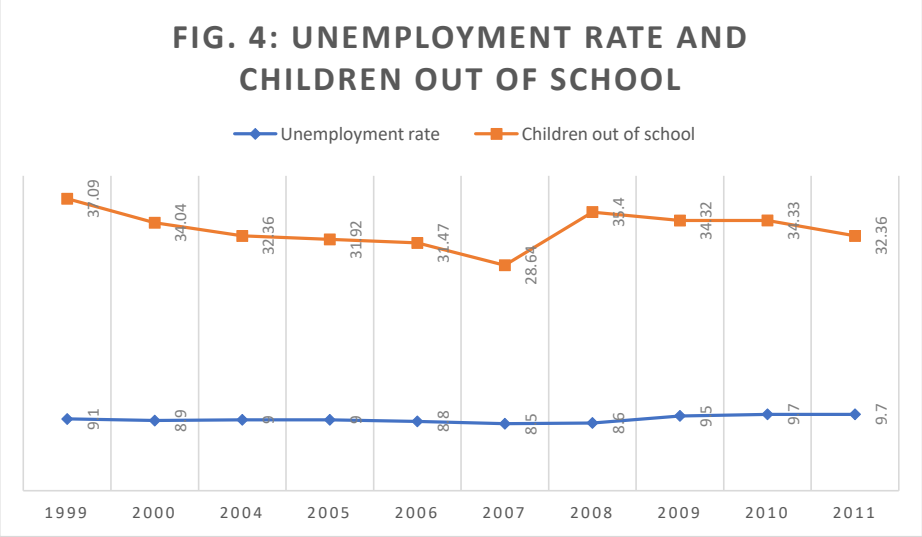


Table 4.Unemployment and Children out of School

Year	Unemployment rate	Children out of School
1999	9.1	37.09
2000	8.9	34.04
2001	9.1	–
2002	9.2	–
2003	9.2	–
2004	9.0	32.36
2005	9.0	31.92
2006	8.8	31.47
2007	8.5	28.64
2008	8.6	35.40
2009	9.5	34.32
2010	9.7	34.33
2011	9.7	32.36

Source: Federal Reserve Economic Data (FRED, 2021); Index Mundi (2021)



Lastly, unemployment and children out of school was presented in Table 4, Fig. 4 above. The infographics showed the same trend and pattern for both variables from 1999 - 2000, 2006 – 2007 and 2010. The few exceptions between 2004 – 2005, 2008 – 2009, and 2011 can be attributed to compulsory and free education programmes in some states of the federation.

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4. Conclusion

The study compared trends in unemployment and human capital loss (proxied by brain drain, mortality rate, and children out of school). Data spanning the period 1999 to 2019 was used for trend analysis. To achieve the objectives, line graphs were used to compare trends in the variables. Data was also presented in tables and percentages to support the line graphs. It is found that unemployment exacerbates loss of human capital in Nigeria. The effect of unemployment is felt more on brain drain (net migration) and mortality rates of infants. The economic losses associated with brain drain, infant mortality, and out of school children remain unquantifiable and accounts for part of the underdevelopment in poor countries of the world.

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You need to make your reader understand other causes of brain drain such as political instability, poor quality of life, limited access to health care and a shortage of economic opportunity which prompt skilled and talented workers to leave their countries for places that offer better opportunities.
Don't just mention net migration. Most unemployed don't leave their countries just like that.

Arising from the findings from this study, the following recommendations are proffered;

I. Poor countries yearning for development should prioritize circular education as well as vocational education in primary and secondary schools. This will equip early school leavers with requisite skill-set for self-employment and self-reliance. Most of the people who receive vocational education might turn out to become job creators. More so, government should seek to achieve 25 per cent budgetary allocation in the education sector as directed by United Nations Educational, Scientific and Cultural Organisation (UNESCO).

II. Government of Nigeria should put measures in place to checkmate brain drain either by creating enabling environment that promotes innovation, self-actualization, and reward for hard work. The cost of doing this cannot be compared with the losses associated with brain drain.

III. More so, governments of Nigeria should seek to evolve better health policies and improve on health expenditure in order to bring infant mortality to the zeroes.

IV. Finally, the government of Nigeria should review social security programmes at periodic intervals in order to improve quality of life of its citizenry.

REDERENCES

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