

The Influence of Cognitive Abilities on the Choice of Employment Sector in Indonesia

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Abstract

Cognitive ability plays a crucial role in determining the overall quality of human resources. However, the level of cognitive ability remains a significant concern in Indonesia, as the country ranks 10th in Asia. The primary objective of this study is to analyse the impact of cognitive ability levels on the choice of employment sector in Indonesia. The findings can potentially aid policymakers and stakeholders in devising targeted strategies to improve the country's cognitive abilities and effectively allocate human resources across different sectors. The study utilises data from the fifth round of the Indonesian Family Life Survey (IFLS-5) in 2014 and the multinomial logit model for the analysis. The findings highlight a significant relationship between cognitive ability and the choice of employment sector. Individuals with higher cognitive skills are more inclined to opt for the formal sector as their preferred employment choice rather than agriculture and entrepreneurship. Policymakers should strengthen cognitive skills element in education and job training for Indonesian workers in order to distribute human resources across sectors better and stimulate economic growth.

Keywords: cognitive ability; employment; formal sector; entrepreneurship; Indonesia

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1. Introduction

Human resources play a vital role in a nation's development. Several crucial factors contribute to economic growth, including investments in labour, innovation, and knowledge (Rani, 2021). At the individual level, cognitive ability stands out as a decisive factor affecting workforce quality. Cognitive abilities encompass brain-based skills necessary for tasks ranging from simple to complex. According to Burhan et al. (2023), cognitive abilities are instrumental in enhancing a country's production capacity. Notably, the differences in economic growth among countries are closely linked to cognitive abilities, as assessed through academic evaluations. Moreover, cognitive ability can somewhat bridge the gap between developed and developing countries. Developing nations often face a cognitive ability deficit due to a greater emphasis on educational quantity rather than quality (Salirawati, 2021). Hence, focusing on improving cognitive abilities can contribute significantly to narrowing this gap and fostering overall development.

Being a developing country, Indonesia faces significant concerns regarding the level of cognitive ability among its population. Indonesia's average IQ stands at 78.49, ranking 130th out of 199 countries and last among the ten ASEAN countries.¹ This relatively low cognitive ability level has a direct impact on the quality of human resources in the country, making it challenging for less qualified individuals to find opportunities in the formal labour market. As a result, a substantial portion of Indonesia's population finds employment in the informal sector.

The informal sector is more accommodating to individuals who possess non-cognitive skills, such as social aptitude, individual character, motivation, and specific interests. This emphasis on non-cognitive aspects allows for a significant portion of the workforce to participate in the informal sector, given the limitations posed by the lower cognitive abilities. For developing countries like Indonesia, the challenge lies in enhancing cognitive abilities among the population, which would lead to better-equipped human resources that can contribute more effectively to the formal labour market. By focusing on improving cognitive abilities through education and targeted programs, Indonesia can work towards uplifting the overall quality of its workforce and creating opportunities for better economic growth and development.

The employment sector plays a crucial role in a country's economy and significantly impacts the well-being of its citizens. Generally, there are two main employment sectors in a country: the formal sector and the informal sector. The formal sector comprises jobs within structured companies, offering regular working hours, and operating with official permits that are protected by the country's laws. On the other hand, the informal sector, as defined by the International Labor Organization (ILO), encompasses all economic activities carried out by workers

¹United Nations Department of Economic and Social Affairs, Population Division (2022). *World Population Prospects 2022: Summary of Results*.

and economic units that are not adequately covered by formal arrangements or may not be compliant with legal practices. This sector operates outside the formal regulatory framework and is characterized by a lack of official protections and benefits.

According to the International Labor Organization, approximately two billion workers, accounting for about 60% of the global working population aged 15 and above, are engaged in the informal sector, either full-time or part-time. Over time, as the economy develops, the size of the informal sector tends to decrease, although variations exist across different regions and countries. This ongoing shift from informal to formal employment is often a sign of economic progress and improved labour conditions. However, the pace and scale of this transformation can differ significantly based on the specific socio-economic conditions and policies of each region or country. The challenges and opportunities presented by the informal sector remain a focal point for policymakers and researchers, as they aim to create inclusive and sustainable economic growth for all segments of society.

In developed countries, a significant portion of the population is employed in the formal sector, including civil service positions and jobs in the industrial sector. In contrast, in developing countries, a considerable majority of the population is engaged in informal work, often as agricultural labourers or in other informal sectors. Informal labour constitutes a substantial proportion of the workforce in developing countries, and this trend is particularly pronounced in Indonesia, one of the developing countries in Asia. According to data from Statistics Indonesia in August 2022, Indonesia had 80.24 million informal workers, accounting for approximately 59.31% of the total workforce. On the other hand, formal workers in Indonesia numbered 55.06 million, making up around 40.69% of the workforce. Of the total workforce, 56.03% were male, while 43.97% were female.

The prevalence of informal labour in Indonesia highlights the challenges faced by the country in transitioning towards more formal employment opportunities and improving the overall working conditions and welfare of its population. Developing strategies to create more formal job opportunities and enhance the quality of informal work are essential steps for fostering economic growth and social development in Indonesia. By addressing these issues, Indonesia can move towards a more balanced and inclusive labour market that benefits both the workforce and the country's economy.²

In Indonesia, the informal sector encompasses various types of work, including self-employment involving home production and small trade, as well as paid work, such as casual and contract labour. Ojwang (2022) characterizes the informal sector by its competitive small firms, small retail and service establishments, labour-intensive methods, free entry, and reliance on market determinants and product prices. The significant proportion of informal workers in Indonesia is

²Statistics Indonesia, 2022.

closely linked to the country's low level of education. Furthermore, many small and medium enterprises in the country struggle to achieve economies of scale and provide skill development opportunities for their workers. These factors contribute to the prevalence of informal labour as the primary form of employment for a large segment of the population.

Cognitive ability stands out as a critical determinant of a person's employability in the labour market. It plays a crucial role in influencing an individual's capacity to perform various tasks effectively. Moreover, cognitive ability is believed to impact a person's suitability for specific work sectors (Prayudhani, 2019). Therefore, improving cognitive abilities among the workforce could potentially enhance their opportunities for formal employment and contribute to the overall economic development of Indonesia. Addressing the educational challenges, promoting skill development, and recognizing the significance of cognitive abilities are key areas that policymakers and stakeholders in Indonesia can focus on to foster inclusive growth and enhance the overall quality of the labour market. By investing in education and skill-building initiatives, the country can empower its workforce and drive positive economic transformation.

According to Statistics Indonesia, the employment sector in Indonesia is predominantly composed of the informal sector, with agriculture occupying the largest share at 38.7% in 2022. Following agriculture, entrepreneurship or trade accounts for 26.19%, among other categories. These figures demonstrate that the agricultural sector holds a dominant position in the employment landscape of developing countries like Indonesia.

Ngepah (2019) highlights that agricultural workers often face underemployment, where the available employment opportunities in agriculture are limited compared to the number of workers seeking employment. This situation is sometimes referred to as disguised employment, where there is an excess of labour relative to the available natural resources and other production factors. Consequently, many agricultural workers engage in additional activities during their free time, such as trading or labour work, to supplement their income. The prevalence of underemployment in the agricultural sector underscores the need for diversification and improvement in the country's employment opportunities. Developing policies that promote job creation, skill development, and economic diversification can help alleviate underemployment and foster more sustainable and inclusive growth in Indonesia. By creating an environment that encourages entrepreneurship and supports the growth of various industries, the country can provide more meaningful and productive employment opportunities for its workforce.

In a study conducted by Prayudhani (2019), it was revealed that both cognitive and non-cognitive skills play a significant role in influencing an individual's choice between formal and informal work sectors. Similarly, a separate study conducted in Greece by Ragazou et al. (2022) demonstrated that students in Greece exhibited a decreased inclination towards becoming entrepreneurs in the post-crisis period. It is important to note that a person's decision to enter the

workforce is not solely dependent on completing their education; rather, the level of education attained can profoundly impact their prospects in the future labour market and shape their employment opportunities across different sectors.

This study aims to examine the impact of cognitive skills on employment sector selection in Indonesia, a topic that has received limited attention in the existing literature. Indonesia's labour market is primarily dominated by three key sectors: the formal sector, the agricultural sector, and entrepreneurship. Prior research has explored this subject using different variables, such as parents' employment status to gauge interest in entrepreneurship (Isma *et al.*, 2020), or variables like child ownership, which influence women's decision to work in the formal sector, opt for self-employment or become housewives (Maryasih, 2021).

To bridge the gap and enhance the understanding of this issue, this study will utilize the most recent data available from the Indonesian Family Life Survey (IFLS), specifically the fifth round of survey data published in 2014. This research uses a multinomial logit regression model to investigate how cognitive abilities are related to the choice of job fields. The unique focus on cognitive skills and their impact on sectoral employment choices in Indonesia adds novelty to the study, making it an intriguing and potentially enlightening addition to existing research in this area.

The novelty of this research lies in its investigation into the impact of cognitive skills on employment sector selection in Indonesia, a topic that has received limited attention in existing literature. Studies on this subject, particularly in Indonesia, were conducted two decades ago (Gallaway & Bernasek, 2002). Utilizing the most recent information from the IFLS dataset will enhance the understanding of the existing literature, considering the changes that may have occurred over time. While prior studies have explored related subjects using different variables, such as parents' employment status or child ownership, this study specifically focuses on the influence of cognitive abilities on the choice between the formal sector, agricultural sector, and entrepreneurship within Indonesia's labour market. As part of a robustness check, this research evaluates how cognitive abilities impact the selection of employment sectors across genders.

The influence of cognitive abilities on employment sector choice has garnered significant attention within the realm of labour economics. Cognitive abilities, encompassing a spectrum of brain-based skills essential for task performance, have been identified as crucial determinants of workforce quality and productivity (Burhan *et al.*, 2023). Research suggests that individuals with higher cognitive abilities are more likely to excel in complex and demanding tasks across various sectors of the economy (Rani, 2021). This has implications for employment sector choice, as cognitive skills play a pivotal role in determining suitability for different types of work environments, from structured formal sectors to more flexible informal sectors (Prayudhani, 2019). Understanding the influence of cognitive abilities on employment sector choice is essential for devising effective policies aimed at enhancing workforce outcomes and fostering economic development.

The choice between formal and informal employment sectors is influenced

by a myriad of factors, among which cognitive abilities play a significant role. Individuals with higher cognitive abilities may gravitate towards formal employment opportunities that offer stability, official protections, and opportunities for career advancement (Burhan et al., 2023). On the other hand, those with lower cognitive abilities may find themselves more suited to the informal sector, which often values non-cognitive skills such as social aptitude and adaptability (Ojwang, 2022). The prevalence of informal employment, particularly in developing countries like Indonesia, underscores the importance of understanding how cognitive abilities shape sectoral employment choices and the implications for labour market dynamics.

Research investigating the influence of cognitive abilities on sectoral employment choices has provided valuable insights into labour market dynamics. Studies have highlighted the multifaceted nature of employment decisions, where cognitive abilities interact with socioeconomic factors and individual preferences to shape sectoral choices (Ngepah, 2019; Prayudhani, 2019). Moreover, international comparisons have revealed variations in sectoral preferences across different contexts, emphasizing the need for tailored policy interventions (Ragazou et al., 2022).

2. Methodology

This study focuses on individuals selected from the Indonesian Family Life Survey (IFLS), which is a longitudinal survey of individuals and households conducted since 1993. As described by Strauss et al. (2016), the IFLS, carried out by RAND, aims to comprehensively capture social, economic, and employment-related aspects. The respondents included in the survey come from 13 provinces, representing approximately 83% of Indonesia's population.

For this specific study, the researchers utilized cross-sectional data from the year 2014, which corresponds to the final round of the IFLS. The sample for this research was limited to individuals aged between 15 and 49 years who had previously taken the Raven test, a measure of general cognitive ability. It is a non-verbal assessment designed to measure cognitive ability focusing on skills such as reasoning, problem-solving, and abstract thinking. Importantly, the individuals included in this study had to be employed or currently working and capable of responding to all the relevant variables used in the research. In total, the study incorporated 9695 respondents from the sample to draw meaningful conclusions.

This study employs a quantitative approach, specifically utilizing a multinomial logit regression model along with after-logit marginal effects, to examine the correlation between cognitive abilities and the selection of employment sectors. The reason for choosing this model lies in the fact that the dependent variable in this case comprises multiple categories (Yudissanta & Ratna, 2012). This approach makes sense given the categorical nature of the dependent variable, allowing for a more nuanced understanding of how cognitive abilities influence employ-

ment sector choices among individuals. The regression function employed in this research is outlined as follows:

$$\text{sector} = \beta_0 + \beta_1 \text{cognitive} + \beta_2 \text{noncognitive} + \beta_3 \text{age} + \beta_4 \text{age}^2 + \beta_5 \text{educ} + \beta_6 \text{religion} + u \quad (1)$$

The study utilizes the employment sector as the dependent variable, categorized into three groups: (1) entrepreneurs, (2) formal sector employees, and (3) agricultural workers. The informal sector, according to Statistics Indonesia, encompasses the self-employed, businesses aided by agencies, and those supported by permanent employees. On the other hand, IFLS data differs and classifies employment status into eight categories, with civil servants and private employees forming distinct groups. For this research, the formal sector is defined to encompass employees working in companies, while the informal sector includes all other groups of workers apart from those in formal employment.

The primary independent variable explored in this study is cognitive abilities, which refers to an individual's academic and intellectual skills. This variable was derived from the Raven Progressive Matrix subset within the IFLS questionnaire. This indicator is considered a reliable measure of an individual's capacity for systematic reasoning, as supported by the work of Afif et al. (2022).

Nonetheless, it is crucial to note that cognitive ability, as assessed by achievement tests, is not the sole determinant of overall success in life. Numerous other factors also play significant roles in influencing cognitive development. These factors have an enduring impact, starting from childhood and continuing throughout growth and development. These interconnected influences can be observed within the framework of thinking or the social determinants of childhood growth and development, as explored by Irwin et al. (2007).

In this study, we consider various individual characteristics that may influence the choice of employment sector. These factors include non-cognitive abilities, education level, age, and religion. Non-cognitive abilities encompass emotional and social aspects, representing a distinct set of traits not typically measured by IQ tests or aptitude assessments. Such characteristics may involve personality, motivation, or interests, as highlighted by Palczyńska & Świśt (2018).

Additionally, we control for other variables such as educational attainment as measured by years of schooling, with respondents limited to the age range of 15 to 49 years, and religion (categorized as 1 for Islam and 0 for other religions). The inclusion of religion is particularly relevant since it plays a significant role in workforce diversity and requires consideration in our analysis. By considering and accounting for these diverse factors, we aim to gain a comprehensive understanding of their impact on employment sector choices.

One limitation of the study is that it relies on cross-sectional data from a single year (2014), which may not capture the dynamic nature of employment sector choices over time. Additionally, while the study controls for various individual characteristics, it may overlook potential confounding variables or fail to capture the full complexity of factors influencing employment sector selection.

3. Result and Analysis

Table 1 provides an overview of the summary statistics of each variable in this research. The dependent variable, representing the employment sector, encompasses entrepreneurship, the formal sector, and agriculture. The mean age of the sample is 35 years, with an average educational attainment of 10 years, or equivalent to completing junior high school. Predominantly, the sample identifies as muslim (90%), while the non-cognitive ability average among participants is 39.01 points on a scale of 14 to 50 where a higher score represents better non-cognitive ability. In terms of the cognitive variable, the average score reaches 53.19 points on a scale ranging from 0 to 100 where a higher score indicates better cognitive ability. These statistics collectively offer valuable insights into the demographic and cognitive characteristics of the sample participants.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Employment sector	1.61	0.54	1	3
Cognitive	53.19	22.00	0	100
Non-Cognitive	39.01	4.18	14	50
Age	35.59	7.29	15	49
Education	10.03	4.03	0	22
Religion	0.90	0.29	0	1

Source: IFLS-5 (Authors' calculation)

Table 2 displays the outcomes of the regression analysis based on the multinomial logit approach. The estimations unveil a noteworthy and substantial correlation between cognitive abilities and the selection of employment sectors within Indonesia. Notably, this study reveals that higher cognitive abilities correlate with an increased likelihood of engaging in the formal sector (0.10%) while on the other hand reducing the likelihood of pursuing roles as entrepreneurs (0.08%) and farmers (0.01%).

It is worth noting that in the context of the Indonesian labour market, individuals with higher cognitive abilities tend to dominate the formal sector (Prayudhani, 2019). This observation is consistent with the prevailing trend, where the formal sector in Indonesia predominantly attracts workers with enhanced cognitive skills. This alignment can be attributed to the inherent nature of the formal sector, which demands a workforce equipped with strong cognitive capabilities to contribute effectively to the sector's requirements.

This study further reveals that individuals with higher cognitive abilities tend to exhibit diminished enthusiasm towards entrepreneurship. This phenomenon can be attributed to a prevailing lack of interest in pursuing entrepreneurial ventures. Currently, entrepreneurship seems to be pursued as a last resort in the career trajectory. The misperception surrounding entrepreneurship in Indonesia is evident through the accounts of higher education graduates, who, despite possessing notable cognitive abilities, predominantly gravitate towards seeking formal sector employment. This inclination is underpinned by the perception that

Table 2: Estimation Results of the Multinomial Logit Method

VARIABLES	(1) Entrepreneur	(2) Formal	(3) Agriculture
Cognitive	-0.0008*** (0.0002)	0.0010*** (0.0002)	-0.0001** (0.0000)
Noncognitive	0.0026** (0.0012)	-0.0021* (0.0012)	-0.0004* (0.0002)
Age	0.0303*** (0.0067)	-0.0293*** (0.0068)	-0.0010 (0.0013)
Age2	-0.0003*** (0.0000)	0.0002*** (0.0000)	0.0000 (0.0000)
Educ	-0.0330*** (0.0015)	0.0374*** (0.0015)	-0.0044*** (0.0003)
Religion	-0.0507*** (0.0176)	0.0359** (0.0179)	0.0148** (0.0058)
Observations	9.695	9.695	9.695

Notes: Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

formal employment offers a more stable income with reduced risks compared to initiating entrepreneurial endeavours.

In this context, college graduates often prioritize securing positions aligned with their academic qualifications, aiming for higher remuneration. Consequently, they tend to view unemployment as a more viable option than engaging in work that does not correspond to their expertise (Lilyana, 2022). This reveals a prevailing mindset that favours established career paths and financial stability over entrepreneurial pursuits, further highlighting the influence of cognitive abilities on career decisions.

The findings of the analysis also indicate that individuals with advanced cognitive aptitude tend to display a reduced inclination towards pursuing employment within the agricultural sector. This trend aligns with the current scenario in Indonesia, where the agricultural sector remains a less appealing option for those holding higher educational qualifications. The underdeveloped nature of the agricultural sector, coupled with its comparatively modest income prospects, contributes to its limited attractiveness among individuals possessing heightened cognitive capabilities.

Past research has identified various factors contributing to this avoidance of the agricultural sector, including uncompetitive remuneration and demanding physical labour (Nawawi et al., 2022). Consequently, there exists an imperative for governmental intervention to bolster the agricultural sector within Indonesia. Such efforts are necessary to render the sector more appealing to individuals with advanced cognitive abilities, potentially catalysing positive transformations within the sector.

Another crucial factor to consider is the role of non-cognitive abilities, encompassing emotional and social aspects, which significantly impact the selection of employment sectors within Indonesia. Better non-cognitive abilities correspond

to a higher likelihood of engaging in entrepreneurship (0.26%), concurrently reducing the probability of pursuing roles within the formal sector (0.21%) or agriculture (0.04%). Supporting this, Gustina et al. (2020) discovered a positive and noteworthy correlation between non-cognitive abilities and the inclination towards entrepreneurship. This relationship can be attributed to the positive influence that non-cognitive skills, particularly social competencies, wield in fostering success within entrepreneurial endeavours.

The results of the analysis also underscore the substantial impact of demographic factors, including age, education level, and religion, on the selection of employment sectors within Indonesia. As an individual's age advances, there is an associated increase in the likelihood of pursuing entrepreneurship (3.03%), accompanied by a corresponding decrease in the likelihood of opting for the formal sector (2.93%). Rosdianto (2023) suggests that the optimal phase for embarking on entrepreneurship lies during the transition into adolescence, marked by the acquisition of foundational entrepreneurial knowledge and a heightened interest in entrepreneurship.

As individuals transition into early adulthood, their focus shifts towards aligning their career paths with their talents, interests, and psychological inclinations. Situations of this nature can substantially influence one's disposition towards entrepreneurship (Wulandari, 2020), further emphasizing the intricate interplay of age and career preferences within the context of employment sector choices.

The outcomes of the analysis also underline a significant correlation between education level and the selection of the employment sector in Indonesia. As an individual's educational attainment rises, the likelihood of them engaging in the formal sector experiences a corresponding increase (3.74%), while the likelihood of pursuing entrepreneurial roles (3.30%) and agricultural work (0.44%) diminishes. The broad knowledge acquired through educational progression plays a pivotal role in shaping an individual's competencies and aptitudes within their profession.

This phenomenon aligns seamlessly with the requisites of the formal sector, which places a premium on proficient skills and capabilities that correspondingly yield higher wages. This result echoes the findings of Qonita (2020), who observed that individuals with advanced education tend to gravitate towards the formal sector due to the more favourable wage prospects it offers in comparison to the informal sector.

The final determinant examined is the religious variable, which significantly shapes the employment sector preferences within Indonesia. Individuals who adhere to the Islamic faith exhibit a reduced likelihood of pursuing entrepreneurial roles (5.07%), and instead, display a higher propensity for engaging in the formal sector (3.59%) or agricultural work (1.48%). As elucidated by Maulana (2019), Muslims in Indonesia tend to show less enthusiasm for entrepreneurship, with many gravitating towards employee positions. This inclination can be attributed to the perception held by most Muslims that entrepreneurship carries a sub-

stantial risk and entails unhealthy competition, aspects not aligned with the principles of Islamic teachings.

In the current landscape, it is evident that the realm of prosperous entrepreneurship is largely occupied by individuals from neighbouring ethnic backgrounds, with a notable prevalence of non-muslim participants. Conversely, muslims in Indonesia seem to display a preference for employment positions, spanning both the formal and agricultural sectors. This pattern underscores the intersection of religious beliefs and occupational choices, elucidating the distinctive tendencies observed among different religious groups in the Indonesian labour market.

Table 3 presents the outcomes of the regression analysis utilizing the multinomial logit approach, specifically focusing on the male and female subsets. The estimation findings reveal discernible disparities between the genders; notably, the male sample exhibits a higher degree of statistical significance compared to the female sample. The augmented significance in the male sample denotes a more robust explanatory power of the utilized variables concerning male workforce engagement within both formal and informal sectors.

Conversely, the female sample demonstrates a comparatively lower level of significance, implying the presence of additional indicators that impact women’s labour force participation. Nonetheless, a notable convergence is observed in one variable that holds sway over both genders’ workforce participation rates—namely, the educational variable. This underscores the paramount role of educational attainment in influencing the decision to partake in the labour force, exerting a considerable and equal impact on the choices made by both men and women.

Table 3: Estimation Results by Gender

VARIABLES	Male			Female		
	(1) Entrepreneur	(2) Formal	(3) Agriculture	(1) Entrepreneur	(2) Formal	(3) Agriculture
Cognitive	-0.0009*** (0.0003)	0.0011*** (0.0003)	-0.0001 (0.0000)	-0.0007 (0.0004)	0.0008* (0.0004)	-0.0001* (0.0000)
Noncognitive	0.0030** (0.0015)	-0.0025 (0.0015)	-0.0005 (0.0003)	0.0017 (0.0022)	-0.0013 (0.0022)	-0.0003 (0.0004)
Age	0.0317*** (0.0087)	-0.0286*** (0.0087)	-0.0031* (0.0017)	0.0279*** (0.0108)	-0.0307*** (0.0109)	0.0028 (0.0022)
Age2	-0.0003*** (0.0001)	0.0002** (0.0001)	0.0000* (0.0000)	-0.0002* (0.0001)	0.0003** (0.0001)	-0.0000 (0.0000)
Educ	-0.0322*** (0.0019)	0.0364*** (0.0019)	-0.0042*** (0.0004)	-0.0344*** (0.0026)	0.0388*** (0.0026)	-0.0043*** (0.0005)
Religion	0.0550** (0.0221)	0.0343 (0.0226)	0.0207** (0.0082)	-0.0454 (0.0290)	0.0391 (0.0296)	0.0062 (0.0076)
Observations	6.333	6.333	6.333	3.362	3.362	3.362

Notes: Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

4. Conclusion and Implication

This study presents empirical findings that underscore the significant role played by cognitive abilities in shaping employment sector preferences in Indonesia. Individuals possessing a higher cognitive aptitude are inclined to opt for positions within the formal sector, a trend that aligns seamlessly with the formal sector's inherent requirement for a workforce equipped with robust cognitive capabilities, enabling substantial contributions to the sector's endeavours. Thus, policymakers should introduce focused education and job training to boost cognitive skills among Indonesia's workers, aiming to distribute human resources across sectors better and stimulate economic growth.

The prominence of high cognitive skills nurtured through education aligns with a prevalent theory emphasizing enhanced employability (Yuraida, 2022). Cognitive skills emerge as pivotal determinants of human resource quality. The government's proactive initiative to allocate funds for the completion of 12 years of compulsory education constitutes a commendable stride towards augmenting cognitive skills within Indonesia. Education emerges as intrinsically intertwined with cognitive skills, indicating that heightened educational attainment invariably leads to an increase in cognitive aptitude.

Nevertheless, while this research yields valuable insights, it has yet to pinpoint definitive reasons for the ongoing dominance of the agricultural sector within Indonesia's employment landscape. This might be attributed to the absence of variables capable of elucidating the growing attraction towards agricultural work. Hence, prospective investigations should consider incorporating variables demonstrating a positive correlation with interest in the agricultural sector. This approach aims to foster a coherent explanation that complements the insights derived from Indonesian labour force data and aligns with the prevailing trends within the country.

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