

Turnitin Report

by An. Dr. Rosyadi dkk

Submission date: 21-Aug-2023 03:50PM (UTC+0900)

Submission ID: 1970116215

File name: Template_Etikonomi_ENG.pdf (715.38K)

Word count: 9185

Character count: 50445

“Demographic Winter”: Does it Have an Impact on Indonesia? Population Economic Records

Rosyadi Rosyadi¹, Tri Cicik Wijayanti², Jiuhardi Jiuhardi^{3*}

¹Faculty of Economics and Business, Tanjungpura University, Pontianak, Indonesia

²Faculty of Economics and Business, Gajayana University, Malang, Indonesia

³Faculty of Economics and Business, Mulawarman University, Samarinda, Indonesia

Email: ¹rosyadi@ekonomi.untan.ac.id, ²tricicik@unigamalang.ac.id, ³jiuhardi@feb.unmul.ac.id

*Corresponding Author

JEL Classification:

C12
C22
J10
J21
J31

Received:

Revised:

Accepted:

Abstract

The originality of this paper focuses on existing material and has implications for uncovering the barriers to population growth in Indonesia, which are associated with economic components such as employment, wages, and happiness. On this basis, the orientation of this study is centered on cycles in the "demographic winter" from Indonesia. Short-term data for 2016–2021 is applied. Data tabulation technique via multiple regression. In its actualization, population composition has a positive effect on the aging population, the aging population has a positive effect on the young workforce, and the young workforce has an effect on wages. Another direct effect found a positive effect between fertility on married and birth productivity. From other moments, it is evident that being married has a positive effect on birth productivity, and life expectancy and birth productivity have a positive effect on happiness. In theoretical construction, the findings suggest further identification beyond the existing premise. By including other non-economic factors such as health, migration, mortality, and education, the research in the next edition is growing.

Keywords: prosperity; demographics; workforce; happiness

INTRODUCTION

In 2030, demographic patterns will experience new colors that cannot be separated from academic discussions and debates. Worldometers (2023) and CEOWORLD magazine (2023) report that China has the highest population in the world in 2020. In fact, 1,439,323,776 people live in China. This number accounts for 18.47% of the global population. With the average growth of China's population of 1.003%, it is believed that it will continue to decrease. At the same moment, even though the population structure in India is still below that of China, where 1,380,004,385 people depend on the nation for their lives, the average growth of India's population (1.010%) far exceeds expectations or above is China's growth. This anomaly far exceeded expectations. Moreover, India contributes to 17.7% of the world's population. Surprisingly, the two websites also inform that for 2030 and 2050, the global population's habitat will experience a spectacular transition. For illustration, India's population explosion in 2030 is 1,503,642,322 and in 2050 is 1,639,176,033, while the population change from China for the

periods 2030 and 2050, is calculated to be 1,503,642,322 and 1,639,176,033. Automatically, the population volume in China is projected to continue to decline. In terms of quantity, the population in India is superior to that of China. Although contradictory, India's overpopulation can be harnessed to enter the competitive job market. Another reality is reflected by the birth rate of 2.2 babies per household in India, which also stands out from China, which is speculated to have a birth rate of 1.7 babies in 2022.

For the case of developing markets with middle to lower affluence, take the example of the top 10 world populations: Indonesia (1.01%), Pakistan (1.019%), Brazil (1.006%), Bangladesh (1.009%), and Mexico (1.01%), population growth has slowed down a bit. Only in Nigeria did growth experience a drastic increase of up to 1.025%. Interestingly, this is also followed by the United States (1.005%) and Russia (0.999%). In fact, as a country with a more advanced market share, the population growth of both countries has been detected to be declining.

Figure 1. Big 6 Population in Indonesia: 2016–2021, thousand

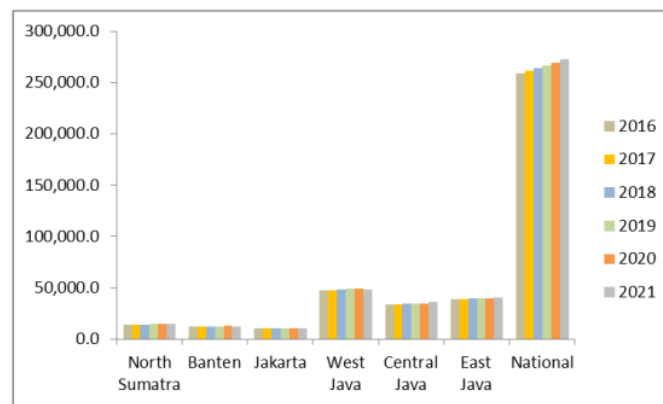


Figure 1 reflects the top 6 areas/provinces with the highest population capacity in Indonesia, including: North Sumatra, Banten, Jakarta, West Java, Central Java, and East Java (BPS-Statistics Indonesia, 2022). Throughout the past six years, the national population growth trend has been positive (1.07%). For domestic growth, the diagram above shows density, which is crucial. With an average population volume of 265,535.2 thousand, this has led to a slowdown in births and a shortage of labor resources. From year to year (y-o-y), especially from 2020 to 2021, the most striking performance is 1.11%. This condition was triggered by the transmission of the 2019 Coronavirus, which weakened human health, including the consequences for death (Fitriadi et al., 2022). Implicitly, the highest number and percentage of population referring to rankings is West Java: 48,522.5 thousand (18.28%), East Java: 39,738.4 (14.97%), Central Java: 34,749.1 thousand (13.09%), North Sumatra: 14,549.2 thousand (5.48%), Banten: 12,450.7 thousand (4.69%), and the Indonesian government center/Jakarta: 10,455.3 thousand (3.94%). Since the COVID-19 era ended and returned to normal, the demographic situation in Banten has actually lost 833.8 thousand people, or a reduction of 6.47% from 2020 to 2021. Related to demographic turmoil in various parts of the world, it has caused uncertainty in the human ecosystem (Myers et al., 2013; Spernovasilis et al., 2021).

The emergence of a new issue called "demographic winter" is relevant to highlight. A decade ago, the world was distorted by the topic of "overpopulation" (Baus, 2017; Jiuhardi et al., 2022; Pimentel, 2012; Van Bavel, 2013). We are aware of the demographic explosion, which is feared to disrupt the food supply and are faced with two options: death from hunger or death from satiety. Trimble (2013) defines that gender sexuality in natural families as experiencing a depopulation crisis. In essence, women's reproduction finds problems that can save generations in the urgency of individual marriage decisions and childbearing.

Furthermore, demographic winter is in contrast to the demographic trap, where in general the demographic trap is more towards developing nations with high birth rates, while demographic winter has entered developed countries such as in several European Unions, especially in Poland, Spain, Austria, Italy, and Germany (Dumont, 2019). In essence, this phenomenon was initiated by infrequently heard crying babies, shifts in culture and traditions, and the reduction of young workers. The demographic winter view of population conflict instead takes practical solutions that don't think about the future through arguments about giving birth and caring for babies, which will take time. In addition, productive workers need to take care of themselves, support their families, and adjust to the work environment. They assume that the high burden on the household, the increase in the cost of giving birth and education for caring for children can threaten their position or cause them to lose their job. Although the government currently distributes subsidies for childbirth, health, education, and other social security costs, the majority of skilled workers there are more selective in terms of marriage.

The literature that examines changes in human mobility in developing countries is discussed. Lawrence et al. (2013) argue that work professionalism enlivens economic cycles. As samples in Iran, Georgia, USA, Pakistan, and the National Longitudinal Survey of the Labor Market Experience (NLSY) show, the dilemma is between choosing to postpone marriage to pursue a career, marry early, or commit to marrying someone who has the opportunity to have children (Gould, 2008; Ghazal et al., 2022; Lundberg et al., 2016; McClendon et al., 2014; Montazeri et al., 2016; Rukhadze, 2018). Normally, marital status is, in most cases, understood as the essence of forming a new generation. On the other hand, there are also marriage motives that dedicate to lead to happiness without the need to determine, program, and plan offspring. From a certain perspective, there are also those who set aside the level of marriage for reasons of wasting time or just getting to know a partner without ties and deliberately not having children. In the pockets of the middle class, this concept is quite popular and is believed to exist amidst the tendency toward prosperity. However, demographic winter elsewhere can hinder the respect, comfort, dignity, and continuity of households and household groups. As a comparison, if it is articulated in Indonesia, young talents whose marriages are late, will be contrary to religion, considered selfish, and contrary to society's point of view. In both the female and male genders, although postponing marriage can improve education, business networks, relationship connections, and personal time flexibility, it is also detrimental to mental health at peak age and vulnerable to HIV transmission (Gündoğdu, & Bulut, 2022).

Marriage or cohabitation is a holistic behavior that does not interfere with the rights of every human being. In other corridors, individuals are moving to demand autonomous freedom. Conversely, the more this is treated without synergistic participation, the more human adaptation can be eliminated. A universal reflection to stimulate population issues, especially avoiding a narrow mindset that threatens population extinction. Besides, nominal wages depend on the labor force, where worker productivity will determine the birth rate. With an optimal fertility

rate, the life expectancy of the workers is also high. Logically, if population aging occurs, it will have implications for the fertility rate of workers of a certain age, so that low birth productivity and life expectancy actually reduce happiness. Apart from per capita income, education, family harmony, assets and home environment, and security, the dimensions of human happiness that are also important are health, availability of free time, work, and social interaction. In the four pillars, they are integrated with each other, relying on resource competence, peace of life, and conducive human relations.

In Cape Coast–Ghana, Amegayibor (2021) diagnoses that the performance of manufacturing companies is determined by the demographic factors of their employees, including educational level, age group, years of service, and experience. Trimble (2013) demonstrates that depopulation is considered a practical solution for "natural families" in European civilization networks. With a permanent social security system, new polemics are found, especially in fear of sexual, economic, racial, and moral chaos. Mino & Sasaki (2023) dissect the long-term consequences of population decline in Japan. With dwindling human resources, consumption and per capita income will stop at some point. Also, high-income countries, such as the USA, Jones (2022) illustrates that there is a constant population, which is reflected in the fertility rate of women, which grows stagnant, so the standard of living is not allocated optimally; it can even disappear as the world population slows down. This reason underlies Mehrolhassani et al. (2019) criticism of the decreasing rate of population growth in Iran. In the form of general fertility that has been disrupted since the last decade, Iran's population balance is classified as "small" as a result of modernization changes whose behavior does not match the gap between generations, including uneven urbanization, unemployment and weak economic participation, the age of marriage, marital pressure, uncontrolled abortion, family formation, and perceptions of the value of life. Since the last century, the USA has experienced the sharpest decline in life expectancy (Tanne, 2023). In reversing the decline in life expectancy, this cannot be separated from strengthening health insights towards disease control (Lichtenberg, 2022). Heuveline (2022) considers that the novel Corona virus disease of 2019 is an unintended consequence of human civilization and actually adds a new death rate for middle-to upper-income earners. Basically, the discussion about anomalies in demography in some cases raises the concerns of many parties (e.g., Bradshaw & Brook, 2014; Sadigov, 2022). Initially, in the midst of a period of war, the population was beset by the uncertainty of survival. The high death rate due to poverty, hunger, and inadequate access to health care has led to the exponential urbanization of an area. With the availability of transportation routes, water sources, soil fertility, a suitable climate, and topography with abundant nature, it is possible for migrants to settle in new areas. Along with the shift to increasingly sophisticated times, there was a population explosion. Rapid growth with limited residential space, causing an uneven population density. At the same time, many programs are designed to limit the birth rate. Besides that, lifestyle shifts have changed human character, including the age requirement for marriage. One factor determining economic welfare is the type of work. Not all jobs absorb labor or can provide sufficient wages. With high living needs, workers think twice about getting married. As a result, the productive age for building a household is missed. Some workers choose to develop their careers and spend time at work. Finally, the opportunity to have offspring was also ignored. The slowing global population cannot be separated from humanity, which is very dependent on limited resources. Wasteful consumption (e.g., energy scale) by depleting nature triggers

disparities in birth rates. At their peak, low-income countries have high birth rates, while low-income countries have low birth rates (Peek, 2022).

The novelty of this research lies in the theme raised around the systematic link between demographic aspects and economic prosperity. Also, this is different from similar publications, which haven't talked much about developing markets, especially Indonesia. Speaking of "demographic winter", the majority of academic debates only addressing developed countries that are experiencing a population crisis, but not developing or underdeveloped countries. Uniquely, there is some skepticism that downsizing the population is seen as increasing productivity, but this assumption is refuted in some cases because over duration, it will actually lead to a decline in economic performance. Returning to the initial problem, the situation in Indonesia has broad market segmentation, economic potential, and workforce volume in preparation for facing broad industrial opportunities in the future but is experiencing a demographic trap that is not evenly distributed between regions. Often, Indonesia is under the radar or escapes the attention of scholars for in-depth observation. Observing this asynchronous cycle, where access to employment opportunities for the labor-intensive sector can create prosperity in an inclusive manner, the employment system, which is highly dependent on population movement, certainly cannot be ignored. Based on the above compilation of paradigms and data, it makes sense to explore the aspects that influence happiness. Completely, the idea related to population happiness in this scientific paper contains demographic, social, employment, and economic elements. The outline of the paper is organized into four phases: introduction, method, results and discussion, and conclusion. From a specific angle, some studies do not reveal non-economic aspects that can affect the demographic sphere. Speaking of the existing situation, this research is feasible to be proposed based on different parameters than the others. By combining economic and non-economic aspects, we concentrate on the potential for a demographic slowdown in Indonesia..

METHODS

Data Framework

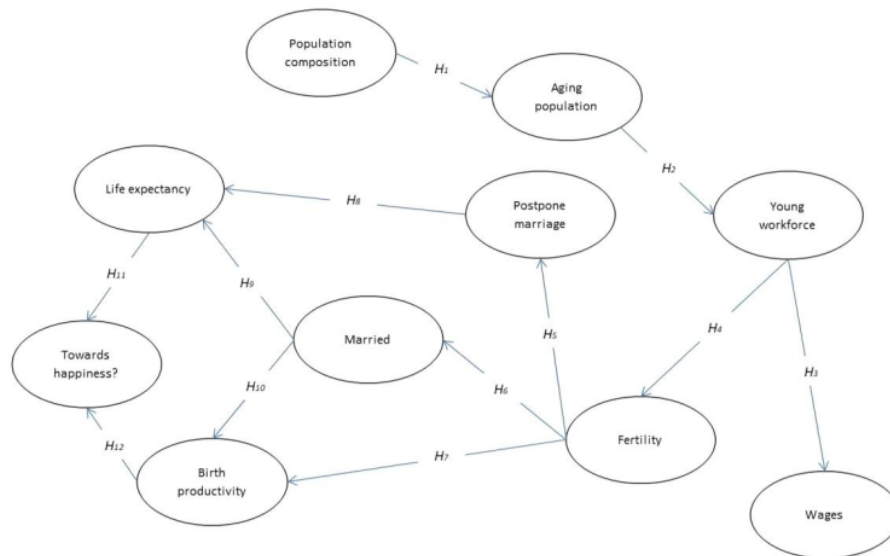
The data focuses on secondary-type data facilitated by BPS-Statistics Indonesia. Economic and social data related to population are the main part. Data priority starts in 2016 and ends in 2021. With a frequency of six periods and ten key variables, the observations are 60 samples. Objectivity at the domestic level (Indonesia). Data collected from annual documents is created using an econometric approach.

Variable Attributes

Variables are modified into two formats: dependent variables and independent variables. Variables consist of population composition (PC), aging population (AP), young workforce (YW), wages (Wgs), fertility (Fty), postponed marriage (PM), married (Mrd), birth productivity (BP), life expectancy (LE), and happiness (Hps). In the context of data, study variables have varied units. Population composition is based on ratio, while the aging population, young workforce, fertility, and birth productivity have the same criteria, i.e., people. Operationally, wages are adjusted to nominal IDR, married and postponed marriages are described by percentage, life expectancy is measured by years, and happiness is measured via index. In relation, only PC and HP act constantly. Definitely, PC functions as a "pure independent" that

starts the initial hypothesis. Then, Hps is categorized as a "pure dependent" which is designed into the final model. From the relationship arrow, the use of PC is concerned with influencing the dependent variable, while Hps is addressed as the ultimate goal of being influenced by the independent variable. The other eight variables (AP, YW, Wgs, Fty, PM, Mrd, BP, and LE) are bidirectional, indicating that they are clustered into dependent and independent variables. In principle, Figure 2 represents the variable package.

Figure 2. Conceptual Foundation



Each variable has different characteristics, so 12 hypotheses are formulated as above. Technically, only population composition is instructed as a pure independent variable and the other nine variables are converted into a unidirectional relationship. These dimensions include: aging population, young workforce, wages, fertility, postponed marriage, married, birth productivity, life expectancy, and happiness. The connotation of the cross-variables is summarized in Table 1.

Table 1. Hypothesis Instruments and Assumptions

Code/label of variables	Measurement	Scenario
PC	The sex ratio of the population between the male and female genders	
AP	The "generation X" pyramid/population hierarchy aged 45-75+	+/-
YW	Workers classified as "generation Y (millennial) and Gen. Z (i Generation)" aged 15-44	+/-
Wgs	Nominal average provincial minimum wage (UMP)	+/-
Fty	Fertility rate per woman	+/-
PM	Proportion of population with single status	+/-
Mrd	Proportion of population with married/living partner status	+/-
BP	Live birth per 1,000 population	+/-

LE	The life expectancy of the population	+/-
Hps	Population happiness index on a scale of 0–10	+/-

Modeling

The data was operated via SPSS version 25. After the data was processed, the material for analysis was set using multiple time-series regression. There are four systematics in regression: descriptive statistics, correlation (R), determination (R^2), and partial effects (t-statistics and probability). Descriptive statistics detect values at the mean–maximum–minimum–standard deviation (Std. Dev./S.D), R^2 shows the direction or strength of the variable relationship, and a partial test confirm the partial association. The first, second, third, and fourth formulations are arranged below:

$$\begin{aligned}AP &= \Delta\delta_1 + \beta_{PL} + \varepsilon_1 \\ YW &= \Delta\delta_2 + \beta_{AP} + \varepsilon_2 \\ Wgs &= \Delta\delta_3 + \beta_{YW} + \varepsilon_3 \\ Fty &= \Delta\delta_4 + \beta_{YW} + \varepsilon_4\end{aligned}$$

In the fifth, sixth, and seventh formulations the following is written:

$$\begin{aligned}PM &= \Delta\delta_5 + \beta_{Fty} + \varepsilon_5 \\ Mrd &= \Delta\delta_6 + \beta_{Fty} + \varepsilon_6 \\ BP &= \Delta\delta_7 + \beta_{Fty} + \varepsilon_7\end{aligned}$$

Then, the eighth and nine equations are developed as follows:

$$\begin{aligned}LE &= \Delta\delta_8 + \beta_{PM} + \beta_{Mrd} + \varepsilon_8 \\ BP &= \Delta\delta_9 + \beta_{Mrd} + \varepsilon_9\end{aligned}$$

For the tenth formula, the math function is:

$$Hps = \Delta\delta_{10} + \beta_{LE} + \beta_{BP} + \varepsilon_{10}$$

Symbol notation: $\Delta\delta$ is delta/scalar, β is the beta coefficient, and ε is residue.

RESULT AND DISCUSSIONS

Table 2 verifies the 4 points on various descriptive statistics (SD, mean, maximum, and minimum). In practice, the score obtained from 10 variables is broken down from the highest to the smallest. The first discusses SD, the largest score for the AP variable ($S.D = 4,013,364.58$) and the lowest for the Hps variable ($S.D = 0.09$). Both tell the mean, with the largest score for the YW variable ($mean = 80,011,461.33$) and the lowest on the Fty variable ($mean = 2.24$). The third studied the maximum, with the highest score for the YW variable ($max. = 81,589,200$) and the lowest for the Fty variable ($max. = 2.31$). The four display the minimum, the greatest score for the YW variable ($min. = 77,048,337$) and the lowest for the Fty variable ($min. = 2.19$). Descriptive statistics aim to describe the features of a particular data set by providing a brief summary of the data and sample size.

Table 2. Result of Descriptive Statistics

Items	Std. Dev.	Mean	Maximum	Minimum
PC	.65	101.5	102.3	100.9
AP	4,013,364.58	70,656,983.33	76,198,300	65,659,400
YW	1,814,342.37	80,011,461.33	81,589,206	77,048,727
Wgs	2,828,860.41	2,370,884.17	2,687,724	1,997,819
Fty	.41	2.24	2.31	2.19
PM	2.72	34.94	37.85	32.2
Mrd	2.72	65.06	67.8	62.15
BP	.46	17.27	18	16.7
LE	.25	71.26	71.57	70.9
Hps	.09	5.24	5.35	5.09
Sample	60	60	60	60

16

Furthermore, the correlation coefficient tests the closeness of the relationship between two or more variables, which is interpreted with the R value. In the SPSS output, a correlation matrix is applied (see Table 3). In practice, the performance of variables that rely on a significance degree of 99% ($p < 0.01$) proves that if there is a reciprocal probability of AP with WGs and LE ($p = 0.000$), YW with Fty ($p = 0.003$) and BP ($p = 0.005$), Wgs with LE ($p = 0.000$), Fty with BP ($p = 0.001$), and PM with Mrd ($p = 0.000$). Among these linkages, the most impressive is the variable PM to Mrd and vice versa. Correlation performance between variables through a significance scheme of 95% ($p < 0.05$) indicates that there is a collective association of AP with PM ($p = 0.019$) and Mrd ($p = 0.018$), Wgs with PM ($p = 0.018$) and Mrd ($p = 0.017$), as well as PM and Mrd to LE ($p = 0.025$; $p = 0.023$). The most progressive 5% correlation finding is Wgs the Mrd and vice versa.

Table 3. Result of Correlation Estimation

Items	PC	AP	YW	Wgs	Fty	PM	Mrd	BP	LE	Hps
PC	1	.700 (.121)	.110 (.836)	.717 (.109)	-.310 (.549)	.586 (.222)	-.590 (.218)	-.360 (.484)	.698 (.123)	.525 (.285)
AP	.700 (.121)	1	.543 (.265)	.983** (.000)	-.588 (.220)	.885* (.019)	-.890* (.018)	-.706 (.117)	.995** (.000)	.009 (.986)
YW	.110 (.836)	.543 (.265)	1	.634 (.176)	-.959** (.003)	.403 (.429)	-.404 (.427)	-.942** (.005)	.613 (.196)	-.389 (.446)
Wgs	.717 (.109)	.983** (.000)	.634 (.176)	1	-.705 (.117)	.887* (.018)	-.891* (.017)	-.805 (.054)	.993** (.000)	.072 (.892)
Fty	-.310 (.549)	-.588 (.220)	-.959** (.003)	-.705 (.117)	1	-.488 (.326)	.487 (.327)	.980** (.001)	-.659 (.155)	.121 (.820)
PM	.586 (.222)	.885* (.019)	.403 (.429)	.887* (.018)	-.488 (.326)	1	1.000** (.000)	-.642 (.169)	.868* (.025)	.280 (.591)
Mrd	-.590 (.218)	-.890* (.018)	-.404 (.427)	-.891* (.017)	.487 (.327)	1.000** (.000)	1	.642 (.169)	-.873* (.023)	-.273 (.600)
BP	-.360 (.484)	-.706 (.117)	-.942** (.005)	-.805 (.054)	.980** (.001)	-.642 (.169)	.642 (.169)	1	-.764 (.077)	.095 (.857)
LE	.698 (.123)	.995** (.000)	.613 (.196)	.993** (.000)	.659 (.155)	.868* (.025)	-.873* (.023)	-.764 (.077)	1	-.010 (.985)
Hps	.525 (.285)	.009 (.986)	-.389 (.446)	.072 (.892)	.121 (.155)	.280 (.591)	-.273 (.600)	.095 (.857)	-.010 (.985)	1
Sample	60	60	60	60	60	60	60	60	60	60

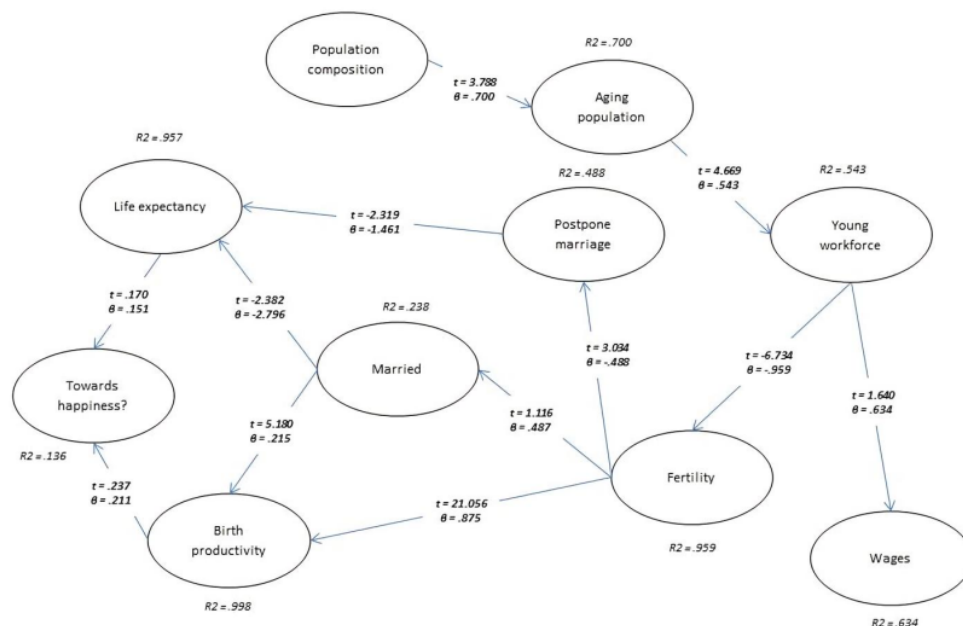
Note: **) 1% probability, *) 5% probability.

Multiple regression displays the unidirectional strength of determination and the significance of all relationships through a probability degree of 5% ($p < 0.05$). R squared (R^2) or the coefficient of determination, represents a statistical parameter that measures the difference in one variable and is adjusted in the second variable when calculating an investigation. The most prime or nearly perfect determination model is fertility and married to birth productivity ($R^2 = 99.8\%$). Only 0.2% was a confounding factor outside the regression. On the one hand, the weakest determinant model is the link between life expectancy and productivity on happiness ($R^2 = 13.6\%$), where 86.4% is an off-track confounding factor. The regression results stated that sub-1: PC to AP ($t = 3.788$; $\beta = 0.700$), sub-2: AP to YW ($t = 4.699$; $\beta = 0.543$), sub-3: YW to Wgs ($t = 1.640$; $\beta = 0.634$), sub-4: YW to Fty ($t = -6.734$; $\beta = -0.959$), sub-5: Fty to PM ($t = 3.034$; $\beta = -0.488$), sub-6: Fty to Mrd ($t = 1.116$; $\beta = 0.487$), sub-7: Fty and Mrd to BP ($t = 21.056$; $\beta = 0.875$ and $t = 5.180$; $\beta = 0.215$), sub-8: PM and Mrd to LE ($t = -2.139$; $\beta = -1.461$ and $t = -2.382$; $\beta = -2.796$), and sub-9: LE and BP to Hps ($t = 0.170$; $\beta = 0.151$ and $t = 0.237$; $\beta = 0.211$)¹¹

Figure 3 below displays that PC has a positive impact on AP and AP also has a positive impact on YW. Then, YW has a positive impact on Wgs, but YW has a negative impact on Fty. The Fty variable has a negative impact on PM, but it has a positive impact on Mrd and BP. PM and Mrd has a negative impact on LE and Mrd have a positive impact on BP. The empirical output also conducts a positive relationship between LE and BP on Hps. In other words, hypotheses 1, 2, 3, 6, 7, 10, 11, and 12 are accepted. Meanwhile, 4, 5, 8, and 9 were rejected. From the existing findings, the population composition is driving the aging population by 70%. The improving aging population increases 54.3% of the young workforce. Followed by an increase in the young workforce, it also stimulated wages to reach 63.4%, but not to fertility, which decreased to 95.9%. Fertility, which is not ideal, actually reduces postpone marriage by 48.8%. However, with good fertility, it can increase married (48.7%) and birth productivity (87.5%). The impact of postponing marriage and being married, which were unstable for several periods, actually reduced life expectancy by 146.1% and 279.6%, respectively. The good news is that when married grow positively, can increase birth productivity by 21.5%. With life expectancy and birth productivity that exceed expectations, consistently towards integrated happiness of 15.1% and 21.1%.

Nowadays, some literature links sustainable development to determining human quality (Dewanty & Isbanah, 2018; Harris & McDade, 2018; Huggins et al., 2018; Osher et al., 2020; Ristea, 2013; Short & Mollborn, 2015). In macroeconomic literacy, there is a transition in lifestyle that enables and drives personal behavior to take the choice of whether the individual is active as a subject that encourages better welfare improvements or becomes an object. In everyday life, with economic pressures, family demands, workloads, and widening social inequality, this increasingly triggers discriminatory actions. Substantively, the root of the challenge so far is that labor productivity is only measured by career brilliance without considering other factors. In this era of disruption, handling in the formation of productive humans is considered adaptive. This starts with cross-professions in several commodities (e.g., administration, bureaucracy, and other service areas in offices), which provide opportunities for employees to develop creativity, work from home with technological devices, and learn about a wider network. In a more proportional mechanism, as long as this does not conflict with privacy and household matters, the organization will not be harmed.

Figure 3. Evaluation on Regression



Mao & Zhou (1988), Olshansky (1997), and Wang et al. (2022) commented that the age structure of the population is not only influenced by marriage, immigration, death, and birth, but also changes from a micro perspective, such as family factors. The older the age structure, the smaller the family size and vice versa. There is a significant imbalance between urban and rural populations. It is characterized as the nuclear family caused by the convergence of industrialization in increasing economic development, thus causing an aging population. Internal age also influences family structure and size. For example, in Beijing-China, the adult population is more dominantly influenced by economic-social measures, marriage, and birth. So, the younger residents still live with their parents. Families formed at that age have a positive effect on fertility and those who are getting older facing loneliness. Overall, in China, those who are turning independent are not a burden on the family but an aging society is actually putting economic pressure on the contemporary term. In particular, the evolution of population aging affects spatial design. The Chinese population living in the western and central regions is relatively small compared to those living on the east coast. There is a severe polarization in the aging population and the resulting inequality in competitiveness. Trends in population aging are also influenced by and affect the social and physical environment in which they live.

This scientific work highlights the effect of the aging population on the young workforce. Comparatively, in the United States, Korea, Taiwan, and the European Union, it is detected that the older generation spends more time at work than their younger counterparts (Barakovic Husic et al., 2020; Huang et al., 2019; Lee et al., 2021; White et al., 2018). This fact also occurs worldwide, and its consequences are related to the widespread prevalence and aging demographics of the workforce. Older workers tend to delay retirement and extend work contracts on the grounds of securing financial stability. This disparity may raise concerns that an increase in the employment of older people in the labor market will actually lead to

Article Error ETS

unemployment for young people. Based on the gender of various occupations, educational certificates, and industries, older female workers relatively complement younger female workers, but older workers actually exclude younger workers. This has become an international concern, as the elderly are expected to become an increasingly aging population and affect work productivity. The accumulation of active worker resources coupled with aging trends is urging the workplace to balance personal life and job retention.

Reviews of the young workforce on wage rates are discussed in members of the European Union, the United States, and Japan (Eichhorst et al., 2014; Kondo, 2016; Ouimet & Zarutskie, 2014). In large-scale companies, on average, they choose young employees to be paid less, but young employees who work in small companies are actually paid higher wages. The consideration is that they show much greater passion for work, innovation, and skill for the survival of the company. Work professionalism does not emphasize the employment situation of older workers with those who are young, but it can encourage the mobility of ideas, provide added value, and exchange experience. Since the “baby boomers” reached the greatest working age, some places have reduced the number of part-time workers and cut the wages of older workers.

The cause of fertility also depends on the activities of young workers in the workplace. In the long term, the repercussions can affect the decision to marry or delay marriage. A high fertility rate is one of the alternatives to increasing birth productivity. In Sweden, England, Ukraine, Switzerland, Spain, Slovenia, Slovakia, Portugal, Poland, Norway, Netherlands, Ireland, Hungary, Greece, Germany, France, Finland, Estonia, Denmark, Czech Republic, Belgium, and Austria, life plans are confronted by birth delays. Interactivity between partners with increasing age has an important effect on the success of conception. Working for a long time can ensure reproductive success. Yet, job uncertainty also channels fertility intentions. When welfare is low, the level of life satisfaction is under pressure. The certainty of individual work providing a situation of measurable welfare, prestige, life balance, and fertility. Subjectively, younger individuals with insecure occupations have consequences for household affluence but help fertility preferences. This is in line with the paper highlighted by Delbaere et al. (2020) and Vignoli et al. (2020).

What is experienced in many countries is also seen in Indonesia. Whether it's married or unmarried status can reduce life expectancy. Various cases in Denmark, Switzerland, and the United States were exposed. Compton & Pollak (2021), Drefahl (2012), Felder (2006), Jia & Lubetkin (2020), and Kaplan & Kronick (2006) evaluated that when people live with a partner with a legal or not-married status, it does not necessarily represent social reality. Broadly speaking, early death was found to be highest for people living together without marriage and followed by those who are married. Life span in young and older couples provides a complex analogy for survival that combines behavior during marriage with education, trust, age, and ethnicity. Dramatically, the gap between couples and singles is leading to longevity in reference to gender. The smallness or longevity of the spouses is elaborated by altruism, wealth, and utilitarianism. The mortality rate of people living with their partners and who are married is positively higher than that of those who have never been married. The relationship between life expectancy and marital status and vice versa involves assumptions that limit the basic activities of older people compared to younger people.

The fundamental difference lies only in binding regulations. If a couple wants to have children, they are required to marry formally. Whether in the future the regeneration will be a

biological child or an adopted child is another matter. There must be a legal bond that does not recognize "married by accident" and does not understand living together without being married. That way, the obligation to marry for couples is free from religious orders that have been believed from generation to generation. In contrast to Indonesia, in the United States, delaying marriage for women and men does not have a significant impact on births, except for cases of early marriage (Loughran & Zissimopoulos, 2009). Differences in specialization of marital status comprehensively determine birth rates (Killewald & Gough, 2013). Foreman-Peck (2011) explains that the household economy contributes to the fertility quality of Western Europeans. According to Parsons et al. (2015), marriage at a certain age with a low level of thinking maturity and education also contributes to the risk of early death, poverty, malnutrition, loss of income, and weak control over child growth. Changing decisions in domestic marriages can endanger births, make it more difficult for children's health, and complicate parenting and child education. Lastly, there is the connection between life expectancy and birth productivity on happiness. Research from Chirinda & Phaswana-Mafuya (2019), Gimenez et al. (2021), Heydari (2017), Lawrence et al. (2015), and Lozano & Solé-Auró (2021) reveals that life expectancy positively drives happiness in South Africa, Mazandaran-Iran, Chile, senior citizens, United States adults, and working-age Europeans. Inferentially, the happiness of the population in several developed countries, such as the Organisation for Economic Co-operation and Development (OECD), is also determined by the consistency of the birth rate (Bellet et al., 2019; García-Buades et al., 2019; Glass et al., 2016; Isham et al., 2021; Lyubomirsky et al., 2005; Oswald et al., 2015; Robertson & Cooper, 2011; Sonfield et al., 2013). Recognizing Indonesia's "demographic bonus" with its multicultural traditions sparked concerns about social disparities at the regional level. Exploring this dynamic, layers of the population are also related to employment affairs, female fertility rates, and life expectancy. From a more reasonable viewpoint, Cheung & Leung (2011) and Leyk (2019) claim that heterogeneous urban communities tend to be different from rural communities, where the majority are homogeneous. Following up on the negative response between the young workforce towards fertility, then fertility on postpone marriage, and married and postpone marriage towards life expectancy, implying a signal regarding weak population policy governance. This study is by previous predictions that analyze the two-way relationship between young workers, fertility, the decision to marry, and life expectancy (Ahn et al., 2021; Chari et al., 2017; Ng & Wang, 2020; Shreffler & Johnson, 2013; Yang et al., 2022). From existing papers, the underlying cause of the four discussions is inequality in work-life balance (WLB). For the sake of prospects for prosperity, career women in the USA who help the family economy often postpone births, so that fertility intentions are moderated by the high intensity of working hours. Among Korean women, long working hours have an impact on infertility. The risk of infertility is adjusted for a subgroup of young workers with irrational work schedules. In parallel, the universal marriage norm for Chinese women is being transformed from a high fertility contribution to a low fertility one. Since the 1980s, delays in marriage have been significantly correlated with reduced fertility rates. Today, like men, women in Taiwan and South Korea prefer careers and are committed to work, so they delay marrying and raising children. Child welfare in India has been shown to be affected by health and education allocations, including the mechanism for determining the age of marriage.

CONCLUSION

The condition that is currently viral is "demographic winter". At the same time, the happiness of the population is confronted with polemics that are not only related to demographics but also related to many economic and social elements. The target of this scientific work is to assessing the effect of "demographic winter". Indonesia was chosen as a study. In the last six periods, positive causality has occurred from population composition to aging

population, aging population to young workforce, young workforce to wages, fertility to married and birth productivity, married to birth productivity, as well as life expectancy and birth productivity to happiness. Additionally, negative causality is also seen between the young workforce on fertility, fertility on postpone marriage, then married and postpone marriage on life expectancy.

This paper notes the abnormal situation in demographic development in Indonesia, with the main cause being population aging. There is an inverted population age hierarchy where the older population outnumbers the young population, affecting the workforce. Young workers tend to be more selective about the type of work they do. As a result, many of them are not absorbed into several jobs. In addition, the high pressure of life encourages the existing workforce to prioritize busy work. Another justification explains that productive workers with low fertility rates tend to choose to delay marriage. Apart from that, both the decision to marry and postpone marriage also reduce life expectancy. Referring to the demonstration above, the findings recommend regulations related to health and education allocation. Under a more detailed lens, proposals for an integrated labor policy revitalization can be temporarily simulated. All human existence is inseparable from demographic phenomena. Substantially, obedience to work has taken root, become civilized, and is a culture that cannot be separated. For this reason, the policy authorities need to inspect, protect, and execute technocratic steps that maneuver in the management of public population services. This includes institutional strengthening, such as partnering with associations and communities to popularize sustainable family planning programs. Practical policies must lead to precise strategies to find solutions to population stratification, especially the aging of generations. Naturally, the level of fertility and birth productivity is still a matter of controversy in Indonesia, requiring government intervention. Thus, stakeholders also educate and bridging the role of regulators in solving this problem. Literally, it's not the end of the world to design ever-increasing human development projects. This paper also inspires changes in people's lifestyles that are increasingly modern in adjusting demographic mindsets, behavior in choosing a life partner, work commitments, insight into birth, and knowledge about happiness. Academic implications for future research directions may consider other indicators of the “demographic winter”.

REFERENCES

- Ahn, J., Lee, S. H., Park, M. Y., Oh, S. H., & Lee, W. (2021). The association between long working hours and infertility. *Safety and Health at Work*, 12(4), 517–521. <https://doi.org/10.1016/j.shaw.2021.07.005>
- Amegayibor, G. K. (2021). The effect of demographic factors on employees' performance: A case of an ownermanager manufacturing firm. *Annals of Human Resource Management Research*, 1(2), 127-143. <https://doi.org/10.35912/ahrmr.v1i2.853>
- Barakovic Husic, J., Melero, F. J., Barakovic, S., Lameski, P., Zdravevski, E., Maresova, P., Krejcar, O., Chorbev, I., Garcia, N. M., & Trajkovic, V. (2020). Aging at work: A review of recent trends and future directions. *International Journal of Environmental Research and Public Health*, 17(20), 7659. <https://doi.org/10.3390/ijerph17207659>
- Baus, D. (2017). Overpopulation and the impact on the environment. *Thesis*. The Graduate Center, City University of New York, USA.
- Bellet, C., De Neve, J-E., & Ward, G. (2013). Does employee happiness have an impact on productivity?. *Saïd Business School WP 2019-13*. Accessed on: <http://dx.doi.org/10.2139/ssrn.3470734>

- BPS-Statistics Indonesia. (2022). Jumlah penduduk hasil proyeksi menurut provinsi dan jenis kelamin (ribu jiwa), 2019-2021. Accessed on: <https://www.bps.go.id/indicator/12/1886/1/jumlah-penduduk-hasil-proyeksi-menurut-provinsi-dan-jenis-kelamin.html>
- Bradshaw, C. J., & Brook, B. W. (2014). Human population reduction is not a quick fix for environmental problems. *Proceedings of the National Academy of Sciences of the United States of America*, 111(46), 16610–16615. <https://doi.org/10.1073/pnas.1410465111>
- CEOWORLD magazine. (2023). Countries in the world by population. Accessed on: <https://www.worldometers.info/world-population/population-by-country/>
- Chari, A. V., Heath, R., Maertens, A., & Fatima, F. (2020). The causal effect of maternal age at marriage on child wellbeing: Evidence from India. *Journal of Development Economics*, 127, 42-55. <https://doi.org/10.1016/j.jdeveco.2017.02.002>
- Cheung, C-k., & Leung, K-k. (2011). Neighborhood homogeneity and cohesion in sustainable community development. *Habitat International*, 35(4), 564-572. <https://doi.org/10.1016/j.habitatint.2011.03.004>
- Chirinda, W., & Phaswana-Mafuya, N. (2019). Happy life expectancy and correlates of happiness among older adults in South Africa. *Aging & Mental Health*, 23(8), 1000–1007. <https://doi.org/10.1080/13607863.2018.1471581>
- Compton, J., & Pollak, R. A. (2021). The life expectancy of older couples and surviving spouses. *PLoS ONE*, 16(5), e0250564. <https://doi.org/10.1371/journal.pone.0250564>
- Delbaere, I., Verbiest, S., & Tydén, T. (2020). Knowledge about the impact of age on fertility: A brief review. *Uppsala Journal of Medical Sciences*, 125(2), 167–174. <https://doi.org/10.1080/03009734.2019.1707913>
- Dewanty, N., & Isbanah, Y. (2018). Determinant of the financial literacy: Case study on career woman in Indonesia. *Etikonomi*, 17(2), 285-296. <https://doi.org/10.15408/etk.v17i2.6681>
- Drefahl, S. (2012). Do the married really live longer? The role of cohabitation and socioeconomic status. *Journal of Marriage and Family*, 74(3), 462–475. <https://doi.org/10.1111/j.1741-3737.2012.00968.x>
- Dumont, G-F. (2019). Family policies & Europe's demographic future. In: *Europe's demographic winter*. ECR Working Group on Demography, p. 28–31. Intergenerational and Families Policies, Brussels. Accessed on: https://www.researchgate.net/publication/298971961_Family_policies_Europe's_demographic_future
- Eichhorst, W., Boeri, T., De Coen, A., Galasso, V., Kendzia, M., & Steiber, N. (2014). How to combine the entry of young people in the labour market with the retention of older workers?. *IZA Journal of European Labor Studies*, 3(1), 19. <https://doi.org/10.1186/2193-9012-3-19>
- Felder, S. (2006). The gender longevity gap: Explaining the difference between singles and couples. *Journal of Population Economics*, 19(3), 543–557. <https://doi.org/10.1007/s00148-005-0040-0>
- Fitriadi, F., Jiuhardi, J., Busari, A., Ulfah, Y., Hakim, Y. P., Kurniawan, E., & Darma, D. C. (2022). Using correlation to explore the impact of corona virus disease on socioeconomics. *Emerging Science Journal*, 6, 165-180. <https://doi.org/10.28991/esj-2022-SPER-012>
- Foreman-Peck, J. (2011). The Western European marriage pattern and economic development. *Explorations in Economic History*, 48(2), 292–309. <https://doi.org/10.1016/j.eeh.2011.01.002>

- García-Buades, M. E., Peiró, J. M., Montañez-Juan, M. I., Kozusznik, M. W., & Ortiz-Bonnín, S. (2019). Happy-productive teams and work units: A systematic review of the 'happy-productive worker thesis.' *International Journal of Environmental Research and Public Health*, 17(1), 69. <https://doi.org/10.3390/ijerph17010069>
- Ghazal, S., Akram, I., Andleeb, S., Raza, M. A., & Asif, M. (2022). Growing issue of late marriages in Pakistan: A qualitative study. *ASEAN Journal of Psychiatry*, 23(2), 1–13.
- Gimenez, G., Gil-Lacruz, A. I., & Gil-Lacruz, M. (2021). Is happiness linked to subjective life expectancy? A study of Chilean senior citizens. *Mathematics*, 9(17), 2050. <https://doi.org/10.3390/math9172050>
- Glass, J., Simon, R. W., & Andersson, M. A. (2016). Parenthood and happiness: Effects of work-family reconciliation policies in 22 OECD Countries. *American Journal of Sociology*, 122(3), 886–929. <https://doi.org/10.1086/688892>
- Gould, E. D. (2008). Marriage and career: The dynamic decisions of young men. *Journal of Human Capital*, 2(4), 337–378. <https://doi.org/10.1086/597668>
- Gündoğdu, A. H., & Bulut, S. (2022). The positive and negative effects of late marriage. *Open Journal of Depression*, 11(4), 63–71. <https://doi.org/10.4236/ojd.2022.114005>
- Harris, K. M., & McDade, T. W. (2018). The biosocial approach to human development, behavior, and health across the life course. *RSF: The Russell Sage Foundation Journal of the Social Sciences*, 4(4), 2–26. <https://doi.org/10.7758/RSF.2018.4.4.01>
- Heuveline P. (2022). Global and national declines in life expectancy: An end-of-2021 assessment. *Population and Development Review*, 48(1), 31–50. <https://doi.org/10.1111/padr.12477>
- Heydari, S. (2017). The relationship between happiness, general health and life expectancy of cancer patients. *European Psychiatry*, 41(S1), S608-S608. <https://doi.org/10.1016/j.eurpsy.2017.01.959>
- Huang, W.-H., Lin, Y.-J., & Lee, H.-F. (2019). Impact of population and workforce aging on economic growth: Case study of Taiwan. *Sustainability*, 11(22), 6301. <https://doi.org/10.3390/su11226301>
- Huggins, R., Thompson, P., & Obschonka, M. (2018). Human behaviour and economic growth: A psychocultural perspective on local and regional development. *Environment and Planning A: Economy and Space*, 50(6), 1269–1289. <https://doi.org/10.1177/0308518X18778035>
- Isham, A., Mair, S., & Jackson, T. (2021). Worker wellbeing and productivity in advanced economies: Re-examining the link. *Ecological Economics*, 184, 106989. <https://doi.org/10.1016/j.ecolecon.2021.106989>
- Jia, H., & Lubetkin, E. I. (2020). Life expectancy and active life expectancy by marital status among older U.S. adults: Results from the U.S. Medicare Health Outcome Survey (HOS). *SSM - Population Health*, 12, 100642. <https://doi.org/10.1016/j.ssmph.2020.100642>
- Jiuhardi, J., Hasid, Z., Darma, S., & Darma, D. C. (2022). Sustaining agricultural growth: Traps of socio-demographics in emerging markets. *Opportunities and Challenges in Sustainability*, 1(1), 13–28. <https://doi.org/10.56578/ocs010103>
- Jones, C. I. (2022). The end of economic growth? Unintended consequences of a declining population. *American Economic Review*, 112(11), 3489–3527. <https://doi.org/10.1257/aer.20201605>
- Kaplan, R. M., & Kronick, R. G. (2006). Marital status and longevity in the United States population. *Journal of Epidemiology and Community Health*, 60(9), 760–765. <https://doi.org/10.1136/jech.2005.037606>

- Killewald, A., & Gough, M. (2013). Does specialization explain marriage penalties and premiums?. *American Sociological Review*, 78(3), 477–502.
<https://doi.org/10.1177/0003122413484151>
- Kondo, A. (2016). Effects of increased elderly employment on other workers' employment and elderly's earnings in Japan. *IZA Journal of Labor Policy*, 5(1), 2.
<https://doi.org/10.1186/s40173-016-0063-z>
- Lawrence, E. M., Rogers, R. G., & Wadsworth, T. (2015). Happiness and longevity in the United States. *Social Science & Medicine*, 145, 115–119.
<https://doi.org/10.1016/j.socscimed.2015.09.020>
- Lawrence, B., Zhang, J. J., & Heineke, J. (2013). A life-cycle perspective of professionalism in services. *Journal of Operations Management*, 42–43(1), 25–38.
<https://doi.org/10.1016/j.jom.2016.03.003>
- Lee, B. S., Kim, H., Choi, E. Y., & Pham, N. (2021). Relationships between elderly employment and labor market outcomes of young and prime-age adults: Evidence from Korean longitudinal and cross-sectional data. *The Social Science Journal*.
<https://doi.org/10.1080/03623319.2021.1956280>
- Leyk, S., Balk, D., Jones, B., Montgomery, M. R., & Engin, H. (2019). The heterogeneity and change in the urban structure of metropolitan areas in the United States, 1990–2010. *Scientific Data*, 6(1), 321. <https://doi.org/10.1038/s41597-019-0329-6>
- Lichtenberg K. (2022). Reversing the decreasing life expectancy: A national health priority. *Missouri Medicine*, 119(4), 321–333.
- Loughran, D. S., & Zissimopoulos, J. M. (2009). Why wait?: The effect of marriage and childbearing on the wages of men and women. *The Journal of Human Resources*, 44(2), 326–349. <https://doi.org/10.1353/jhr.2009.0032>
- Lozano, M., & Solé-Auró, A. (2021). Happiness and life expectancy by main occupational position among older workers: Who will live longer and happy?. *SJM - Population Health*, 13, 100735. <https://doi.org/10.1016/j.ssmph.2021.100735>
- Lundberg, S., Pollak, R. A., & Stearns, J. (2016). Family inequality: Diverging patterns in marriage, cohabitation, and childbearing. *The Journal of Economic Perspectives: A Journal of the American Economic Association*, 30(2), 79–102. <https://doi.org/10.1257/jep.30.2.79>
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success?. *Psychological Bulletin*, 131(6), 803–855.
<https://doi.org/10.1037/0033-2909.131.6.803>
- Mao, K. S., & Zhou, G. F. (1988). The effects of the age and structure of population on family change. *Ren kou yan jiu = Renkou yanjiu*, 5, 8–12.
- McClendon, D., Kuo, J. C., & Raley, R. K. (2014). Opportunities to meet: Occupational education and marriage formation in young adulthood. *Demography*, 51(4), 1319–1344.
<https://doi.org/10.1007/s13524-014-0313-x>
- Mehroolhassani, M. H., Mirzaei, S., Poorhoseini, S. S., & Oroomiei, N. (2019). Finding the reasons of decrease in the rate of population growth in Iran using causal layered analysis (CLA) method. *Medical Journal of the Islamic Republic of Iran*, 33(1), 553–558.
<https://doi.org/10.34171/mjiri.33.92>
- Mino, K., & Sasaki, H. (2023). Long-run consequences of population decline in an economy with exhaustible resources. *Economic Modelling*, 121, 106212.
<https://doi.org/10.1016/j.econmod.2023.106212>

- Montazeri, S., Gharacheh, M., Mohammadi, N., Alaghband Rad, J., & Eftekhari Ardabili, H. (2016). Determinants of early marriage from married girls' perspectives in Iranian setting: A qualitative study. *Journal of Environmental and Public Health*, 2016(1), 8615929. <https://doi.org/10.1155/2016/8615929>
- Myers, S. S., Gaffikin, L., Golden, C. D., Ostfeld, R. S., Redford, K. H., Ricketts, T. H., Turner, W. R., & Osofsky, S. A. (2013). Human health impacts of ecosystem alteration. *Proceedings of the National Academy of Sciences of the United States of America*, 110(47), 18753–18760. <https://doi.org/10.1073/pnas.1218656110>
- Ng, W. L., & Wang, Y.-C. (2020). Waiting as a signal: Why women are delaying fertility?. *Economic Modelling*, 87, 471–479. <https://doi.org/10.1016/j.econmod.2019.12.010>
- Olshansky, S.J. (1997). *The demography of aging*. Springer, New York, NY. https://doi.org/10.1007/978-1-4757-2705-0_2
- Osher, D., Cantor, P., Berg, J., Steyer, L., & Rose, T. (2020). Drivers of human development: How relationships and context shape learning and development. *Applied Developmental Science*, 24(1), 6–36. <https://doi.org/10.1080/10888691.2017.1398650>
- Oswald, A. J., Proto, E., & Sgroi, D. (2015). Happiness and productivity. *Journal of Labor Economics*, 33(4), 789–822. <https://doi.org/10.1086/681096>
- Ouimet, P., & Zarutskie, R. (2014). Who works for startups? The relation between firm age, employee age, and growth. *Journal of Financial Economics*, 112(3), 386–407. <https://doi.org/10.1016/j.jfineco.2014.03.003>
- Parsons, J., Edmeades, J., Kes, A., Petroni, S., Sexton, M., & Wodon, Q. (2015). Economic impacts of child marriage: A review of the literature. *The Review of Faith & International Affairs*, 13(3), 12–22. <https://doi.org/10.1080/15570274.2015.1075757>
- Peek, K. (2022). Global population growth is slowing down. Here's one reason why. Accessed on: <https://www.scientificamerican.com/article/global-population-growth-is-slowing-down-heres-one-reason-why/>
- Pimentel, D. (2012). World overpopulation. *Environment Development and Sustainability*, 14(2), 151–152. <https://doi.org/10.1007/s10668-011-9336-2>
- Ristea, I. (2013). Reflections on mechanisms influencing human behavior. *Procedia - Social and Behavioral Sciences*, 92, 799–805. <https://doi.org/10.1016/j.sbspro.2013.08.757>
- Rukhadze, M. (2018). Early marriage as a barrier to the career and educational opportunity for the youth in Georgia. *Journal of Advanced Research in Social Sciences*, 1(1), 28–32. <https://doi.org/10.33422/JARSS.2018.04.24>
- Robertson, I. T., & Cooper, C. (2011). *Well-being: Productivity and happiness at work*. London: Palgrave Macmillan.
- Sadigov, R. (2022). Rapid growth of the world population and its socioeconomic results. *The Scientific World Journal*, 2022, 8110229. <https://doi.org/10.1155/2022/8110229>
- Shreffler, K. M., & Johnson, D. R. (2013). Fertility intentions, career considerations and subsequent births: The moderating effects of women's work hours. *Journal of Family and Economic Issues*, 34(3), 285–295. <https://doi.org/10.1007/s10834-012-9331-2>
- Short, S. E., & Mollborn, S. (2015). Social determinants and health behaviors: Conceptual frames and empirical advances. *Current Opinion in Psychology*, 5, 78–84. <https://doi.org/10.1016/j.copsyc.2015.05.002>
- Sonfield, A., Hasstedt, K., Kavanaugh, M. L., & Anderson, R. (2013). The social and economic benefits of women's ability to determine whether and when to have children. Guttmacher
- 1
<https://journal.uinjkt.ac.id/index.php/etikonomi>

- Institute, Washington, DC. Accessed on:
<https://www.guttmacher.org/sites/default/files/pdfs/pubs/social-economic-benefits.pdf>
- Spernovasilis, N., Markaki, I., Papadakis, M., Tsioutis, C., & Markaki, L. (2021). Epidemics and pandemics: Is human overpopulation the elephant in the room?. *Ethics, Medicine, and Public Health*, 19, 100728. <https://doi.org/10.1016/j.jemep.2021.100728>
- Tanne, J. H. (2022). Life expectancy: US sees steepest decline in a century. *BMJ*, 378, o2142. <https://doi.org/10.1136/bmj.o2142>
- Trimble, R. (2013). The threat of "demographic winter": A transnational politics of motherhood and endangered populations in pro-family documentaries. *Feminist Formations*, 25(2), 30–54. <https://doi.org/10.1353/ff.2013.0028>
- Van Bavel, J. (2013). The world population explosion: Causes, backgrounds and -projections for the future. *Facts, Views & Vision in ObGyn*, 5(4), 281–291.
- Vignoli, D., Mencarini, L., & Alderotti, G. (2020). Is the effect of job uncertainty on fertility intentions channeled by subjective well-being?. *Advances in Life Course Research*, 46, 100343. <https://doi.org/10.1016/j.alcr.2020.100343>
- Wang, S., Ren, Z., Xiao, Z., Wang, N., Yang, H., & Pu, H. (2022). Coupling analysis of population aging and economic growth with spatial-temporal variation: A case study in China. *International Journal for Equity in Health*, 21(1), 107. <https://doi.org/10.1186/s12939-022-01711-7>
- White, M. S., Burns, C., & Conlon, H. A. (2018). The impact of an aging population in the workplace. *Workplace Health & Safety*, 66(10), 493-498. <https://doi.org/10.1177/216507991775219>
- Worldometers. (2023). List of countries and territories with the largest population, 2022. Accessed on: <https://ceoworld.biz/2022/03/28/list-of-countries-and-territories-with-the-largest-population-2022/>
- Yang, S., Jiang, Q., & Sánchez-Barricarte, J. J. (2022). China's fertility change: An analysis with multiple measures. *Population Health Metrics*, 20(1), 12. <https://doi.org/10.1186/s12963-022-00290-7>

Turnitin Report

ORIGINALITY REPORT

6%

SIMILARITY INDEX

6%

INTERNET SOURCES

4%

PUBLICATIONS

3%

STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Universitas Sebelas Maret Student Paper	2%
2	Submitted to Universitas Diponegoro Student Paper	<1%
3	Submitted to Universita degli Studi di Torino Student Paper	<1%
4	fdocumentos.com Internet Source	<1%
5	journal.uinjkt.ac.id Internet Source	<1%
6	ebin.pub Internet Source	<1%
7	"Handbook of European Societies", Springer Science and Business Media LLC, 2010 Publication	<1%
8	eprints.qut.edu.au Internet Source	<1%
9	etd.uum.edu.my Internet Source	<1%

10	iieta.org Internet Source	<1 %
11	journalmodernpm.com Internet Source	<1 %
12	essd.copernicus.org Internet Source	<1 %
13	link.springer.com Internet Source	<1 %
14	media.neliti.com Internet Source	<1 %
15	ejournal.unuja.ac.id Internet Source	<1 %
16	irep.iium.edu.my Internet Source	<1 %
17	www.acadlore.com Internet Source	<1 %
18	"Temporary and Child Marriages in Iran and Afghanistan", Springer Science and Business Media LLC, 2021 Publication	<1 %
19	core.ac.uk Internet Source	<1 %
20	cronfa.swan.ac.uk Internet Source	<1 %

21 docplayer.net <1 %
Internet Source

22 revintsociologia.revistas.csic.es <1 %
Internet Source

23 www.bu.edu <1 %
Internet Source

24 www.kier.kyoto-u.ac.jp <1 %
Internet Source

25 www.sweetstudy.com <1 %
Internet Source






Exclude quotes Off

Exclude matches Off











Exclude bibliography On

Turnitin Report

PAGE 1

-  **Frag.** This sentence may be a fragment or may have incorrect punctuation. Proofread the sentence to be sure that it has correct punctuation and that it has an independent clause with a complete subject and predicate.
-  **Article Error** You may need to remove this article.
-  **Article Error** You may need to use an article before this word.
-  **Missing ","** Review the rules for using punctuation marks.
-  **Article Error** You may need to remove this article.

PAGE 2

-  **P/V** You have used the passive voice in this sentence. You may want to revise it using the active voice.
-  **Article Error** You may need to use an article before this word.
-  **P/V** You have used the passive voice in this sentence. You may want to revise it using the active voice.
-  **Missing ","** Review the rules for using punctuation marks.
-  **Missing ","** Review the rules for using punctuation marks.
-  **Missing ","** Review the rules for using punctuation marks.
-  **Missing ","** Review the rules for using punctuation marks.
-  **Missing ","** Review the rules for using punctuation marks.
-  **Missing ","** Review the rules for using punctuation marks.
-  **Missing ","** Review the rules for using punctuation marks.

PAGE 3



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



Prep. You may be using the wrong preposition.



Missing ", " Review the rules for using punctuation marks.



Article Error You may need to use an article before this word.

PAGE 4



Article Error You may need to use an article before this word.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



Frag. This sentence may be a fragment or may have incorrect punctuation. Proofread the sentence to be sure that it has correct punctuation and that it has an independent clause with a complete subject and predicate.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.

PAGE 5



Run-on This sentence may be a run-on sentence.



Missing ", " Review the rules for using punctuation marks.



Article Error You may need to use an article before this word.



Article Error You may need to remove this article.



Article Error You may need to use an article before this word.



Proofread This part of the sentence contains an error or misspelling that makes your meaning unclear.



Article Error You may need to remove this article.



Frag. This sentence may be a fragment or may have incorrect punctuation. Proofread the sentence to be sure that it has correct punctuation and that it has an independent clause with a complete subject and predicate.



Article Error You may need to use an article before this word.



Article Error You may need to use an article before this word.



Article Error You may need to use an article before this word.



Article Error You may need to use an article before this word.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



Article Error You may need to use an article before this word. Consider using the article **the**.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



Prep. You may be using the wrong preposition.



Article Error You may need to use an article before this word. Consider using the article **the**.



Confused You have used either an imprecise word or an incorrect word.



Proofread This part of the sentence contains an error or misspelling that makes your meaning unclear.



Article Error You may need to use an article before this word.



Article Error You may need to use an article before this word.



Missing ", " Review the rules for using punctuation marks.



Proofread This part of the sentence contains an error or misspelling that makes your meaning unclear.



Run-on This sentence may be a run-on sentence.



Article Error You may need to remove this article.



Article Error You may need to use an article before this word.



Missing ", " Review the rules for using punctuation marks.



Frag. This sentence may be a fragment or may have incorrect punctuation. Proofread the sentence to be sure that it has correct punctuation and that it has an independent clause with a complete subject and predicate.



Missing ", " Review the rules for using punctuation marks.

PAGE 8



Article Error You may need to use an article before this word. Consider using the article **the**.



Article Error You may need to use an article before this word. Consider using the article **the**.

PAGE 9



Prep. You may be using the wrong preposition.



Verb This verb may be incorrect. Proofread the sentence to make sure you have used the correct form of the verb.



Prep. You may be using the wrong preposition.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



Verb This verb may be incorrect. Proofread the sentence to make sure you have used the correct form of the verb.



Article Error You may need to use an article before this word.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.

PAGE 10



Prep. You may be using the wrong preposition.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



Missing ", " Review the rules for using punctuation marks.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



Article Error You may need to use an article before this word. Consider using the article **the**.

PAGE 11



Article Error You may need to use an article before this word. Consider using the article **the**.



Article Error You may need to use an article before this word. Consider using the article **the**.



Run-on This sentence may be a run-on sentence.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



Missing ", " Review the rules for using punctuation marks.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



Article Error You may need to use an article before this word. Consider using the article **the**.



Article Error You may need to remove this article.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.

PAGE 12



Prep. You may be using the wrong preposition.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



P/V You have used the passive voice in this sentence. You may want to revise it using the active voice.



Article Error You may need to use an article before this word.



Article Error You may need to use an article before this word.

PAGE 13



Prep. You may be using the wrong preposition.

PAGE 14

PAGE 15

PAGE 16

PAGE 17

PAGE 18
