

COST BENEFIT ANALYSIS OF SOCIAL ASSISTANCE PROGRAMS, PIP, AND PRE-EMPLOYMENT CARDS ON POVERTY IN INDONESIAN SOCIETY

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Abstract

This study aims to calculate the Cost Benefit Analysis of the three social intervention programs of the Indonesian government, namely, Cash Social Assistance (Bansos), Smart Indonesia Program (PIP), and Pre-Employment Card, in reducing poverty in Indonesia, as well as evaluating the effectiveness and efficiency of the three programs. The research gap in this study is the lack of studies that simultaneously evaluate the three main programs using the Cost Benefit Analysis (CBA) approach simultaneously. This study uses a descriptive quantitative method with an evaluative approach of CBA, involving 38 provinces in Indonesia by 2024, with secondary data from BPS and the official portal of each program. The results of the study show that the Social Assistance program has a national CBA ratio of 0.26, indicating that the benefits received by the community are much lower than the costs incurred by the government, which means that the Social Assistance program is inefficient in reducing poverty in Indonesia. The Smart Indonesia Program (PIP) is more efficient with a national CBA ratio of 1.17 which shows that the PIP program is efficient in reducing poverty in Indonesia, with the majority of provinces benefiting more from the cost, although there are some provinces with a CBA<1 ratio still facing challenges in the distribution and utilization of education funds. Meanwhile, the Pre-Employment Card shows the highest efficiency in reducing poverty in Indonesia with a national CBA ratio of 4.99, which means that it is efficient in reducing poverty in Indonesia. The conclusion of this study shows that the effectiveness and efficiency of government social programs vary between programs. The integration of CBA-based evaluation is needed to improve the targeting of government programs, so that the benefits of poverty alleviation can be optimized and felt sustainably throughout Indonesia.

INTRODUCTION

The problem of poverty in Indonesia is a structural problem that is still the main focus in national economic development (Todaro & Smith, 2009). Data from the Central Statistics Agency (2025) shows that 9.03% of Indonesia's population will still live below the national poverty line in 2024. This shows the existence of deep economic and social inequality. This structural poverty is caused not only by a lack of income, but also by inequality in access to education, health, and limited employment opportunities (Marx) *et al.*, 2016).

Structural poverty in Indonesia shows that there are groups of people who are systematically excluded from access to resources and opportunities to improve their quality of life (Setiawan & Adzim, 2017). They are not only poor because of lack of effort, but because the social and economic system does not provide fair opportunities (Dutta & Kumar, 2016). This situation is exacerbated by inequality between regions, uneven development between villages and cities, and poverty that is passed down from one generation to the next (Hanandita & Tampubolon, 2016). In these conditions, the role of the state is crucial to correct market failures and provide social protection for the most vulnerable communities (Stiglitz, 2021).

The phenomenon of inequality and structural poverty in Indonesia is increasingly clearly reflected in the latest socio-economic data in 2024. The following graph illustrates poverty, low educational participation, and unemployment rates as the main challenges in efforts to alleviate national poverty.

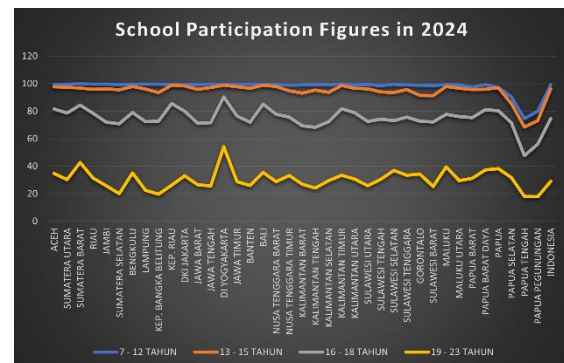


Source : Central Statistics Agency 2025

Figure 1.1 Number and Percentage of Poor Population by Island, September 2024

Figure 1.1 shows that the poverty rate in rural areas is much higher than in

urban areas throughout Indonesia. For example, in Sumatra, the percentage of rural poor reached 9.65% (3.25 million people), far above the urban figure of only 6.98% (2 million people). Similar inequality also occurs in Java, Bali-Nusa Tenggara, and Maluku-Papua, where the poverty rate in rural areas even reaches 25.43%. The data shows the importance of the Cash Social Assistance (Bansos) program that targets the poor in rural areas and disadvantaged areas so that they can continue to meet basic needs amid limited economic access. The high level of poverty in these various regions cannot be separated from the problem of access to education, as illustrated in the following graph 1.2.

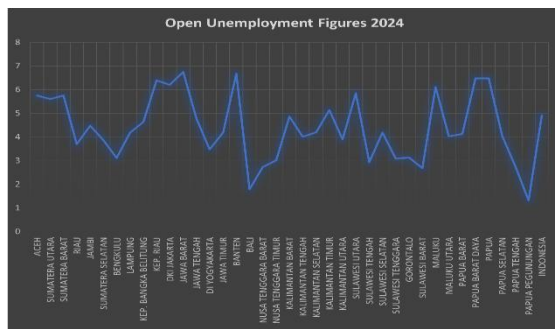


Source : Central Statistics Agency 2025

Figure 1.2 School Participation Figures in 2024

This graph shows that although the school participation rate for the 7–12 years (SD) and 13–15 years (SMP) age groups is relatively high in almost all provinces, there has been a sharp decline in the 16–18 age group (SMA/SMK) and even more drastically in the 19–23 year old age group (Tertiary). This decline in participation is most noticeable in Eastern Indonesian provinces such as Papua, West Papua, and Nusa Tenggara, where the participation rate of schools in the age group of 19–23 years has even fallen below 30%. This condition shows that there are still many young people from underprivileged families who are forced to drop out of school, so this shows the need for the Smart Indonesia Program (PIP) as an effort to prevent school dropouts and improve access to education. This limited access to education also has a direct

impact on employment conditions in Indonesia, as seen in Graph 1.3.



Source : Central Statistics Agency 2025

Figure 1.3 Open Unemployment Figures 2024

Graph 1.3 shows the open unemployment rate in various provinces that is still fluctuating and quite high, with some provinces recording a figure above 6%. This indicates a mismatch between the needs of the labor market and labor skills, as well as limited opportunities for decent work, especially for the productive age group and recent graduates. In this context, the Pre-Employment Card Program is urgently needed to improve the skills and competitiveness of the workforce, especially for the unemployed, victims of layoffs, and informal workers.

In response to the problem of poverty in Indonesia, the Indonesian government has implemented various social intervention programs, such as Cash Social Assistance (Bansos), Smart Indonesia Program (PIP), and Pre-Employment Card (Sigh) *et al.*, 2020). These three programs have different characteristics and approaches, but in general they aim to reduce the economic burden of the poor, improve access to education, and expand employment opportunities and social mobility (Ferranna, 2024).

Cash Social Assistance (Bansos) is a short-term direct assistance aimed at meeting the basic needs of poor households, especially in responding to emergencies or economic pressures (McCarthy & Sumarto, 2018). The Indonesia Pintar Program (PIP) provides educational support to children from underprivileged families to prevent school dropouts and improve access and quality of human resources from an early age

(Ninghardjanti *et al.*, 2023). Meanwhile, the Pre-Employment Card is focused on improving the skills and competitiveness of the workforce, especially for the unemployed, victims of termination of employment (PHK), and informal workers, through digital-based training and financial incentives to expand employment opportunities and economic mobility (Al Ayyubi *et al.*, 2023). Evaluating the effectiveness of these programs is critical to ensure that the interventions are truly delivering tangible and sustainable benefits to the target group (Alomoto) *et al.*, 2022).

Given the importance of evaluating the effectiveness of social interventions, the use of cost-benefit analysis has become crucial as a tool to measure and compare the impacts and costs associated with such programs. Cost-benefit analysis is one of the widely used public policy evaluation methods to measure the effectiveness and efficiency of social intervention programs (Boardman, 2011). Cost-benefit analysis (CBA) allows for a systematic and quantitative measurement of all costs incurred and benefits derived from a program or policy, thus facilitating an objective comparison and evaluation of its effectiveness (Volden, 2019). According to Dehnhardt's research (2022), in the context of developing countries such as Indonesia, where social and economic inequality is still high, the use of CBA is particularly relevant as it can assist policymakers in prioritizing interventions that are not only economically effective but also consider a more equitable distribution of benefits to all levels of society.

However, in practice, the use of Cost-Benefit Analysis (CBA) in social policies in developing countries often faces various limitations, both in terms of methods and values adopted (Robinson *et al.*, 2019). One of the main challenges is the difficulty of measuring social benefits that are non-material, such as improving individual abilities or reducing disparities between regions quantitatively (Sigh *et al.*, 2020). This is in line with Beeson's (2024) research which emphasizes the importance of considering the dimension of distributive justice through the veil of ignorance approach developed by John Rawls in public policy evaluation. This

approach emphasizes that policy evaluations should not only consider the magnitude of the aggregate benefits, but also pay attention to who receives those benefits.

Evaluation of Social Assistance, PIP, and Pre-Employment Card programs in Indonesia needs to use a Cost-Benefit Analysis (CBA) approach that is not only technocratic, but also contextual and inclusive (Brent, 2013). Contextual Cost-Benefit Analysis means that the analysis is carried out by considering the diversity of social, cultural, and geographical conditions of the Indonesian people. Programs that work in urban areas do not necessarily have the same impact in disadvantaged or rural areas (Ferraro & Simorangkir, 2020). Meanwhile, according to research, inclusive CBA requires an evaluation process involving a wide range of stakeholders, including beneficiaries, implementing agencies, and civil society organizations. In addition, inclusivity also includes attention to vulnerable groups such as women heads of households, persons with disabilities, and indigenous peoples who are often marginalized in the implementation of national programs (Tomba *et al.*, 2022).

In the past five years, various studies in Indonesia have evaluated the impact of social assistance programs, PIP, and job training on poverty reduction. Research by Ninghardjanti *et al.* (2023) that the Smart Indonesia Program (PIP) has succeeded in reducing the dropout rate in disadvantaged areas, while Al Ayyubi *et al.* (2023) showed that Pre-Employment Card training increased employment opportunities by up to 17% in six months. Lalu McCarthy & Sumarto (2018) noted that the social assistance program is effective in the short term but has not overcome structural poverty, and Alomoto *et al.* (2022) emphasizes the importance of real-time data-driven evaluation for adaptive responses.

Although various evaluations of social programs such as Social Assistance, PIP, and Pre-Employment Cards have been conducted, most previous studies have tended to focus on only one program and have focused only on short-term quantitative achievements such as the

number of beneficiaries or the rate of budget absorption without calculating the costs and benefits received by the poor. In addition, there have not been many studies in Indonesia that have conducted research on the calculation of Cost Benefit Analysis for government programs. Therefore, this study was conducted to fill the gap in the literature by applying a cost-benefit analysis approach to three government assistance programs at once, namely Social Assistance (Bansos), Smart Indonesia Program (PIP), and Pre-Employment Card, which have not been widely researched so far.

This study finds a novelty in the simultaneous use of the cost-benefit analysis (CBA) approach to three government programs of Social Assistance, PIP, and Pre-Employment Cards in all 38 provinces in Indonesia, which have generally been studied separately and only on short-term quantitative aspects. This study also introduces per-program evaluation and sensitivity analysis in measuring program efficiency, as well as considering the dimension of benefit distribution in a more contextual way. Meanwhile, the urgency of this research lies in the need for a thorough evaluation of the effectiveness and efficiency of poverty alleviation programs that absorb large budgets, such as Social Assistance, PIP, and Pre-Employment Cards. In the context of fiscal limitations and high social inequality in Indonesia, it is important for the government to know the extent to which every rupiah spent really provides real benefits to the poor. The Cost Benefit Analysis approach in this study provides an objective basis for assessing programs economically, so that the results can be used as a consideration in improving social policies that are more targeted, sustainable, and fair.

Thus, the contribution of this research is theoretical and practical. Theoretically, this study expands the application of cost-benefit analysis in the evaluation of complex social policies in developing countries by paying attention to the dimensions of social justice and inclusion. Practically, the results of this study are expected to be a reference for the government in designing social policies

that are more adaptive to regional diversity and the needs of vulnerable groups, as well as encouraging integration between programs for more effective and sustainable poverty reduction in Indonesia.

Based on this background, there are two main questions that are the focus of this study, namely: (1) What are the results of the calculation of Cost Benefit Analysis for the Social Assistance, PIP, and Pre-Employment Card programs in an effort to overcome poverty in the Indonesian people? and (2) How to evaluate the effectiveness and efficiency of the three programs in reducing poverty in Indonesia? Therefore, this study aims to calculate the Cost Benefit Analysis of the Pre-Employment Card program, the Smart Indonesia Program (PIP), and the Cash Social Assistance (Bansos) program in an effort to overcome poverty in the Indonesian people, and also to evaluate the effectiveness and efficiency of the three programs on poverty in Indonesia.

LITERATURE REVIEW

Studies on the effectiveness of social assistance, education, and job training programs in overcoming poverty have been widely conducted. The evaluation approach used refers to the concept of utilization-focused evaluation put forward by Patton (2008). The Cost Benefit Analysis approach is commonly used to assess the extent to which the benefits of a program are proportional to their costs (Boardman, 2011). In the Indonesian context, McCarthy & Sumarto (2018) shows that the social assistance program is effective in the short term, while Al Ayyubi *et al.* (2023) found that the Pre-Employment Card program was able to increase employment opportunities by up to 17% in the first six months.

International research reinforces the importance of CBA-based evaluations of social programs. Research by Bastagli *et al.* (2019) noted that cash transfers have an impact on consumption, education, and health. Experimental research by Haushofer & Shapiro (2016) in Kenya shows the positive effects of cash transfers on the welfare of poor households. Meanwhile, Evans & Yuan (2022) highlight

the indirect effects of educational programs on girls' participation. Gentilini's Research (2022) Gentilini *et al.* (2022) assesses that digital-based social protection during the pandemic is able to maintain household consumption. In addition, Banerjee *et al.* (2015) In a meta-analysis of six randomized microfinancial evaluations, it was shown that training-based interventions and financial incentives were only effective when accompanied by a program design that considered the contextual needs of the recipients.

Then, research by McIntosh & Zeitlin (2021) in Rwanda also showed the benefits of cash assistance in improving child nutrition, education, and health. Chakravarty *et al.* (2019) in his research found that the combination of cash assistance and job training provided greater long-term outcomes in Nepal. In addition, Richterman *et al.* (2023) stated that unconditional cash transfers are able to reduce the death rate when supported by public services. While Anthonius' research *et al.* (2025) proving that the Pre-Employment Card plays a role in increasing work participation, especially for young people and women in urban areas. Then finally, research by Heaton *et al.* (2024) stated that there has been an increase in women's empowerment through unconditional cash assistance in Pakistan.

However, most studies only evaluated one program separately and focused on short-term indicators. The Cost Benefit Analysis approach is still rarely applied holistically in the context of social programs in developing countries. In fact, Cost Benefit Analysis has the potential to integrate economic efficiency and social justice (Dehnhardt *et al.*, 2022). Some researchers criticize the Cost Benefit Analysis approach because it has not been able to fully capture non-material benefits such as empowerment, social inclusion, or strengthening individual capacity (Robinson, 2024). Therefore, Brent (2013) and Ferraro & Simorangkir (2020) propose a contextual CBA model, which considers local and inclusive social and geographical conditions, i.e. involves vulnerable groups and stakeholders in the evaluation process. This approach is also in line with the Rawlsian principle of distributive justice

through the veil of ignorance expressed by Beeson *et al.* (2025), which emphasizes that policies must be evaluated not only from the accumulation of benefits, but from their distribution to the most disadvantaged groups.

This approach is even more relevant when associated with the Culture of Poverty theory developed by Lewis (1966), which emphasizes that poverty is not only an economic problem, but also forms cultural patterns that are passed down from generation to generation. These patterns include dependence, distrust of institutions, and short-term orientation, all of which reinforce the cycle of poverty. In this context, social interventions are not enough to be material, but must be able to change value structures and expand capabilities.

On the other hand, Barr's Social Insurance theory (1989) It is also an important framework in understanding the role of the state. Barr emphasized that social insurance is not only an instrument of redistribution, but also an efficiency mechanism in the modern economic system, especially in overcoming market failures in providing risk protection. The state needs to establish a social protection system that allows for widespread and fair risk pooling and consumption smoothing. Programs such as the Cash Social Assistance (Bansos), Smart Indonesia Program (PIP), and the Pre-Employment Card are manifestations of this approach designed to reduce people's vulnerability, enhance individual capabilities, and strengthen social mobility. This approach is also in line with the Rawlsian principle of distributive justice through the veil of ignorance expressed by Beeson *et al.* (2025), which emphasizes that policies must be evaluated not only from the accumulation of benefits, but from their distribution to the most disadvantaged groups.

Thus, there is an important gap in the literature that this study aims to answer, namely the absence of studies that combine the evaluation of the three main social programs (Social Assistance, PIP, and Pre-Employment Card) on poverty in Indonesia simultaneously using the Cost Benefit Analysis approach. In addition,

there are not many studies in Indonesia that conduct research using the Cost Benefit Analysis method.

RESEARCH METHODOLOGY

1. Data Properties

This research is quantitative-descriptive with an evaluative approach using the Cost Benefit Analysis method. The main objective is to measure the effectiveness and efficiency of three government social programs, namely Cash Social Assistance (Bansos), Smart Indonesia Program (PIP), and Pre-Employment Card in efforts to reduce poverty in Indonesia (Brent, 2013). The choice of using the Cost Benefit analysis method in this study because Cost Benefit Analysis allows researchers to compare the total social and economic benefits of pre-employment cards, PIP, and Social Assistance with the total costs incurred by the government (Robinson *et al.*, 2019).

2. Sampling

This study uses a total sampling approach, where all relevant units of analysis are included in the analysis without conducting a random sample selection or stratification process (Neilson, 2011). The analysis unit in this study is based on administrative regions, namely all provinces in Indonesia as many as 38 provinces by 2024. The target population in this study is the poor who are beneficiaries of the government's three main social intervention programs, namely Cash Social Assistance (Bansos), Smart Indonesia Program (PIP), and Pre-Employment Card (Kamraju, 2023).

3. Data Sources and Types

The data used in this study is secondary and collected from official government sources, namely:

a. Central Statistics Agency

BPS is used to obtain information on the number of poor people in each of the 38 provinces in Indonesia, which is the basis for

calculating benefits in cost-benefit analysis. Then to find out the number of recipients of Cash Social Assistance (Bansos) per province, which is used to measure the reach of the program (Murray, 2023). As well as the amount of the Social Assistance budget allocated to each province, as a cost component in the calculation of CBA (July, 2023).

- b. Official Portal of the Smart Indonesia Program (<https://pip.kemendikbud.go.id/>)

This portal is used to obtain data on the number of recipients of the Smart Indonesia Program (PIP) per province, based on education level. As well as the total PIP budget distributed to each province in Indonesia (By Putu Lia Dama Yanti & I Wayan Sukadana, 2024).

- c. Official Portal of Pre-Employment Card (<https://www.prakerja.go.id/>)

The official portal of the pre-employment card is used to obtain the number of Pre-Employment Card recipients in each of the 38 provinces in Indonesia, as well as to find out the total budget of the Pre-Employment Card program from 38 provinces in Indonesia (Hanum *et al.*, 2022).

In this study, the data used is cross-section, namely data collected at a certain point in time (2024) from different analysis units, namely 38 provinces in Indonesia (Tarina & Mutahar, 2024). Cross-section data allowed researchers to compare the effectiveness and efficiency of Social Assistance, PIP, and Pre-Employment Card programs in different regions in the same period. This approach is relevant because the focus of the research is to evaluate program achievements based on variations in socio-economic conditions between provinces, not changes over time (Agustanta *et al.*, 2024).

4. Measurement Method

The measurement of benefits and costs in this study was carried out quantitatively using the Cost Benefit Analysis approach with the following formula:

a. Cost

In the context of Cost Benefit Analysis (CBA), cost refers to all expenses required to implement a program, project, or policy. This cost includes all resources sacrificed to achieve the program's goals (Jiang & Marggraf, 2021). To find the cost of the cost is calculated from the total program budget divided by the number of beneficiaries in each province. Formula used:

$$\text{Biaya Per Penerima} = \frac{\text{Total Anggaran Program}}{\text{Jumlah Penerima Manfaat}}$$

b. Benefit

Benefit is the economic value of all the positive impacts produced by an intervention on individuals, groups, and communities. These benefits include improvements in direct financial well-being (increased productivity or income) as well as non-profit outcomes.-financial that has been converted to monetary units (such as improving quality of life) (Jiang & Marggraf, 2021). Benefits are estimated based on the number of poor people who actually benefit from the program. Formula used:

$$\text{Benefit Total} = \text{Jumlah Penduduk Miskin} \\ \times \text{Persentase Penerima Terbantu} \\ \times \text{Biaya per Penerima}$$

c. Data Analysis Techniques

Cost Benefit Analysis (CBA) is a systematic method of comparing the total cost and total benefit of a program, project, or policy in monetary units, with the aim of determining whether the intervention is economically feasible or not (Mishan & Quah, 2020). The main analysis used in this study is the calculation of the CBA ratio, which is a comparison between the total benefits and total

costs of the program at the provincial level, with the formula:

$$Rasio\ CBA = \frac{Benefit\ Total}{Total\ Biaya\ Program}$$

The ratio values are analyzed as follows:

CBA > 1: The program is considered economically efficient; the benefits outweigh the costs.

CBA = 1: Neutral program; benefits are proportional to costs.

CBA < 1: Programs are inefficient; benefits outweigh costs

RESULTS AND DISCUSSION

Result

1. Cost Benefit Analysis of Social Assistance in 38 Provinces in Indonesia

Table 1.1 CBA Social Assistance program

PROVINS	JUMLAH KEMISKINAN	ANGGARAN BANSOS	JUMLAH BIAYA PER PENERIMA BANSOS	BENEFIT BANSOS	TOTAL CBA BANSOS
ACEH	718.992,00	1.159.688.400,00	600.000,00	246.626.304,00,00	0,30
SUMATERA UTARA	1.119.920,00	1.844.518.800,00	600.000,00	335.907.808,00,00	0,29
SUMATERA BARAT	315.430,00	764.183.400,00	600.000,00	125.163.432,00,00	0,20
RIAU	473.040,00	631.447.200,00	600.000,00	228.194.496,00,00	0,36
JAMBI	272.700,00	410.777.400,00	600.000,00	131.550.480,00,00	0,32
SUMATERA SELATAN	948.840,00	1.106.404.800,00	600.000,00	457.730.416,00,00	0,41
BENGKULU	261.150,00	331.705.800,00	600.000,00	125.978.760,00,00	0,38
LAMPUNG	999.300,00	1.664.005.800,00	600.000,00	453.118.320,00,00	0,27
KEPULAUAN BANGKA BELITUNG	78.580,00	300.807.200,00	600.000,00	37.966.392,00,00	0,38
KEPULAUAN RIAU	124.960,00	143.863.800,00	600.000,00	40.280.704,00,00	0,42
DIY JAKARTA	480.070,00	487.661.400,00	600.000,00	216.621.368,00,00	0,44
JAWA BARAT	3.668.350,00	9.228.668.400,00	600.000,00	1.769.612.040,00,00	0,19
JAWA TENGAH	3.366.340,00	7.391.695.200,00	600.000,00	1.638.394.416,00,00	0,22
DI YOGYAKARTA	430.470,00	783.213.600,00	600.000,00	207.658.728,00,00	0,27
JAWA TIMUR	3.893.820,00	7.083.693.000,00	600.000,00	1.878.378.768,00,00	0,27
BANTEN	777.480,00	1.318.567.200,00	600.000,00	375.061.176,00,00	0,28
BAU	176.210,00	359.028.000,00	600.000,00	85.003.704,00,00	0,24
NUSA TENGGARA BARAT	658.600,00	1.199.151.400,00	600.000,00	317.708.640,00,00	0,26
NUSA TENGGARA TIMUR	1.107.940,00	1.413.488.800,00	600.000,00	534.470.256,00,00	0,38
KALIMANTAN BARAT	323.990,00	711.521.400,00	600.000,00	161.116.776,00,00	0,23
KALIMANTAN TENGAH	349.240,00	216.751.200,00	600.000,00	71.993.376,00,00	0,33
KALIMANTAN SELATAN	380.200,00	367.825.200,00	600.000,00	86.628.480,00,00	0,24
KALIMANTAN TIMUR	211.880,00	198.180.000,00	600.000,00	102.210.912,00,00	0,52
KALIMANTAN UTARA	41.110,00	53.380.200,00	600.000,00	19.831.464,00,00	0,37
SULAWESI UTARA	173.300,00	314.055.600,00	600.000,00	89.599.920,00,00	0,27
SULAWESI TENGAH	358.330,00	501.438.000,00	600.000,00	172.858.392,00,00	0,34
SULAWESI SELATAN	711.770,00	1.443.687.000,00	600.000,00	343.557.848,00,00	0,24
SULAWESI TENGGARA	365.270,00	438.249.600,00	600.000,00	147.262.248,00,00	0,34
GORONTALO	170.020,00	270.717.800,00	600.000,00	82.022.472,00,00	0,30
SULAWESI BARAT	355.910,00	251.358.000,00	600.000,00	75.210.984,00,00	0,30
MALUKU	293.990,00	230.592.600,00	600.000,00	141.820.776,00,00	0,62
MALUKU UTARA	79.690,00	124.273.800,00	600.000,00	38.442.456,00,00	0,31
PAPUA BARAT	798.280,00	131.524.200,00	600.000,00	52.234.272,00,00	0,40
PAPUA BARAT DAYA	96.810,00	122.563.800,00	600.000,00	46.701.144,00,00	0,38
PAPUA	161.070,00	191.650.800,00	600.000,00	77.700.168,00,00	0,41
PAPUA SELATAN	305.020,00	154.735.200,00	600.000,00	49.696.848,00,00	0,32
PAPUA TENGAH	287.540,00	540.441.800,00	600.000,00	138.709.256,00,00	0,36
PAPUA PEGUNUNGAN	231.120,00	472.009.800,00	600.000,00	159.722.388,00,00	0,34
JUMLAH	24.054.720,00	44.158.524.000,00	600.000,00	11.603.996.928,00,00	0,26

Source: (BPS) Central Statistics Agency 2024

Based on the results of the cost-benefit analysis (CBA) calculation of the Social Assistance (Bansos) program in 2024, it is known that the total budget allocated by the government reaches IDR 44,158,524,000,000, while the estimated total social benefits generated are IDR 11,603,996,928,000,000. From this comparison, a CBA ratio of 0.26 was

obtained, which shows that the value of benefits received by the community is lower than the costs incurred by the government. In other words, because the CBA value is < 1, the overall Social Assistance program is considered inefficient in reducing poverty in Indonesia. This low efficiency shows that for every one rupiah spent by the government, the benefits generated are less than one rupiah.

Furthermore, the results of the analysis also show that the Social Assistance program in all 38 provinces in Indonesia has a CBA ratio of <1, This indicates that the Social Assistance program has not made a significant contribution in reducing the poverty rate structurally. In other words, this analysis shows that throughout Indonesia, the economic benefits obtained by Social Assistance beneficiaries are still not proportional to the costs that have been incurred by the government. This is due to several factors, namely the first is that the distribution of Social Assistance in Indonesia is ineffective, the Social Assistance program only has a short-term impact on the community, and also causes dependence for the community.

2. Cost Benefit Analysis of the Smart Indonesia Program in 38 Indonesian Provinces.

Table 1.2 CBA PIP Program

PROVINS	JUMLAH KEMISKINAN	ANGGARAN PIP	JUMLAH BIAYA PER PENERIMA PIP	BENEFIT PIP	TOTAL CBA PIP
ACEH	718.992,00	98.087.325.000,00	702.170,77	246.451.964.488,21	0,48
SUMATERA UTARA	1.119.920,00	395.080.880.000,00	931.194,77	389.103.488.540,85	0,36
SUMATERA BARAT	315.430,00	139.215.580.000,00	999.699,34	83.242.482.311,29	0,60
RIAU	473.040,00	302.895.000.000,00	960.346,78	125.904.203.531,59	1,32
JAMBI	272.700,00	59.472.380.000,00	400.695,10	7.868.437.967,66	1,12
SUMATERA SELATAN	948.840,00	322.947.520.000,00	947.020,68	369.675.477.309,85	1,61
BENGKULU	261.150,00	53.843.320.000,00	911.178,64	69.080.391.429,44	1,28
LAMPUNG	999.300,00	207.752.780.000,00	911.178,64	250.689.623.924,51	1,23
KEPULAUAN BANGKA BELITUNG	78.580,00	14.352.480.000,00	954.881,25	21.767.528.539,35	1,51
KEPULAUAN RIAU	124.960,00	32.403.420.000,00	1.010.546,52	42.760.178.171,57	1,12
DIY JAKARTA	480.070,00	138.529.880.000,00	889.645,10	165.346.407.229,67	0,76
JAWA BARAT	3.668.350,00	987.238.875.000,00	887.339,64	953.067.003.669,59	0,93
JAWA TENGAH	3.366.340,00	795.247.880.000,00	923.820,11	919.087.350.415,69	1,14
DI YOGYAKARTA	430.470,00	82.861.420.000,00	1.021.937,64	127.638.905.571,12	1,54
JAWA TIMUR	3.893.820,00	698.716.000.000,00	946.198,77	1.088.881.738.369,74	1,35
BANTEN	777.480,00	185.556.000.000,00	1.241.698,52	1.382.383.486.639,86	0,37
BAU	176.210,00	52.881.675.000,00	1.056.060,20	53.984.325.308,69	1,02
NUSA TENGGARA BARAT	658.600,00	109.891.425.000,00	934.880,17	178.618.675.270,11	1,63
NUSA TENGGARA TIMUR	1.107.940,00	234.405.900.000,00	972.703,17	312.639.828.364,57	1,33
KALIMANTAN BARAT	323.990,00	94.867.750.000,00	913.036,34	88.461.638.343,05	0,93
KALIMANTAN TENGAH	349.240,00	33.403.420.000,00	911.524,99	19.844.040.564,29	1,12
KALIMANTAN SELATAN	380.200,00	61.627.420.000,00	914.380,62	47.880.176.557,98	0,78
KALIMANTAN TIMUR	211.880,00	92.162.750.000,00	714.606,51	45.581.811.958,97	0,49
KALIMANTAN UTARA	41.110,00	15.901.200.000,00	993.762,89	11.851.627.155,38	0,75
SULAWESI UTARA	173.300,00	77.407.420.000,00	889.780,82	42.897.024.514,94	0,93
SULAWESI TENGAH	358.330,00	79.922.025.000,00	892.528,76	92.778.528.340,54	1,16
SULAWESI SELATAN	711.770,00	223.435.880.000,00	861.376,45	377.861.485.491,42	0,80
SULAWESI TENGGARA	365.270,00	93.128.950.000,00	976.274,88	86.457.758.477,17	0,93
GORONTALO	170.020,00	34.274.675.000,00	863.389,13	42.587.276.020,55	1,24
SULAWESI BARAT	355.910,00	53.285.120.000,00	765.678,68	78.758.494.955,61	0,83
MALUKU	293.990,00	34.703.950.000,00	972.980,57	42.971.877.256,29	1,12
MALUKU UTARA	79.690,00	29.591.475.000,00	1.043.312,59	34.119.373.452,20	0,82
PAPUA BARAT	798.280,00	10.850.100.000,00	812.744,57	25.528.861.046,90	2,35
PAPUA BARAT DAYA	96.810,00	21.716.150.000,00	883.212,73	24.804.629.518,40	1,14
PAPUA	161.070,00	17.386.420.000,00	1.022.098,18	47.758.676.599,20	2,71
PAPUA SELATAN	305.020,00	10.403.925.000,00	895.989,12	26.381.197.571,89	2,43
PAPUA TENGAH	287.540,00	7.363.300.000,00	781.850,08	49.238.301.176,84	8,87
PAPUA PEGUNUNGAN	231.120,00	5.023.425.000,00	927.437,15	51.625.090.038,27	10,28
JUMLAH	24.054.720,00	5.557.407.750.000,00	930.929,15	6.496.278.925.279,34	1,17

Source: (BPS) Central Statistics Agency 2024

Based on the results of the cost-benefit analysis (CBA) calculation of the Smart Indonesia Program (PIP) in 2024, it is known that the total budget allocated by the government reaches IDR 5,557,407,750,000.00, while the total social benefits generated from the PIP program are IDR6,496,278,905,279.24.

From this comparison, a CBA ratio of 1.17 was obtained, which shows that the value of benefits received by the community is higher than the costs incurred by the government. In other words, because the CBA value is > 1 , the overall Social Assistance program is considered efficient in reducing poverty in Indonesia. This high efficiency shows that for every one rupiah spent by the government, it provides benefits of more than one rupiah.

The results of the Cost Benefit Analysis calculation from 38 provinces in Indonesia show 2 different results. There are provinces that show a $CBA > 1$ value which indicates that the PIP Program is efficient in reducing poverty in Indonesia. In other words, that the benefits received by PIP recipients are greater than the budget spent by the government. One example is the province of Aceh which shows a CBA value of 1.48. This is because the value of the Aceh provincial budget for the PIP program is IDR 98,697,825,000.00 while the benefits felt by PIP recipients are IDR 146,451,964,448.22. Other provinces such as the provinces of Riau, Jambi, South Sumatra, Bengkulu, Lampung, Bangka Belitung Islands, Riau Islands, Central Java, DI Yogyakarta, East Java, Banten, Bali, West Nusa Tenggara, East Nusa Tenggara, Central Kalimantan, Central Sulawesi, Gorontalo, Maluku, West Papua, Southwest Papua, South Papua, Central Papua, Mountainous Papua also have a CBA value of > 1 , which means that the PIP program in these provinces is efficient in reducing poverty in the Indonesia.

In addition, there are also provinces that have a CBA value of < 1 , which shows that the benefits obtained by PIP recipients are smaller than the budget issued by the government. For

example, North Sumatra Province has a PIP budget of IDR 395,080,800,000.00 while the benefits felt by PIP recipients are IDR 300,103,488,540.81. Other provinces of West Sumatra, Jakarta, West Java, West Kalimantan, South Kalimantan, East Kalimantan, North Kalimantan, North Sulawesi, South Sulawesi, West Sulawesi, North Maluku also have < 1 , which means that the PIP program in these provinces is inefficient in reducing poverty in Indonesia.

The CBA value of > 1 in several provinces shows that the PIP program runs efficiently in reducing poverty in Indonesia and provides benefits that outweigh the costs incurred by the government, especially if the distribution of funds is on target, used optimally, and supported by adequate education infrastructure. In contrast, the $CBA < 1$ in some areas indicates that the PIP program in the province is inefficient in reducing poverty in Indonesia and providing less benefits than the cost incurred by the government. In addition, there needs to be evaluation and improvement, especially in terms of the effectiveness of fund distribution, increasing the use of PIP funds outside for educational needs, and strengthening access and quality of education so that the benefits of the program can increase significantly.

From the results of the analysis, it can be concluded that the majority of the Cost-Benefit Analysis (CBA) value of the Smart Indonesia Program (PIP) in 2024 shows a number of more than 1, which indicates that this program is generally efficient in reducing poverty in Indonesia and providing greater social benefits than the costs incurred by the government. However, there are some provinces with a CBA value of less than 1, which indicates that the benefits obtained in these areas are not proportional to the budget used, so that the PIP program in these provinces is inefficient in reducing poverty in Indonesia, so it is necessary to evaluate and improve the implementation of the PIP program so that its effectiveness and efficiency can be improved evenly throughout Indonesia.

3. Cost Benefit Analysis of Pre-Employment Cards in 38 Provinces in Indonesia.

Table 1.3 CBA Pre-Employment Card Program

PROVINSI	JUMLAH KEMISKINAN	ANGGARAN PRA KERJA	JUMLAH BIAYA PER PENERIMA PRA KERJA	BENEFIT PRA KERJA	TOTAL CBA PRA KERJA
ACEH	718.982.000	71.724.400.000.00	2.400.000.00	508.133.478.400.00	2.70
SUMATERA UTARA	1.110.930.000	220.960.000.000.00	2.400.000.00	785.484.876.800.00	3.72
SUMATERA BARAT	315.430.000	81.218.400.000.00	2.400.000.00	223.021.627.200.00	2.75
RIAU	473.040.000	59.848.800.000.00	2.400.000.00	334.458.201.600.00	5.59
JAMBI	272.740.000	38.385.600.000.00	2.400.000.00	192.859.698.000.00	5.02
SUMATERA SELATAN	598.840.000	86.294.400.000.00	2.400.000.00	420.867.833.600.00	7.77
BENGKULU	261.150.000	17.527.200.000.00	2.400.000.00	184.643.496.000.00	30.53
LAMPUNG	899.300.000	96.708.000.000.00	2.400.000.00	684.122.672.000.00	6.87
KEPULAUAN BANGKA BEUTUNG	78.580.000	15.412.800.000.00	2.400.000.00	55.559.203.200.00	3.6
KEPULAUAN NIAS	124.960.000	22.437.600.000.00	2.400.000.00	88.911.718.400.00	3.96
DIY JAKARTA	460.070.000	154.073.800.000.00	2.400.000.00	317.543.452.800.00	2.86
JAWA BARAT	3.668.330.000	861.249.600.000.00	2.400.000.00	2.593.670.184.000.00	3.02
JAWA TENGAH	3.396.340.000	488.330.400.000.00	2.400.000.00	2.401.348.233.600.00	4.92
DI YOGYAKARTA	430.470.000	36.871.200.000.00	2.400.000.00	304.339.508.800.00	8.25
JAWA TIMUR	3.893.820.000	527.498.400.000.00	2.400.000.00	2.751.086.492.800.00	5.22
BAWEN	777.660.000	202.380.000.000.00	2.400.000.00	549.745.526.000.00	5.72
RIAU	176.210.000	17.492.200.000.00	2.400.000.00	124.587.538.400.00	7.22
NUSA TENGGARA BARAT	658.600.000	38.472.000.000.00	2.400.000.00	465.656.544.000.00	12.1
NUSA TENGGARA TIMUR	1.107.940.000	37.027.200.000.00	2.400.000.00	783.357.897.600.00	21.95
KALIMANTAN BARAT	333.990.000	62.628.000.000.00	2.400.000.00	236.144.288.600.00	3.77
KALIMANTAN TENGAH	342.240.000	20.400.000.000.00	2.400.000.00	305.528.648.600.00	5.17
KALIMANTAN SELATAN	282.200.000	42.940.000.000.00	2.400.000.00	127.458.688.000.00	2.97
KALIMANTAN TIMUR	211.880.000	31.135.200.000.00	2.400.000.00	149.807.632.200.00	4.81
KALIMANTAN UTARA	41.110.000	3.009.600.000.00	2.400.000.00	29.066.414.400.00	9.66
SULAWESI UTARA	173.300.000	20.200.000.000.00	2.400.000.00	122.530.032.000.00	6.07
SULAWESI TENGAH	358.330.000	20.995.200.000.00	2.400.000.00	253.933.642.200.00	12.07
SULAWESI SELATAN	711.770.000	88.387.200.000.00	2.400.000.00	503.248.860.800.00	5.69
SULAWESI TENGGARA	305.270.000	19.000.800.000.00	2.400.000.00	215.838.100.800.00	11.36
SORONTALO	170.030.000	8.404.800.000.00	2.400.000.00	120.228.011.200.00	14.3
SULAWESI BARAT	155.910.000	7.692.000.000.00	2.400.000.00	110.234.606.400.00	14.3
MALUKU	293.990.000	8.637.600.000.00	2.400.000.00	207.862.686.600.00	24.06
MALUKU UTARA	79.690.000	2.854.800.000.00	2.400.000.00	56.944.017.600.00	39.53
PAPUA BARAT	208.280.000	2.116.800.000.00	2.400.000.00	76.259.292.200.00	36.17
PAPUA BARAT DAYA	96.630.000	854.400.000.000.00	2.400.000.00	68.448.542.400.00	80.11
PAPUA	361.070.000	1.024.000.000.000.00	2.400.000.00	118.882.932.800.00	111.13
PAPUA SELATAN	103.020.000	1.269.600.000.000.00	2.400.000.00	72.839.292.800.00	57.37
PAPUA TENGAH	287.540.000	105.600.000.000.00	2.400.000.00	203.932.292.600.00	1.925.21
PAPUA PEGUNGAN	101.120.000	692.400.000.000.00	2.400.000.00	214.114.094.800.00	299.44
JUMLAH	24.054.720.000	3.406.317.600.000.00	2.400.000.00	17.007.649.228.800.00	4.99

Source: (BPS) Central Statistics Agency 2024

Based on the results of the cost-benefit analysis (CBA) calculation of the 2024 Pre-Employment Card Program, it is known that the total budget allocated by the government reaches IDR 3,406,317,600,000.00, while the total benefits obtained by Pre-Employment Card recipients are IDR 17,007,649,228,000.00. From this comparison, a CBA ratio of 4.99 was obtained, which shows that the value of benefits received by the community from the Pre-Employment Card program is higher than the costs incurred by the government. In other words, because the CBA value is > 1, the overall Social Assistance program is considered efficient in reducing poverty in Indonesia. This high efficiency shows that for every one rupiah spent by the government, the benefits generated are more than one rupiah.

Furthermore, the results of the analysis also show that the Pre-Employment Card program in all 38 provinces in Indonesia has a CBA ratio of >1, which indicates that the Pre-Employment Card program is efficient in reducing poverty in Indonesia. In other words, this analysis shows that

throughout Indonesia, the economic benefits obtained by Pre-Employment Card beneficiaries are greater than the costs incurred by the government. This is due to several factors, the first is because the Pre-Employment Card program is designed as a skilling, upskilling, and reskilling program, not just cash assistance, then the Pre-Employment Card program also provides a multiplier effect that creates additional economic value, besides that the Pre-Employment Card program is also on target.

4. Sensitivity Analysis Results

a. Social Assistance Program (Bansos)

Table 1.4 Sensitivity Analysis

Skenario	Estimasi Manfaat (Rp)	Rasio CBA
Optimis (90%)	12.989.548.800.000.00	0,29
Moderat (70%)	10.102.982.400.000.00	0,23
Pesimis (50%)	7.216.416.000.000.00	0,16

Source: Social Assistance CBA Estimate Calculation

This sensitivity analysis shows that even in the most optimistic scenario (90%), the CBA ratio of the Social Assistance program remains below 1 (only 0.29). This indicates that this social assistance program tends to be inefficient in reducing poverty in Indonesia, even though the assumption of its usefulness is significantly increased. In other words, increasing the effectiveness of beneficiaries has not been able to cover the amount of costs incurred by the government for social assistance programs. This strengthens the need to evaluate the distribution and supervision mechanism so that social assistance funds are more effective.

b. Smart Indonesia Program (PIP)

Table 1.5 Sensitivity Analysis

Skenario	Estimasi Manfaat (Rp)	Rasio CBA
Optimis (90%)	20.153.915.941.921.10	3,63
Moderat (70%)	15.675.267.954.827.50	2,82
Pesimis (50%)	11.196.619.967.734.00	2,01

Source: CBA PIP Estimate Calculation

The Smart Indonesia program shows consistency in efficiency towards poverty reduction in Indonesia in various scenarios. Even in pessimistic scenarios (only 50%), the CBA ratio remains well above 1, indicating that the social benefits resulting from the PIP program remain greater than the costs incurred. This shows that PIP is an economically sound program, and worthy of being maintained or even expanded, noting that supervision of the distribution and use of funds is still carried out to maintain efficiency.

c. Pre-Employment Card Program

Table 1.6 Sensitivity Analysis

Skenario	Estimasi Manfaat (Rp)	Rasio CBA
Optimis (90%)	51.958.195.200.000.00	15,25
Moderat (70%)	40.411.929.600.000.00	11,86
Pesimis (50)%	28.865.664.000.000.00	8,7

Source: Calculation of CBA Estimate for Pre-Employment Card

The Pre-Employment Card program shows very high efficiency in poverty reduction in all scenarios, even in pessimistic scenarios the CBA ratio remains above 8. This indicates that the program produces enormous economic benefits, regardless of the variation in effectiveness. This can be due to the program's focus on upskilling jobs, digitalization, as well as private sector involvement in training that drives productivity. The Pre-Employment Card could be considered one of the most cost-effective interventions in this study, and is recommended to be strategically extended to a wider group.

Discussion

1. The results of cost-benefit analysis calculations on Social Assistance, PIP, and Pre-Employment Card programs in an effort to overcome poverty in the Indonesian people
 - a. Social Assistance (Bansos)

The Social Assistance Program (Bansos) in 2024 has a total budget of IDR 44,158,524,000,000, with the total benefits received by Social Assistance recipients of IDR 11,603,996,928,000,000, resulting in a CBA ratio of 0.26 or $CBA < 1$, this indicates that the Social Assistance program is inefficient in reducing poverty in Indonesia. In other words, this value shows that the benefits obtained by Social Assistance recipients are much lower than the costs incurred by the government. This is consistent across all 38 provinces, where the overall CBA ratio is < 1 . This condition reflects that the social assistance program in general has not been efficient in reducing poverty in Indonesia and shows that assistance only has a short-term effect.

These results are in line with research by (Brent, 2013) which states that the cost-benefit analysis (CBA) framework for conditional cash assistance programs, in which it states that in the absence of conditionality and a strong targeting system, the CBA value of social assistance programs tends to be less than 1. This condition shows that the benefits received by the community are smaller than the costs incurred by the state, so that the program becomes less efficient in reducing poverty. Research by Green *et al.* (2020) also stated the results of the cost-benefit analysis which confirmed that the cost of the social assistance program based on Universal Basic Income (UBI) was much greater than the benefits received by the recipient community. With an annual cost of CAD 51 billion, the universal UBI program has proven inefficient in reducing poverty because the benefits received by the poor are not proportional to the additional tax burden borne by the wider community.

However, the results of Pouw & Bender's research (2022) showed results that were contrary to this study. They found that social protection programs such as cash transfers and health insurance were able to significantly reduce poverty and strengthen social resilience in developing countries, although not analyzed through the CBA approach. The results of this study are different because they use a multidimensional approach in assessing the success of the program, not solely based on fiscal efficiency as in the Brent and Green studies *et al.* Therefore, even though the CBA value is low fiscally, social assistance programs can still be considered socially effective if implemented in a sustainable, targeted manner, and integrated with other empowerment policies.

The factors that cause the value of the Cost Benefit Analysis from the 38 provinces of the Social Assistance program <1 are the first that the distribution of Social Assistance in Indonesia is ineffective. The distribution of social assistance is often not on target, where there are still many recipients of assistance who are not from the poor group (inclusion error), while people who really need it do not receive assistance (exclusion error). This causes the real benefits received by the community to be low compared to the budget issued by the government (Hanna *et al.*, 2018).

Second, the Social Assistance program only has a short-term impact on the community. Social Assistance programs are generally consumptive and generally used for basic daily needs. Because Social Assistance is not accompanied by an empowerment or capacity building program, so Social Assistance does not provide sustainable economic change for recipients (Altındağ & O'Connell, 2023).

Then the last one is to cause dependence for the community. The provision of unconditional social assistance in the long term has the potential to reduce the motivation of work or independent business from the community, thereby creating dependence on government assistance and not encouraging economic independence (Bhorat & Köhler, 2025).

b. Smart Indonesia Program (PIP)

The Smart Indonesia Program (PIP) shows better results in the calculation of Cost Benefit Analysis. With a budget of IDR 5,557,407,750,000,000 and the benefits received by PIP recipients of IDR 6,496,278,905,279.24, this program has a national CBA ratio of 1.17 which indicates that the PIP program nationally is efficient in reducing poverty in Indonesia. In other words, that the benefits received by PIP program recipients are greater than the budget spent by the government. The results of this study are in line with the findings of Samalo & Jasmina (2024) which shows that the Smart Indonesia Program (PIP) significantly reduces the dropout rate for students from poor families, especially at the junior and senior secondary levels. The study confirms the effectiveness of PIP in maintaining educational sustainability in vulnerable groups, which is in line with the results of the CBA calculation in this study, where the national CBA ratio of the PIP program was recorded at 1.17, indicating that the benefits obtained exceed the costs incurred by the government.

However, there are variations between provinces, some provinces such as Aceh have a $CBA > 1$ ratio (1.48), indicating that the benefits received are greater than the costs incurred by the government. So that the PIP program in this province is efficient in reducing poverty in Aceh

Province. Meanwhile, provinces such as North Sumatra show a ratio < 1 (0.76) which means that the PIP program in this province is inefficient in reducing poverty in North Sumatra province. In other words, the benefits received by PIP recipients are more limited to the costs incurred by the government. This shows the need to increase the effectiveness of the distribution and use of education funds.

The factors that cause the CBA Value > 1 in several provinces in Indonesia show that the PIP program can run efficiently on poverty reduction and provide greater benefits than the costs incurred due to the targeted distribution of funds. PIP assistance provided by the government is received by students from poor families who really need it, so the direct benefits are high and appropriate (Ulfa & Rezki, 2024).

Furthermore, the PIP Program is used optimally. PIP funds are used according to educational needs such as buying school supplies or paying tuition fees, so that it makes a real contribution to school sustainability and improved learning outcomes (Kilburn *et al.*, 2017).

In addition, the PIP program is supported by adequate educational infrastructure. Areas with good access to schools, sufficient teaching staff, and complete educational facilities allow PIP assistance to be utilized to the fullest, so that the positive impact on children's education is greater (Evans & Popova, 2016).

On the other hand, the presence of a CBA value of < 1 in some areas indicates the need for evaluation and improvement. The CBA value of < 1 can be due to the inappropriate distribution of funds, where the aid is not entirely received by students from poor families, or there is an inconsistency in the distribution of funds. This reduces the real impact

of the program on the groups most in need (Samalo & Jasmina, 2024).

Increase in the use of PIP funds outside for educational needs. In some regions, PIP funds have not been fully utilized for educational purposes, such as the purchase of school supplies or transportation costs. Useless use causes the benefits of the program to not be maximized and reduces the value of economic efficiency (Garcia, 2017).

As well as strengthening access and quality of education so that the benefits of the program can increase significantly. Limited access to schools, lack of learning facilities, and low quality of teaching are factors that hinder the effectiveness of the program. Even if students receive assistance, if the educational environment is not supportive, then educational outcomes remain low and the benefits of the program are not optimally achieved (Evans) *et al.*, 2023).

In general, the results of the analysis show that the PIP Program in 2024 is relatively efficient in reducing poverty in Indonesia, because the majority of provinces recorded a CBA value of > 1 . This shows that the social benefits generated are greater than the costs incurred by the government. However, there are still several provinces with CBA < 1 , so evaluation and improvement in the distribution and utilization of funds are needed so that the efficiency of the PIP program for poverty reduction in Indonesia can be improved evenly across all regions.

c. Pre-Employment Card Program

The Pre-Employment Card program shows the most significant results. With a budget of IDR 3,406,317,600,000.00, the benefits received by the recipients of the Pre-Employment Card are IDR 17,007,649,228,000.00. obtained a

CBA ratio of 4.99, this means that the Pre-Employment Card program is efficient in reducing poverty in Indonesia. In other words, the benefits received by the recipients of the Pre-Employment Card program are greater than the costs incurred by the government. In addition, all 38 provinces showed a CBA ratio of >1 , indicating that this program is highly efficient in reducing poverty in Indonesia and providing great benefits to Pre-Employment Card trainees rather than the costs incurred by the government, especially in improving workforce skills and productivity. This is in line with the results of research by Rawie & Samputra (2020) which states that the alternative implementation of the Pre-Employment Card Program that only provides training to the unemployed has the best cost-effectiveness ratio. This reinforces the argument that job training, even without cash incentives, still provides significant socio-economic benefits compared to the costs incurred.

However, the results of the research conducted by the Department for Work and Pensions (2022) It shows that although the programme is effective in increasing short-term labour participation, the fiscal return ratio of the programme is only £0.13 to £0.17 for every £1 spent. This shows that from a fiscal perspective, the direct benefit to the state treasury is smaller than the cost of the program. In other words, while there are social benefits (social returns of £1.50–£1.55 per £1 cost), the programme is not entirely fiscally efficient, and may impose a long-term budget burden.

The factors that cause the entire CBA value of the Pre-Employment Card program >1 are the first because the Pre-Employment Card program is designed as a skilling, upskilling, and reskilling program, not just cash

assistance. This program increases the work capacity of participants, not just providing cash assistance. With new skills, participants find it easier to get a job or increase their income (Chakravarty *et al.*, 2019).

Then the Pre-Employment Card program also provides a multiplier effect that creates additional economic value. The Pre-Employment Card combines online training with performance-based incentives. This ensures that the funds used produce real benefits and are not used up for momentary consumption (Strittmatter, 2016).

In addition, the Pre-Employment Card program is also on target. The Pre-Employment Card program targets job seekers, workers affected by layoffs, and micro business actors who need to improve their skills. The selection process is carried out digitally and data-based, so that the assistance reaches more groups that really need it and have the potential to be productive (Doerr, 2017).

2. Evaluation of the Effectiveness and Efficiency of the Three Programs in Reducing Poverty in Indonesia

Effectiveness evaluation in the context of Cost-Benefit Analysis (CBA) is the process of assessing the extent to which a program or policy has succeeded in achieving the expected goals, as seen from the comparison between the benefits generated by the costs incurred economically (Cellini & Kee, 2015). The results of the CBA analysis for the three programs (Social Assistance, PIP, and Pre-Employment Card) show that there are differences between the three:

a. Social Assistance Program (Bansos)

The Social Assistance Program (Bansos) shows a CBA ratio of 0.26 which means that the CBA value is <1 , which means that this program is inefficient in reducing poverty in Indonesia. The low effectiveness of the program is indicated by the benefit that is

smaller than the cost, even in the most optimistic scenario (0.29). This indicates that Social Assistance is short-term, not on target, and has not been able to address the root of the problem of structural poverty (Haushofer & Shapiro, 2016). This evaluation is reinforced by findings across provinces, where CBA ratios are consistently below 1, as well as sensitivity results that show that even increased benefits have not been able to cover the cost of the program. This condition shows that the effectiveness of the Social Assistance program in reducing poverty in Indonesia is still very limited. Assistance that is consumptive and not integrated with economic capacity building programs makes the impact short-term. In addition, weaknesses in distribution such as not being on target and lack of supervision reduce the overall efficiency of the program.

Therefore, there is a need for an evaluation of the Social Assistance program in Indonesia, namely by evaluating the social assistance distribution system which must be carried out through periodic updates and validation of recipient data (DTKS), as well as the use of digital technology and cross-agency integration to ensure that assistance is only received by groups that are truly entitled (Panjaitan *et al.*, 2024).

In addition, it is also necessary to transform social assistance in a more progressive direction. Most of the Social Assistance funds are used to meet basic consumption needs, such as food and daily needs, without being accompanied by interventions that can increase the economic capacity of the recipients. Because it does not produce a productive effect, the impact of programs on poverty alleviation tends to be temporary and does not touch the root of the structural problems of household

welfare (MICHA, 2017). The evaluation of the effectiveness of this program indicates the need to transform Social Assistance in a more progressive direction, through integration with skills training programs, micro business assistance, or other empowerment support, so that the benefits produced are not only temporary, but also contribute to long-term economic independence (Baird *et al.*, 2018).

Then it is also necessary to transform from the unconditional cash transfer model to conditional cash transfer. Cash assistance that is provided regularly without conditions can reduce work incentives or independent business for some recipients. This dependence indirectly inhibits economic mobility and creates a continuous cycle of aid receipts. By providing conditions such as participation in job training, children's attendance at school, or active job search, the assistance will be directed as a tool for transition to independence, not the final goal.

b. Smart Indonesia Program

Second, the Smart Indonesia Program (PIP) is considered efficient nationally, with a CBA ratio of 1.17. Effectiveness evaluations show that most provinces benefit more from costs, especially in areas with proper aid distribution, optimal use of funds, and support for good educational infrastructure. However, some provinces with a CBA ratio of < 1 indicate that program implementation still faces challenges, such as inappropriate use of funds and limited access to education services. Therefore, the effectiveness of PIP is generally efficient in reducing poverty in Indonesia, but it still requires further evaluation in certain regions to improve equitable distribution of benefits.

Evaluation for provinces that have a CBA value of >1 or the benefits obtained by PIP recipients greater than the costs incurred by the government can be carried out by strengthening the targeting mechanism based on education and poverty data (Caniago *et al.*, 2021). The government needs to maintain and improve integrated data-based distribution systems (e.g. DTKS and Dapodik) so that PIP assistance really targets students from poor families who are still actively attending school (Hadna & Kartika, 2017). Periodic validation is important to ensure the accuracy of the target.

In addition, it is also possible to replicate best practices from regions with high efficient achievements. Provinces with high CBA ratios can be used as national references. Practices such as school involvement in education in the use of funds, direct monitoring, or integration with other educational services need to be systematically adopted by other regions.

Strengthening cross-sector coordination also needs to be done. Collaboration between the Ministry of Education, the Social Service, and local governments needs to be carried out and improved, both in planning, implementation, and program evaluation. The goal is to ensure that the assistance funds provided by the government are used to support the sustainability of education, not just administratively channeled (Kuntyorovati *et al.*, 2024).

These evaluative steps are important to increase the effectiveness and strengthen the efficiency of the PIP program in a sustainable manner. By ensuring that aid is channelled in a targeted manner, optimally utilised, and supported by solid cross-sectoral governance, the benefits of the programme will not only outweigh the costs, but will also have a real impact in expanding access and

quality of education for students from poor families across Indonesia (Sitompul & Iskandar, 2024).

Meanwhile, for provincial areas that have a CBA value of <1 , an evaluation is needed so that the PIP program provided can provide greater benefits to the community. The evaluation can be carried out by updating the recipient data periodically. The government needs to update recipient data regularly and accurately, especially through the integration of systems such as the Basic Education Data (Dapodik) and DTKS, to ensure that assistance is not given to students who have graduated, are no longer actively attending school, or do not meet the poverty criteria (Ninghardjanti *et al.*, 2023). This is important to maintain the effectiveness and efficiency of budget allocation so that it really targets students who are entitled.

Then it is also necessary to strengthen socialization and education to parents and students so that they understand that PIP funds must be used as a priority for educational needs such as for the purchase of school supplies, transportation costs, or school fees. With this increased understanding, it is hoped that the funds will not be misused for household consumption that does not support the sustainability of education.

In addition, it is also necessary to improve access and quality of education services. The government needs to improve the availability and quality of educational facilities, especially in disadvantaged, remote, and outermost areas. This includes the construction or rehabilitation of schools, the provision of proper learning facilities, and the equitable distribution of educators to areas in need. Without adequate infrastructure support, education cash assistance such as PIP will be difficult to have an optimal impact on improving learning outcomes.

and reducing dropout rates (Lawal & Lateef, 2025).

c. Pre-Employment Card Program

The Pre-Employment Card program is considered very efficient and effective in reducing poverty in Indonesia, with a national CBA ratio of 4.99. Even in a pessimistic scenario, the CBA value of the Pre-Employment Card remains high (8.70), this shows that the benefits of the Pre-Employment Card program are very large compared to the costs incurred by the government. Evaluation of the program's effectiveness shows that the Pre-Employment Card has succeeded in improving job skills, expanding employment opportunities, and providing a real economic impact for recipients. This is achieved thanks to training-based program design (skilling, upskilling, and reskilling), a digital approach, and proper targeting of job seekers and small business actors (Bazzoli *et al.*, 2018).

Although the Pre-Employment Card Program has demonstrated high efficiency nationally in poverty reduction in Indonesia, continuous evaluation is still needed to ensure that the program can maintain and expand its impact evenly across all target groups. The following strategic steps are recommended to strengthen the effectiveness and sustainability of the program in the long term:

The first evaluation is to expand the scope of program participants. The Pre-Employment Card program needs to be expanded to include a more diverse group of poor people of productive age, including women heads of households, people with disabilities, and affected informal workers. These groups have limited access to formal training, despite the potential to reap significant economic benefits from digital-based skills interventions and

productive incentives (Dallosi & Kyqyku, 2023).

Then the second is by strengthening the relationship between training and job market needs (link and match). The content and type of training should be contextually tailored to the demands of the industrial sector and the potential of the local economy (Gugus *et al.*, 2024). This is important to ensure that the skills acquired by participants are truly relevant to the employment opportunities in their area, thereby increasing the rate of job absorption and the effectiveness of the program.

And the last is with post-training monitoring and evaluation. An ongoing monitoring system is needed to assess the real impact of training on employment status, income increases, and participant productivity (Chakravarty *et al.*, 2019). This evaluation is important not only to measure the success of the program, but also as a basis for improving the curriculum, training providers, and incentive schemes so that the program remains adaptive to employment dynamics.

CONCLUSION

The cost-benefit analysis in 2024 of the Social Assistance, PIP, and Pre-Employment Card programs shows that there are significant differences in efficiency between poverty alleviation programs in Indonesia. The Social Assistance Program (Bansos) has proven to be less efficient in reducing poverty because the benefits received by the community are much lower than the costs incurred by the government. This low efficiency is mainly caused by untargeted distribution, short-term benefits, and the potential for recipient dependence. In contrast, the Smart Indonesia Programme (PIP) showed better efficiency, with most provinces benefiting more than the costs. However, challenges are still faced in several provinces that experience obstacles in distribution, use of funds, and

access to education. Meanwhile, the Pre-Employment Card program displays the highest efficiency in reducing poverty thanks to its focus on improving skills and linkage to job market needs.

Based on the results of the analysis, the recommended policy is to evaluate the distribution system and transform social assistance into conditional assistance and integrate it with economic empowerment programs. For PIP, in provinces that have been efficient, it is necessary to maintain data-based distribution and replication of good practices, while in provinces that are not yet efficient, it is necessary to update data, socialize the use of funds, and improve access and quality of education. For the Pre-Employment Card, it is recommended to expand the scope of participants, strengthen the relevance of the training to the needs of the job market, and improve post-training monitoring and evaluation.

Suggestions for further research are to examine factors beyond economic aspects, such as social, cultural, and environmental, that influence the success of the program. In addition, the research can also examine how integration or synergy between programs can increase benefits for the community more widely and equitably.

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