

DEMOGRAPHIC BONUS AND HUMAN RESOURCE READINESS OF INDONESIA'S YOUNG GENERATION

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ARTICLE HISTORY

Received : 20-01-2026

Revised : 07-02-2026

Accepted : 15-05-2026

KEYWORDS

demographic dividend, youth human resources, formal employment, education mismatch

ABSTRACT

This article examines Indonesia's demographic dividend and the readiness of its young human resources by focusing on the availability of formal employment and the alignment between higher education graduates and labor market demand. The study applies a descriptive qualitative approach based on a systematic literature review, secondary data, and SWOT analysis. Data were drawn from publications of Statistics Indonesia, higher education policy documents, and scholarly literature related to demographic dividend, employment, and education. The findings show that Indonesia has strong demographic capital through its large productive age population and massive higher education enrollment, yet its potential remains constrained by educated unemployment, unequal access to formal jobs, and mismatch between educational attainment and labor market needs. Labor data in 2025 indicate that graduates from vocational secondary schools and universities still face relatively high unemployment, while formal employment opportunities remain concentrated in urban areas and specific social groups. This condition suggests that the demographic dividend does not automatically translate into economic gains. Strengthening the link and match between higher education, skill development, and the needs of industry and business sectors is therefore essential. In conclusion, the successful utilization of Indonesia's demographic dividend depends on the state's ability to create formal, relevant, inclusive, and sustainable jobs for young people in support of Golden Indonesia 2045.

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INTRODUCTION

The demographic bonus is often understood as a window of opportunity when the proportion of the population of productive age is greater than that of non-productive age. In the context of Indonesia, this opportunity is often associated with the target towards a Golden Indonesia 2045, because the large number of young people is considered to be a motor of economic growth if supported by quality, healthy, skilled, and absorbed human resources into

productive work. However, demographic bonuses don't automatically result in progress. emphasized that education is a key factor in determining whether the explosion of productive age will turn into a force for development or actually become a socio-economic burden. In line with that, it states that the demographic bonus can only be optimized through policies that focus on improving the quality of education, skills training, and adequate job creation. Thus, the discussion of the demographic bonus does not stop at the number of working-age population, but must be directed to a more substantive issue, namely whether formal jobs are available in sufficient quantities and whether university graduates are really in accordance with the needs of the work sector. Meo et al. (2025) Mayasari & Husin (2017)

The urgency of this problem is even more evident when looking at Indonesia's up-to-date employment conditions. The Central Statistics Agency reported that in February 2025 the number of working population reached 145.77 million people with an Open Unemployment Rate of 4.76 percent, then in August 2025 it increased to 146.54 million people with an Open Unemployment Rate of 4.85 percent. This data shows that employment opportunities in aggregate remain open and labor absorption continues, but the relatively limited decline in unemployment suggests that the quality of job absorption is still an important issue, especially when it is associated with the quality of education of the young workforce. In a demographic bonus situation, the main issue is not only whether the working-age population gets a job, but whether they enter a job that is stable, formal, productive, and relevant to their competencies. Therefore, the measure of the success of the demographic bonus needs to be read more critically through the structure of the labor market, not just through the national unemployment rate. (Khairunnisa & Nurwati, 2021)

The problem becomes more complex when the formal job market that is expected to support decent work is not evenly distributed. BPS data for 2025 shows that the percentage of formal labor in urban areas reaches 50.55 percent, while in rural areas it is only 29.75 percent. In terms of gender, the percentage of male formal workers was recorded at 45.88 percent, while women were 36.66 percent. This inequality shows that access to formal employment is still strongly influenced by the location and social characteristics of the workforce. In the context of Indonesia's young generation, this condition is important because most of the new graduates of higher education tend to be concentrated in urban areas, while the expansion of formal employment opportunities has not taken place equally in all regions. As a result, the growth in the number of graduates is not always accompanied by the growth of relevant formal job positions, resulting in increasingly fierce competition, longer job waiting periods, and a tendency to accept jobs below educational qualifications. (Wibowo et al., 2026)

The problem of *link and match* between higher education and the needs of the world of work is also seen from official government indicators. In the technical document of the Main Performance Indicators of universities, the Ministry of Higher Education, Science, and Technology places "graduates get decent jobs" as the main indicator, with criteria including working, entrepreneurship, or continuing their studies within a maximum span of 12 months after graduation. In fact, in the 2020-2024 RPJMN target, it is stated that the target of 66.7 percent of university graduates can immediately work within one year after graduation. The determination of this indicator shows that the government itself realizes that the success of higher education is not enough to be measured by graduation, but by the connection of graduates with a decent job market. When these indicators are used as a national measure, it means that there is recognition that the transition from campus to the world of work is a crucial point in the use of demographic bonuses. (Arum et al., 2023)

However, the reality on the ground shows that the transition has not been completely smooth. BPS in its publication on the *mismatch* of education and employment of Indonesian youth emphasized that the Youth Open Unemployment Rate is more than double the national level, and more than one-third of youth work inappropriately in accordance with their level of education. This condition of *being overeducated* and *undereducated* causes *wage penalties*, reduces the efficiency of the job market, and increases the risk of wasting potential demographic bonuses. The statement is in line with and highlights the high level of educated unemployment, Lee & Mason (2010) Minan

(2021) *skills mismatch*, and limited formal employment as the main obstacles to the readiness of Indonesia's young generation. This means that Indonesia's challenge is not just to produce more university graduates, but to ensure that these graduates have the competencies needed by the growing work sector and are able to enter decent formal jobs.

The scale of this problem can also be seen from the large Indonesian higher education base. BPS data sourced from PDDikti noted that in 2023 there will be 8,316,919 students under the guidance of ministries related to higher education. Such a large number of students shows that the supply of prospective university graduates in Indonesia is very large and will continue to enter the job market from year to year. At the same time, the Ministry of Higher Education, Science, and Technology said that universities contribute about 11 percent of the national unemployment, or nearly 800 thousand people by 2024. These two facts reveal an important paradox: higher education is growing and generating a large supply of graduates, but some of them are still not optimally absorbed by the formal work sector. In other words, the growth of the higher education system has not been fully proportional to the ability of the job market to absorb graduates according to their fields and competency levels.

Based on this description, the focus of this study becomes relevant, namely examining the demographic bonus and readiness of Indonesia's young generation of human resources through two core issues: the availability of formal employment and the suitability of the number of university graduates with the demand of the work sector. This focus is important because the success of the demographic bonus is determined not only by the large number of the productive age population, but by the state's ability to build an effective bridge between higher education, industrial needs, and the creation of decent formal jobs. Without *a strong link and match*, the demographic bonus risks turning into new pressures in the form of educated unemployment, low productivity, and economic inefficiency. Therefore, this article views that the readiness of the young generation of human resources must be read strategically through the connection between the education system, the formal labor market structure, and the direction of demand for the economic sector in Indonesia.

METHOD

The research method in this article uses a descriptive qualitative approach based on systematic literature review and secondary data. This approach was chosen because the study of the demographic bonus, the readiness of the young generation's human resources, the availability of formal employment, and the suitability of university graduates with the demands of the work sector requires a systematic search of various scientific sources and official statistics. Systematic literature review is carried out through the stages of problem identification, determination of the focus of the study, search of relevant literature, selection of sources, extraction of important information, synthesis of findings, and the preparation of patterns of relationships between concepts in a structured manner as described by . The data sources used include scientific articles, methodology books, policy documents, and official statistical publications related to employment, higher education, and demographic bonuses in Indonesia. In the methodological framework, secondary data was chosen because it was able to provide a broad picture of the objective conditions of the formal job market and the dynamics of university graduates at the national level, so that the analysis could be carried out more comprehensively and efficiently (Cabrerera et al. (2023) (Xiao & Watson, 2019)

After the data is collected, the analysis is continued using SWOT analysis to map internal and external conditions that affect the readiness of Indonesia's young human resources. In this study, the strengths and weaknesses aspects are directed at the quality of graduates, higher education capacity, and the competence of the younger generation, while the opportunities and threats aspects are focused on the development of the needs of the work sector, opportunities for formal employment expansion, and the risk of mismatch between education and the world of work. The SWOT analysis was chosen because it can help develop a strategic picture of Indonesia's position in utilizing the demographic bonus, as well as linking the literature findings with the reality of employment and education in an applicative manner. explained that SWOT analysis is useful for identifying determining factors in strategic decision-making, so this method is relevant for assessing the opportunities and challenges of young human resource readiness

in responding to the needs of the formal work sector. The results of the synthesis from Santiani et al. (2025) *the literature review*, secondary data, and SWOT analysis are then used as the basis for compiling the discussion and formulating the strategic implications of this research.

RESULT AND DISCUSSIONS

Research Results

The results of the study show that the opportunity for Indonesia's demographic bonus is still very large, but the quality of its utilization is largely determined by the ability of the formal job market to absorb higher education graduates in a relevant manner. The macro picture of employment in August 2025 shows that the number of the labor force reached 154.00 million people, while the number of working population reached 146.54 million people. The national Open Unemployment Rate was recorded at 4.85%, with an average wage of IDR 3.33 million per month. The increase in the number of employed population by 1.90 million people compared to August 2024 shows that there is a continuous absorption of work, although this increase does not automatically show that the jobs created have been dominated by the formal sector and in accordance with the educational qualifications of graduates. The business fields that absorb the most additional labor comes from the agriculture, forestry, and fisheries sectors as many as 0.49 million people, so the structure of job absorption still shows dependence on sectors that are not always synonymous with high-skilled formal jobs. This condition is important because the focus of the research is not only the number of people working, but also how far the formal job market is able to provide stable, decent, and suitable jobs in accordance with the competencies of the younger generation of university graduates.

Table 1. Key indicators of Indonesia's employment, August 2025

Indicator	Value
Workforce	154.00 million people
Working population	146.54 million people
Labor Force Participation Rate	70,59%
Open Unemployment Rate	4,85%
Average wages of workers	IDR 3,33 million/month
Average growth of labor wages from 2024 to 2025	1,94%
Largest addition of workers by field of business	Agriculture, forestry, fisheries: 0.49 million people

Source: BPS, *August 2025 Employment* Press Release.

The structure of unemployed education gives a sharper signal regarding the issue of the suitability of graduates with work needs. The highest Open Unemployment Rate in 2025 will be in Vocational High School graduates at 8.63%, followed by public high schools at 6.88%, universities at 5.39%, and diploma I/II/III at 4.31%. This figure shows that higher education does not necessarily guarantee a smooth transition to the world of work. University graduates even have a higher unemployment rate than diploma graduates. This fact suggests that the job market not only assesses diplomas, but also the relevance of competencies, experience, adaptability, and suitability of the field of study to the demands of the economic sector. This gap shows that the growing number of college graduates has not been fully offset by a commensurate demand for formal work. In the context of the demographic bonus, this kind of situation has the potential to give birth to *educated unemployment*, which is a productive age group that is more educated in terms of education, but has not been optimally absorbed.

Table 2. Open Unemployment Rate by education level, 2025

Education level	TPT
No/have never been to school, have not graduated, and graduated from elementary school	2,30%

Junior High School	3,80%
Public high school	6,88%
Vocational High School	8,63%
Diploma I/II/III	4,31%
Universitas	5,39%

Source: BPS, TPT statistics table by education level in 2025.

Indonesia's formal job market has also not shown an even distribution. BPS data in 2025 shows that the formal workforce in urban areas will reach 50.55%, while rural areas will only reach 29.75%. The gap between the two reached 20.80 points. Similar inequality can be seen from the gender dimension, because men's formal labor reaches 45.88%, while women's 36.66%, with a difference of 9.22 points. These findings suggest that access to formal employment is influenced by economic space, location, and the social characteristics of the workforce. The younger generation of college graduates who are outside the center of economic growth will face greater obstacles in obtaining formal employment. Highly educated young women also face additional challenges in accessing a quality formal job market. Thus, the problem of demographic bonuses is not only related to the large number of productive populations, but also to the affordability of an inclusive and more evenly distributed formal labor market structure.

Table 3. Percentage of formal labor force by region and gender, 2025

Category	Formal workforce
Urban	50,55%
Rural	29,75%
Male	45,88%
Women	36,66%

Source: BPS, statistical table of formal labor by region of residence and gender, 2025.

The findings about the education and employment mismatch reinforce this picture. BPS in its publication of *Statistical Data Stories for Indonesia* emphasized that the Youth Open Unemployment Rate was recorded at more than double the national rate. In addition, more than a third of young people work indirectly with their level of education. This condition reflects a *vertical mismatch*, which is a mismatch between the level of education possessed and the level of education required by the job. The form can be *overeducated* when a person has higher education than the requirements of his job, or *undereducated* when the job demands higher qualifications than the worker has. The BPS publication also emphasized that this condition causes *wage penalties* and economic inefficiency. This result means that the main problem of Indonesia's young generation does not only stop at access to work, but also at the quality of the match between graduate competencies and the structure of labor demand. When more than a third of youth are in jobs that do not match the level of education, then the potential for national productivity that should support the demographic bonus is not maximized.

Table 4. Key indicators of youth education and employment mismatch

Indicator	Key findings
A Nationwide Population Compared to the National Population	More than double the national figure
Youth work not according to the level of education	More than a third
Mismatch form	<i>Overeducated</i> dan <i>undereducated</i>
Economic impact	<i>Wage penalties</i> and economic inefficiency

Source: BPS, *Statistical Data Story for Indonesia* 2025.

The capacity of the Indonesian higher education system is actually very large. BPS data sourced from PDDikti recorded that the number of students in 2023 reached 8,316,919 people. Such a large student base shows that the supply of prospective graduates is huge and will continue to enter the job market in the coming years. The Ministry of Higher Education, Science, and Technology also places the indicator of "graduates get decent jobs" as the main performance indicator of universities. In the technical instructions for measuring the 2023 IKU, graduates are considered successful if they get a job, continue their studies, or become self-employed within a maximum waiting period of 12 months from the date of issuance of the diploma. The emphasis on the 12-month waiting period indicates that the government views the connection between higher education and the world of work as a strategic measure of quality. However, in the ministry's official statement in 2025 it was stated that universities contribute about 11% of the national unemployment, or nearly 800 thousand people by 2024. The combination of the large number of students and the still high unemployment of university graduates shows a paradox: the capacity of higher education is growing, but its absorption by the job market is not yet fully aligned.

Table 5. Indicators of higher education and the transition of graduates to the workforce

Indicator	Values/Descriptions
Number of Indonesian students, 2023	8,316,919 people
IKU of graduate-related universities	Graduates get decent jobs
Kriteria IKU	Work, continue your studies, or be entrepreneurial
Waiting time used	Maximum 12 months after the issuance of the diploma
Contribution of universities to national unemployment in 2024	About 11% or almost 800 thousand people

Source: BPS 2023, KPI 2023 Guidelines, and official statement of the Ministry of Education and Technology 2025.

A synthesis of all data findings shows four main patterns. First, the Indonesian job market continues to absorb the workforce, but its expansion is not synonymous with the expansion of formal work that is relevant for university graduates. Second, the relatively high unemployment rate actually appears in the group of high school graduates, vocational, and tertiary institutions, so education does not automatically guarantee smooth work mobility. Third, the formal work structure is still unequal according to region and gender, so the opportunity to get a decent job is not evenly distributed. Fourth, the large number of students and the high *mismatch* of youth indicate that the main problem lies in the relationship between the education system, economic structure, and the direction of the needs of the work sector. Indonesia's demographic bonus is thus at a decisive point. The opportunity remains large because the number of people of productive age is high, but its effectiveness depends heavily on the ability to create formal jobs that are in line with the competence of graduates and the dynamics of the future economic sector.

Discussion

The results of the study confirm that Indonesia's demographic bonus cannot be understood only as an excess of the productive age population. The main key lies in the quality of *matching* between the supply of educated young workers and the structure of available employment opportunities. placing education as a central element in welcoming the Golden Indonesia 2045, while emphasizing that education, skills training, and job creation must go hand in hand. BPS data shows that job absorption is indeed taking place, but the largest additions occur in agriculture, forestry, and fisheries. This means that the growth of job opportunities has not been fully concentrated in the modern formal sector which is commonly associated with the absorption of university graduates. This situation explains why unemployment among university graduates is still at the level of 5.39% and unemployment among diploma graduates at 4.31%, even

though in aggregate national unemployment is at 4.85%. This gap shows that the main problem is not just a lack of jobs, but a limited number of jobs that match the profile of graduates. Satiti et al. (2026) Falikhah (2017)

The significance of the findings lies in the fact that higher education is generating a huge supply of human resources. Data of 8.316 million students shows that Indonesia's higher education system has a wide production capacity for graduates. However, the official statement of the Ministry of Education and Science that universities will contribute around 11% of national unemployment in 2024 shows that graduate production is not fully connected to the real needs of the job market. cited unemployment, low quality of human resources, and inequality of economic access as serious obstacles in utilizing the demographic bonus. This view is in line with the results of BPS on Yamin et al. (2021) *the vertical mismatch* of youth. When more than a third of youth are working at a level that is not in line with their education, the country is facing a waste of education investment. This condition not only harms individuals because it reduces relative income, but also harms the national economy because potential productivity is not utilized optimally.

The reading through SWOT analysis clarifies Indonesia's position. The main strength lies in the large productive age population, the growing access to higher education, and the large national student base. even assesses that Indonesia's generation Z has Wiyono et al. (2019) *a figital*, realistic, and *do-it-yourself character* that has the potential to answer the challenge of the demographic bonus. The weakness is seen in the lack of a strong *link and match* of the curriculum with the needs of the work sector, high *educated unemployment*, and the still wide gap in formal employment opportunities by region and gender. Opportunities are available through the transformation of the digital economy, creative industries, strengthening young entrepreneurship, and improving the indicators of decent work graduates that have been emphasized by the government. The main threats are *skills mismatch*, concentration of work in low-productivity sectors, as well as the risk that college graduates will only move into informal jobs or jobs that are below their qualification level. explains that SWOT analysis is useful for identifying factors that determine strategic decisions. In this case, SWOT shows that Indonesia's demographic strength has not automatically changed into an economic power without serious institutional engineering in the education sector and the job market. Adriani & Stuttgart (2021)

Table 6. SWOT analysis of demographic bonus and readiness of young Indonesian human resources

SWOT Elements	Description
Strengths	Large working-age population, high national student base, policy attention to graduates decent work
Weaknesses	Mismatch of education and work, educated unemployment, unequal distribution of formal work
Opportunities	Digital economy, creative industries, youth entrepreneurship, curriculum reform and industry collaboration
Threats	Formal jobs grow slowly, dominate low-productivity sectors, <i>wage penalties</i> , economic inefficiency

Source: Author (2026)

Inequality in economic space is also a very decisive factor. The formal labor gap between urban and rural reaches 20.80 points. This means that college graduates from areas with a weak economic base will face a double barrier: access to higher education may be better, but access to the formal job market is not yet equal. emphasized that the demographic bonus brings great potential for economic growth, but failure to take advantage of it will also lead to huge losses. The findings of this region show one form of such risk. Human resource development can no longer be separated from the construction of new economic growth centers outside big cities. The gender gap of 9.22 points also shows that the demographic bonus is not yet fully inclusive. If young women with higher education do not

have equal access to formal employment, some of the national productive potential will be retained. Nainggolan & Budiman (2024)

The problem of unemployment among vocational high school graduates, which is the highest, also needs to be read critically. Vocational education has been positioned as the closest path to industrial needs. However, the figure of 8.63% indicates that the institutional connection between vocational schools and the needs of the job market is not effective enough. Similar conditions, albeit at a lower level, are also seen in diplomas and universities. emphasizing that secondary data can reveal objective conditions broadly. In that framework, BPS data sends a message that the problem does not lie only in the number of educational institutions, but in the quality of practical skills, work experience, adaptive ability, and the relevance of study programs. assesses that without education reforms, strengthening vocational training, and sustainable job creation, the demographic bonus can turn into a threat of unemployment. The findings of this study strongly support this view. Al Kahar (2021) Melo et al. (2024)

The most logical policy direction from the results of this study is the strengthening of three main bridges. The first bridge is the bridge between the curriculum and industry, namely the preparation of curriculum based on the needs of the work sector, *microcredentials*, structured internships, and the involvement of practitioners in learning. The second bridge is the data bridge, namely the unification of tracer study information, sectoral labor needs, and formal employment growth projections so that universities do not produce graduates without a clear direction of demand. The third bridge is a regional bridge, namely equitable distribution of investment, development of industrial and service areas, and incentives for the creation of formal jobs outside metropolitan centers. emphasizing the importance of decent work within the framework of the Sustainable Development Goals. Thus, the demographic bonus must be measured not only by the number of young people working, but by how much they enter into decent, formal, productive, and qualified, jobs. Hardyati et al. (2023)

The overall results and discussions show that Indonesia has not lacked the younger generation, has not lacked higher education institutions, and has not stopped creating jobs. The main problem lies in the quality of interconnectedness between systems. The new demographic bonus will really be a bonus when higher education produces graduates who are in accordance with the needs of the work sector, the formal job market grows faster and more evenly, and state policies are able to reduce *the mismatch* that is still large among the youth. Without it, the demographic bonus would only produce a paradox: the number of graduates is growing, but the corresponding formal jobs are not growing as fast as the supply of educated labor. These results are in line with the view that the future of the demographic bonus is determined by the quality of human resources, the relevance of education, and the capacity of the state to build productive workspaces for the younger generation. Ulma & Julia (2022) Shirley & Indrawadi (2019)

CONCLUSION

Indonesia's demographic bonus is a strategic opportunity that will only generate real benefits if it is supported by the readiness of the young generation's human resources that are truly aligned with the needs of the formal job market. The results of the study show that Indonesia already has strong demographic capital through the large number of productive age population, the increase in the number of working population, and the breadth of the national higher education base. However, these opportunities are still overshadowed by a number of fundamental problems, namely the uneven availability of formal jobs, high unemployment among secondary and university graduates, and the strong symptoms of mismatch between the level of education and the jobs obtained. This condition shows that the increase in the number of graduates has not been fully accompanied by the ability of the work sector to provide decent, stable, and compliant positions. The regional gap between urban and rural, gender inequality in access to formal employment, and the dominance of labor absorption in sectors that are not always based on high skills further confirm that the

demographic bonus cannot be used automatically. Indonesia's success in welcoming the Golden Indonesia 2045 depends heavily on strengthening the link and match between higher education, skills training, economic transformation, and inclusive formal job creation. Therefore, the policy direction needed is not only to expand access to education, but also to ensure the relevance of the curriculum, strengthen collaboration with the business and industry world, and build an employment system that is able to absorb young graduates productively, evenly, and sustainably, so that the demographic bonus is truly a force for national development, not a source of new socio-economic pressure.

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