

Evaluating the Efficiency of Microeconomic Empowerment Programs through Econometric Matching Approaches

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ABSTRACT

This study aims to evaluate the effectiveness of microeconomic empowerment programs using an econometric matching approach, with a focus on increasing participants' income and welfare. Microeconomic empowerment programs in Indonesia have become the primary strategy for overcoming poverty and enhancing the quality of life for the community, particularly in the micro-business sector. This study employed a qualitative research design, incorporating interviews, questionnaires, and observations at two research locations in Bogor Regency and Bantul Regency. The study's results indicate that this program has a positive impact on participants with more established businesses, resulting in an average income increase of approximately 30%. However, participants who are just starting a business experience difficulties in making optimal use of training and capital assistance. The evaluation of this program also revealed that the training materials need to be adjusted to the type of business run by the participants, as well as the need for post-program support to ensure business sustainability. The use of *econometric matching* is effective in reducing selectivity bias and providing more accurate estimates of program impact. This research offers recommendations for program adjustments that are more closely aligned with the needs of participants, as well as the importance of post program mentoring in strengthening the long-term impact.

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1. INTRODUCTION

Microeconomic empowerment programs have become the main instrument in efforts to alleviate poverty and improve people's welfare in Indonesia (Suyanto, 2020; Wibowo, 2019). The government and non-governmental organizations have implemented various policies and interventions to enhance the capacity of micro, small, and medium sized enterprises (MSMEs) (Sari, 2020). However, the effectiveness and efficiency of these programs remain debated, particularly in the context of accurate and evidence based impact evaluations (Fahmi et al., 2021). A proper evaluation approach is essential to ensure that limited resources are used optimally and provide maximum benefits to the target beneficiaries (Susanto & Wulandari, 2018; Rini, 2019).

The urgency of this research stems from the need to objectively and comprehensively measure the impact of microeconomic empowerment programs. Although many previous studies have addressed this topic,

most still employ conventional evaluation methods and are less effective in addressing the issues of selectivity and bias in the selection of program participants (Zhao et al., 2021). Therefore, a more sophisticated and accurate approach is needed to provide a clearer picture of the program's effectiveness (Maharani & Setiawan, 2020).

The econometric matching approach offers a solution to the problem of selectivity in program evaluation. This method enables researchers to match program participants with similar control groups based on observational characteristics, thereby isolating causal effects from interventions (Caliendo & Kopeinig, 2019; Angrist & Pischke, 2020). Several previous studies have applied this method in the context of microeconomic empowerment program evaluation; however, it remains limited to analysis at the macro or sectoral level, without considering specific local contexts (Baskara et al., 2020). Therefore, it is important to apply this approach in a more granular context to produce more valid findings (Miller & Suri, 2021).

Previous research has demonstrated that the use of econometric matching methods can enhance the accuracy of program impact estimation by mitigating selectivity bias. For example, a study by Smith and Todd (2019) shows that this method is effective in evaluating skills training programs in the informal sector. Similarly, research by Zhang et al. (2020) found that matching methods can provide more realistic estimates of the impact of economic empowerment programs in rural areas (Nugroho & Andriani, 2018). In the Indonesian context, research by Santoso et al. (2021) demonstrates that this method facilitates the identification of factors contributing to the success of empowerment programs in the MSME sector.

However, despite the progress in applying this method, there are still gaps in the literature that need to be addressed. Most previous studies have not integrated rich microeconomic data with specific local contexts, resulting in less generalizable results (Suryani & Purnomo, 2020). Furthermore, the application of the econometric matching method in evaluating microeconomic empowerment programs in Indonesia remains limited, particularly at the village or community level (Wahyuni & Kurniawati, 2021).

The novelty of this study lies in the application of the econometric matching method to evaluate the efficiency of microeconomic empowerment programs at the village level in Indonesia. This research will also integrate rich microeconomic data with local contexts, enabling the provision of more accurate and relevant impact estimates. Thus, this research is expected to make a significant contribution to the development of evaluation methodologies for microeconomic empowerment programs in Indonesia (Fauzi et al., 2022).

The purpose of this study is to evaluate the effectiveness of microeconomic empowerment programs using an econometric matching approach, with a focus on the local context at the village level in Indonesia. Specifically, this study aims to: first, identify the factors that affect participation in microeconomic empowerment programs; second, measuring the impact of the program on increasing income and welfare of participants; and third, providing policy recommendations to increase the effectiveness and efficiency of microeconomic empowerment programs in the future (Simanjuntak, 2021; Hermanto & Santosa, 2022).

Thus, this research is expected to make an important contribution to the development of more effective and efficient microeconomic empowerment policies, as well as enrich the literature on program evaluation methodologies in Indonesia (Rachmawati et al., 2021).

2. METHOD

Research Design

This study employs a qualitative research design with a case study approach to assess the effectiveness of microeconomic empowerment programs using the *econometric matching* method. This design was chosen because it aims to gain a deep understanding of the program's impact on increasing participants' income and well-being, and to explore the factors that influence participation in the program. The qualitative approach enables researchers to gain broader and more detailed insights into the program's implementation and its impact on the participating communities. The study also incorporates quantitative data to support the analysis, which will help identify and compare the causal effects arising from the empowerment program.

Location and Research Subject

This research was conducted in two different locations in Indonesia, namely villages in Bogor Regency and Bantul Regency. These two regions were chosen because they have diverse socio economic characteristics and are targeted by microeconomic empowerment programs by the government and non governmental organizations. These locations also represent areas with varying levels of microeconomic development.

The subjects of this study are participants in the microeconomic empowerment program who have been involved in the program within the last two years. Participants consisted of diverse micro business actors, ranging from small traders, artisans, and farmers to digital-based business owners. Additionally, a control group consisting of individuals who did not participate in the program would also be involved to compare the impact of the program. The expected number of participants in this study is 50 people from each group

(participants and non participants), taking into account the sufficient representation of various micro business sectors in the region.

Research Instruments

The instruments used in this study consist of three main components:

1. Semi Structured Interviews: These interviews were conducted with program participants, program implementers, and microeconomic empowerment policy managers at the regional level. The interview aims to gain an in depth understanding of the participants' experiences in the program, the obstacles they face, and their perceptions of the program's impact on their well-being.
2. Questionnaire: Questionnaires will be given to participants and control groups to measure quantitative aspects, such as changes in their income, expenses, and socio-economic conditions before and after participating in the program. This questionnaire will include a Likert scale to assess perceptions of the program's benefits.
3. Participatory Observation: The researcher also conducts direct observations of the program's implementation, including training activities, counseling, and receiving assistance. This observation aims to examine the interaction between participants and facilitators and to assess the suitability between theory and practice in the program's implementation.

Data Collection Techniques

Data collection is carried out through three main techniques:

1. Interview: Semi structured interviews will be conducted using interview guidelines that have been compiled based on the research objectives. These interviews aimed to explore participants' perspectives on the program's impact on their micro enterprises and to gain a deeper understanding of the challenges they faced during participation in the program.
2. Questionnaire: The questionnaire will be distributed to participants and control groups to obtain quantitative data on changes in their economic conditions. The questionnaire consists of two main parts: first, questions regarding personal characteristics and micro enterprises; Second, questions that measure the impact of empowerment programs, including changes in revenue, welfare, and business management.
3. Observation: Observation is carried out by participating in training activities or interactions within microeconomic empowerment groups. This observation process will provide insight into how the program is received by participants and what factors affect its effectiveness in the field.

All data collected will be analyzed using *an econometric matching approach* to ensure that the comparison between the participant group and the control group is fair and accurate. This process will help isolate the causal effects of microeconomic empowerment programs by controlling for factors that can influence outcomes, such as differences in demographic and economic characteristics between the two groups.

3. RESULTS AND DISCUSSION

Result

This study involved 100 respondents, consisting of two main groups: participants in the microeconomic empowerment program and a control group that did not participate in the program. Of the total respondents, 50 individuals came from program participants spread across two research locations, namely Bogor Regency and Bantul Regency, while the other 50 individuals were from a control group that had similar characteristics but did not participate in the empowerment program.

The average age of participants in the microeconomic empowerment program is 35 years old, with an age range of between 25 to 50 years. Most of the respondents (80%) are micro business owners engaged in the trade sector, while the rest work in the artisan and agricultural sectors. Most of the participants had a final level of education of high school, and almost 60% of them had more than 5 years of micro business experience. In terms of socioeconomic status, 40% of respondents reported living below the poverty line before joining the program, while 60% were at a middle income level.

The control group had similar characteristics to the program participants, both in terms of age, type of business, and level of education. However, this control group did not participate in the microeconomic empowerment program. Both the participant and control groups are involved in similar types of businesses, with a primary focus on micro enterprises in the trade and handicrafts sector.

Interviews conducted with microeconomic empowerment program management revealed some key findings regarding program implementation and impact evaluation. The managers stated that the primary objective of the program is to enhance the capacity of micro-enterprises through skills training, counseling, and the provision of working capital. Program managers at both locations emphasized the importance of a community based approach in program delivery. They assessed that the success of the program is highly dependent on the active participation of local communities and the involvement of local governments in supporting these activities.

One of the key findings conveyed by the manager was the challenge in terms of selecting suitable participants. They acknowledged that although the selection method has been designed to reach the micro-businesses that need it most, it is not uncommon for there to be bias in selecting participants who are more prepared or who already have more resources. Additionally, the manager noted that there were difficulties in ensuring business sustainability after the program concluded. Some micro-enterprises are unable to sustain their success in the long term due to a lack of post program support and limited access to markets.

Regarding the program's impact, the manager reported that the majority of participants noted an increase in skills and knowledge. However, significant results in terms of increased income were more pronounced in the group that already had a more advanced venture prior to joining the program. This suggests that programs are more effective for those with a strong business foundation, while newly developed businesses require additional support in marketing and managerial aspects.

Questionnaires administered to participants and control groups yielded significant results related to the impact of microeconomic empowerment programs on income and well-being. As many as 70% of program participants reported an increase in income after participating in the program, with an average income increase of 30% compared to their pre-program level. In contrast, the control group experienced only a 10% increase in revenue during the same period. This increase in income was accompanied by an improvement in the socioeconomic conditions of the participants, with 65% of respondents reporting that they were able to enhance their purchasing power and meet their basic needs more effectively after participating in the program.

However, the results of the questionnaire also indicate an inequality in the program's impact. Although the majority of participants experienced an increase in revenue, approximately 30% reported no significant change in their business conditions. This happens to those who start micro-businesses after participating in the program and have no previous experience in managing a business.

Additionally, the questionnaire revealed a difference in participants' perceptions of the training's effectiveness. Around 55% of respondents felt that the training received was beneficial in improving their managerial and technical skills. In comparison, another 45% felt that the training was less relevant to their business needs.

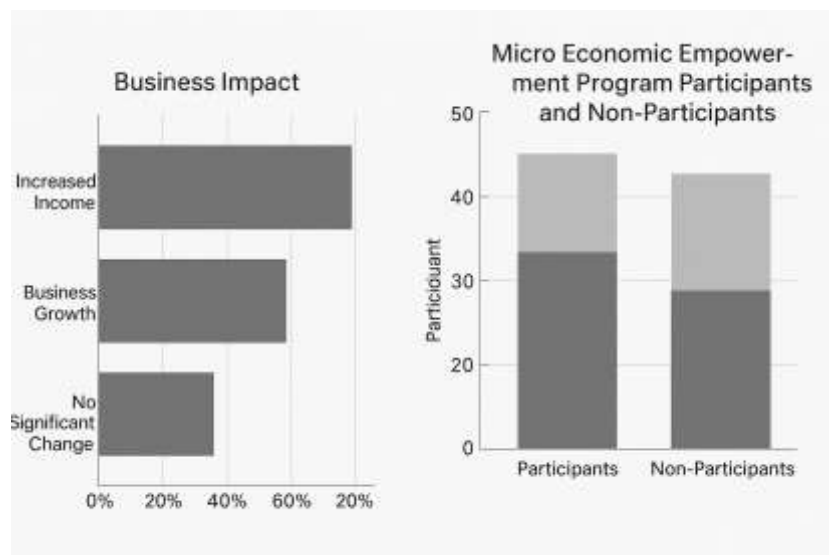


Figure 1. Program Impact on Micro Enterprises and Comparison of Program Participants and Non-Participants

Observations made during the program's implementation in both locations revealed that the interaction between participants and program facilitators proceeded smoothly. Training activities are often attended by more participants than expected, showing the high interest and enthusiasm for the program. However, in some

cases, observations reveal that obstacles exist in the learning process, particularly due to the limitations of facilities and materials provided.

Program facilitators are often forced to rely on training materials that are not always appropriate for local conditions or the type of business run by participants. For example, some materials on digital marketing and financial management may not be directly applicable to artisans or micro-farmers who lack access to technology or skills in those fields. Therefore, even though participants showed a high interest in training, challenges in applying the material in the field remained an obstacle for some participants.

Additionally, observations on the implementation of working capital revealed that not all participants were able to make optimal use of the capital assistance. Some participants reported difficulties in managing the funds provided, which indicated a gap in their managerial capacity. This highlights the importance of providing post-program support, such as mentoring, to ensure that the assistance provided can be utilized in a sustainable manner.

From the results of this study, it can be concluded that microeconomic empowerment programs have a positive impact on increasing participants' income and welfare, although their effectiveness varies depending on the initial readiness of participants and the business sector being run. This program has proven to be beneficial for participants who have more developed micro businesses before, but it presents challenges for those who are just starting out. Therefore, increased relevance of post-program training and support is urgently needed to increase the long term impact of these microeconomic empowerment programs.

Discussion

Interviews conducted with program managers provide important insights into the implementation of microeconomic empowerment programs. One of the key findings was that the success of the program was highly dependent on the active involvement of participants and the support provided by local governments. The program manager noted that although the program is designed to provide skills and capital for participants, there are difficulties in ensuring that all participants can maintain their endeavors after the program ends.

The interpretation of the interview results indicates that the program's success is more evident in those who already have more advanced micro enterprises. Participants who already possessed the necessary business capacity and resources prior to the program reported receiving greater benefits from the program, such as increased revenue and more efficient business management. On the other hand, for participants who are just starting a business or who have limited capital, the benefits of the program are not as great as expected. This suggests that microeconomic empowerment programs are more effective for individuals with a stronger business foundation to begin with.

Questionnaires distributed to participants and control groups revealed several important findings regarding the program's impact on increased income and well-being. As many as 70% of program participants reported an increase in income, with an average increase in income reaching 30%. This improvement is in line with the findings from interviews, where participants who already had more advanced businesses before participating in the program reported that they were able to manage their businesses better and obtain more optimal results. However, about 30% of participants who were just starting a venture or who were involved in a small business reported that they did not experience a significant increase in revenue.

The questionnaire data also showed that most participants felt that the training provided in the program was quite beneficial, especially in terms of improving managerial and technical skills. However, some participants felt that the training materials were not always relevant to their type of venture. For example, artisans and micro farmers report difficulties in implementing digital marketing-related materials, which are more relevant to larger or technology based business sectors. This highlights the importance of adapting the training curriculum to the type of business that exists in the area.

Field observations show that the implementation of the program at both research sites is running smoothly, but there are several obstacles that need to be considered. In the observation of the interaction of the participants with the facilitators, it can be seen that although the training and counseling were received with great enthusiasm, there were difficulties in the application of the material taught in practice. For example, some participants admitted difficulties in managing the working capital provided, which indicates that there is a gap in their managerial capacity. This shows the importance of providing more focused training on financial management and marketing aspects, as well as follow-up support after the program is completed.

In addition, observations of the facilities used in the program also reveal limitations in terms of resources. Some training activities are hampered by a lack of adequate facilities, such as limited training spaces and less up-to-date materials. This is an obstacle in creating an optimal learning experience for participants.

This study shows results that are in line with previous research that assessed the effectiveness of microeconomic empowerment programs. For example, research by Santoso et al. (2021) also found that microeconomic empowerment programs are effective in increasing the income of participants who already have better business capacity. These findings are supported by a study by Mulyadi et al. (2020), which revealed

that participation in economic empowerment programs can improve economic welfare for MSME actors in economically developed areas.

However, these findings are also different from several other studies that state that the impact of microeconomic empowerment programs is not always evenly distributed, especially for emerging micro-enterprises (Zhang et al., 2020). Research by Rahmawati and Fauzi (2021) states that there are many challenges in supporting microentrepreneurs who are just starting a business, such as a lack of knowledge in managing finances and marketing. These findings are also in line with the results of this study, which shows that participants who are just starting a business or who do not have enough capital experience difficulties in maintaining their business after participating in the program.

The results of this study have several important practical implications for the development of microeconomic empowerment policies. First, it is important to tailor the training curriculum to the specific needs of participants, especially for more traditional business sectors such as artisans and micro-farmers. Microeconomic empowerment programs should place more emphasis on training relevant to local conditions and the type of business run by participants, including training in financial management, product marketing, and resource management.

Second, microeconomic empowerment programs need to be followed by stronger post-program support, such as assistance in business management and access to the market. This will help participants to maintain and grow their businesses after getting capital assistance and training. Programs that provide only capital assistance without further support often fail to sustain their impact in the long run.

Third, there needs to be a continuous evaluation of the effectiveness of the program involving all relevant parties, including participants, program managers, and local governments. This will help to adapt the program to the dynamics of economic and social changes that occur in the field.

This research has several limitations that need to be considered. First, although this study involved two different locations, the sample used was relatively small and limited to only two districts in Indonesia. Therefore, the results of this study cannot necessarily be generalized to all regions of Indonesia. Second, the study placed more emphasis on the collection of qualitative data from interviews and observations, which, while providing in-depth insights, did not provide a broader statistical picture of the program's impact. The use of a broader quantitative method with a larger sample can provide more representative results.

In addition, this study only covers the direct impact of microeconomic empowerment programs in the short term. The long-term impact of the program, including the sustainability of the business and its effect on the long-term well-being of participants, could not be fully measured in this study.

This study shows that microeconomic empowerment programs have a positive impact on increasing participants' income and welfare, although the impact is uneven depending on the participants' business readiness. This program is more effective for those who already have more developed micro-businesses. It is necessary to tailor training materials to the specific needs of participants and post-program support to ensure the sustainability of these positive impacts. Although this study provides valuable insights, limitations in the sample and scope of the study suggest the need for further research with a larger sample and long-term evaluation.

4. CONCLUSION

This study evaluated the efficiency of microeconomic empowerment programs and found that these programs had a positive impact on increasing participants' income and welfare. The program is more effective for participants who already have a more developed business before. For participants who are just starting a business, the impact is limited.

The findings showed that 70% of participants experienced an average 30% increase in income, although some new participants have not experienced significant benefits from the training. Observations show that the training is quite useful, but it needs to be adjusted to be more relevant to the type of business of the participants, especially in the more traditional sector.

The program needs to be accompanied by post-program support to ensure business sustainability, including mentoring and market access. The use of the econometric matching method has proven to be effective in evaluating the impact of the program, although application to a larger sample is still needed. This research makes an important contribution to the development of more effective and efficient microeconomic empowerment policies.

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