

Interest Rate Cap Policy in Cambodia
- Summary of Findings from a Survey and the Policy Implications\*-

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- An interest rate cap policy has been newly introduced to the Cambodian microfinance sector since April 2017.
- This policy note summarizes the results of a survey, carried out jointly by JICA, CMA and CBC, that investigates the impact of the Cambodian interest rate cap policy.
- Based on the results of the survey, it can be seen that the outreach of MFIs (Microfinance Institutions) declined due to the implementation of this policy. Specifically, MFIs reduced the availability of costly or high-risk profile loans, such as non-collateral and small-sized loans, which are more likely to be extended to lower-income households.
- However, the impact is different from MFI to MFI, depending on each one's original customer segments and operation. Especially large differences were found between deposit-taking MFIs and non-deposit-taking MFIs.
- To mitigate the negative side effect of the policy, we suggest that the government and the development agencies should consider taking actions such as implementing supporting measures for financial inclusion, addressing regulatory arbitrage, and enhancing the transparency of the microfinance sector.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors, and do not necessarily reflect the views of the authors' organizations.

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#### 1. Introduction

In April 2017, the National Bank of Cambodia (NBC), the central bank of Cambodia, implemented an interest rate cap policy in the microfinance sector. Microfinance institutions (MFIs) in Cambodia are regulated and supervised by the NBC, and this policy has restricted interest rates on lending of all the MFIs to no more than 18% on an annual basis (monthly at 1.5%).<sup>1</sup>

International experience shows that interest rate cap policies tend to cause a decline in the number of borrowers, and a reduction of transparency in lending (Alper 2018; Madeira 2019; Ferrari et al. 2018). In the case of Cambodia, the

interest rate cap policy was exclusively implemented for MFIs, whose operations are generally oriented towards extending outreach to the poor and are not necessarily for profit. Thus, there is a concern that this interest rate cap policy could curb MFI lending to the poor.

To examine the real impact of interest rate cap policy, the Cambodia Microfinance Association (CMA), the Cambodia Credit Bureau (CBC), and JICA Ogata Research Institute (JICA-Ogata-RI) carried out a joint survey of the lending behavior of MFIs and borrower behavior in Cambodia. Specifically, data on loan disbursements by all the financial institutions in Cambodia are collected through the CBC database, which recorded about 7,000,000 loan disbursements between January 2016

### The Background to the Interest Rate Cap Policy in Cambodia

The Cambodian banking sector is regulated by the NBC. The Cambodian banking sector was composed of five types of financial institutions as of 2017: 39 commercial banks, 15 specialized banks, 76 MFIs, 313 rural credit institutions, and 11 financial leasing companies. The MFIs are further divided into 7 deposit-taking microfinance institutions (MDIs), and 69 non-deposit-taking microfinance institutions (Non-MDIs). Regulations on MDIs and non-MDIs, such as minimum capital requirements, solvency ratios, and liquidity ratios, are different. The minimum capital requirement is USD30 million for MDIs, and 1.5 million USD for non-MDIs.

An interest rate cap policy was announced on March 3rd 2017 and has been implemented since April 1st, 2017 (NBC 2018). According to NBC (2017, 2018), the regulation requires MDIs, non-MDIs, and rural credit institutions under the NBC's supervision to set the interest rate on loans so this does not exceed 18% per year for any maturity. This interest rate ceiling is applied to new credit contracts as well as restructured loans and refinancing from April 1st, 2017. The interest rate cap policy was initially aimed to improve market efficiency by dumping inefficient MFIs from the market (IMF 2017). As of 2019, no MFIs have withdrawn from the market due to the interest rate cap, but several MDIs and non-MDIs have been acquired or merged with other financial institutions and/or non-financial institutions.

The government may also have expected that the introduction of an interest rate cap policy would reduce the debt burden of households. In fact, there were concerns of over-indebtedness from predatory lending in the MFI sector. The average amount of loans has been increasing rapidly, while the increases in SME loans and mortgage loans have contributed to increasing loan sizes. Thus, although the interest rate cap can reduce the debt burden for such households, the cap is too low for MFIs to keep lending to the poor. Before the interest rate cap policy was implemented, estimated average interest rates were more than 20% but MFIs that lend to rural households had set average interest rates higher than 30% (Aiba et al. 2020).

and March 2019. For borrower behavior, face-to-face interviews were carried out with 1,000 households in 4 provinces of Cambodia. The CMA-CBC-JICA survey is the first to provide comprehensive data on MFI lending and borrower behavior regarding the impact of interest rate caps. In this policy note we summarize the results and contributions of the research based on this survey and provide policy recommendations.

# 2. Objectives and Results of the Joint Survey by CMA, CBC and JICA

In Cambodia, implementation of an interest rate cap could cause inefficiency and reduction in outreach in a lending market. The Cambodian MFIs are all registered with the NBC and there are regulations regarding capital requirements, the maximum size of single loan provision, and liquidity ratios. However, entry barriers seem to be small. In fact, the number of MFIs increased from 19 in 2008 to 76 in 2017. This high intensity of competitiveness in the Cambodian microfinance sector could drive MFIs to reduce loans to the poor in response to the introduction of an interest rate cap (McIntosh and Wydick 2005).

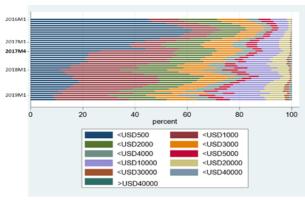
To address this issue, the CMA, the CBC, and JICA-Ogata-RI carried out a joint survey to attempt to advance the debate on interest rate cap policies and examine the effects of the newly introduced interest rate cap on the lending behavior of MFIs and borrower behavior in Cambodia. To understand the impact on the demand side and on the supply side, the main data were collected from two different sources in the joint survey. The first dataset was information on loan disbursements granted by all the registered financial institutions in Cambodia, and the data is provided by the CBC. The other is

information from 1000 Cambodian households who were interviewed in August-September 2019. The following section gives a summary of the results of the analysis.

## (2-1) Impact on lending behavior by financial institutions

Regarding MFI behavior, Aiba et al. (2020) examined the impacts on the lending of non-MDIs and MDIs using loan-account-level data of loan disbursements obtained from the CBC's credit registry data. The data contains information of about 7,000,000 newly disbursed loan accounts from 2016M1 to 2019M3. The detailed data allows us to investigate the impact of policy implementation by exposing variations across loan types, across financial institutions, and across regions. This analysis revealed that the size of each loan disbursement significantly changed after the interest rate cap policy was implemented. Especially, the disbursement of loans of less than 500 USD decreased (Figure 1).

Figure 1: Loan Disbursements by Loan Sizes (MDIs)



Source: Aiba et al. (2020).

In addition, the interest rate cap policy affected the outreach of MDIs and non-MDIs. The data show that the interest rate cap policy has had a negative impact on the number of loan disbursements relating to non-collateral loans, local currency, group-lending loans,

and agricultural loans.<sup>2</sup> We found that MDIs decreased or at least did not increase loan provision in both rural and urban areas. In the meantime, non-MDIs started increasing their loan disbursements in urban areas and decreasing them in rural areas. Thus, the entire impact on the lending of non-MDIs is unclear, but the outreach of non-MDIs was negatively affected by the interest rate cap policy.

This decline in new disbursements of costly loans might have some consequences for gender financial inclusion. Female-related loans tend to be non-collateral, in a group lending scheme, for agricultural purposes, and/or are small, all of which are cost factors in MFI lending and are also impacted by changes in interest rate cap policy. Thus, even though MDIs and non-MDIs did not intend to decrease loan provision just for the reason that borrowers were female, the loans for female borrowers could be affected by the interest rate cap policy. However, Aiba et al. (2020) further found that the number of borrowers of female-related loans did not necessarily decrease after the interest rate cap policy change. This implies that MDIs and non-MDIs struggled to keep female borrowers by increasing the number of borrowers per loan disbursement, even while they reduced loan disbursements.

Aiba et al. (2020) further document empirical evidence that the lending rates of commercial banks also decreased on average after the interest rate cap policy was implemented. The decline in commercial bank lending rates was possibly caused by the strong competition between MFIs and commercial banks. Since some customer segments of each of them overlap commercial banks might face pressure to decrease interest rates to keep their customers in response to the decrease in interest rates of non-MDIs and MDIs. However, this analysis is still

descriptive and exploratory. Further investigation into causality is needed.

### (2-2) Impacts on household behavior

In analysing the borrower side, Samreth et al. (2020) investigated the impacts of an interest rate cap based on the data from a survey conducted between August 19, 2019 and September 20, 2019 in Cambodia. Specifically, Samreth et al. (2020) examined the impact of the interest rate cap on credit or borrowing costs (i.e., interest rates and loan assessment and processing fees), loan size and loan maturity. Moreover, the effects of the cap imposition on informal credit and household debt service burden were also discussed and analyzed.

Samreth et al. (2020) found that, while the imposition of the cap reduced interest rate credit costs, leading to a decrease in credit costs for borrowers, the benefit from this reduction may be partially offset by increases in loan assessment and processing fees. However, the offset effect seems to be small. For loan size and loan maturity, evidence on the increase of the average loan size exists, but the difference in loan maturity before and after the cap is not statistically significant. Samreth et al. (2020) also indicate that the percentage of loans from informal sources seems to have increased by a few percentage points.

From the analysis of factors affecting the household debt service burden, Samreth et al. (2020) indicate that a higher debt service burden is associated with larger loan size. Since an increase in the loan size at relatively small loan level is observed after the cap, the positive relationship between loan size and debt service burden may imply the increase of the debt service burden among relatively small borrowers. Furthermore, it is also evident that

households' debt service burden is negatively associated with their financial literacy, implying that there is an important role for financial literacy in alleviating the debt service burden among borrowers.

### 3. Policy Recommendations

The CMA-CBC-JICA survey is the first survey to provide a quantitative analysis using comprehensive large-scale data from various data sources. Therefore, we believe the insights and policy implications based on evidence from the survey are useful from the policy-making perspective. Based on the documented evidence, we draw several policy recommendations as follows.

(3-1) To reduce the negative side-effects, taking complementary/supportive measures or adjusting the interest rates cap on regular basis is needed.

There is no one-size-fit-all policy measure. Setting the interest rates cap at the same level for all loans and all MFIs could lead to reductions in the variation of MFI services for poor households, since a lot of different types of borrowers exist, and there could be a large variety in the financial products available.

In the analysis of the MFIs (Aiba et al. 2020), it was found that interest rate policy changes had an impact on the number of loan disbursements and the average loan size. In particular, the analysis revealed that MFIs reduced disbursements of costly (or risky) loans, such as non-collateral loans and group-lending loans, after policy implementation.

Furthermore, as is shown by Aiba et al. (2020), there are large variations in loan products across MFIs. These findings suggest that interest rate cap policy leads to a reduction in loans to poor households, since the loan provisions for those

households are typically costly in terms of both risks and physical costs. This means that MFIs with more poor clients are especially affected by the policy.

For facilitating the outreach of MFIs under a low interest rate environment, it is required that governments take complementary measures or adjust the existing interest rates cap. The interest rate cap policy per se could be effective in reducing the debt burden of borrowers and ensuring MFIs reduce costs. However, there could be negative side effects. Thus, taking measures to support MFIs so that they are able to keep providing loans to the poor or making frequent adjustment of regulations based on evidence is required to mitigate such negative effects of policy.

The ideal practice of interest rate cap policy is designed not to reduce the outreach of MFIs by designing the policy differently from MFI to MFI based on what sectors they mainly lend to. However, there are also limitations of the capacity of supervisors of MFIs, in terms both of research and enforcement. Thus, it is difficult to collect enough information about the MFI comprehensive managements, and set the appropriate interest rates for each MFI. Another practical way to deal with the negative side-effect could be to simply set the unique interest rate cap, while reviewing the level of interest rate cap regularly based on the MFI's costs and macroeconomic situations (inflation rates, exchange rate, and so on). The supervisor needs to collect or to facilitate the transparency of the operating costs and credit costs of MFIs, to objectively assess the level of the interest rate cap.

# (3-2) Setting caps at moderate level could work well in reducing predatory lending activities.

Samreth et al. (2020) show that the average interest rates set by MFIs are around 1.8 percent monthly. However, the current interest rate cap is set at 1.5

percent monthly. This means that current interest rates are lower than the market rates for MFI lending.

The international experience of interest rate cap policies suggests that setting interest rates at a high level has no significant impact on the pattern of lending, although it seems to be effective in preventing extreme pricing. Thus, if governments aim to prevent predatory lending by MFIs from the consumer protection perspective, caps could be set at a higher level to prevent the charging of excessively high interest rates by financial institutions to less literate borrowers. However, interest rate cap policy is still a blunt instrument when used to regulate financial institutions. If there is a need for measures to protect consumers, developing the legal framework on usury and enhancing the monitoring of financial institutions are also potential strategies.

### (3-3) The regulations should be redesigned given the increasing competition between banks and MFIs, including in the labor market.

Aside from competition within MFIs, there is also a concern about the current market competition between MFIs and commercial banks, which has become more intense in recent years. For sustainability, MFIs need to keep a certain level of profits, otherwise they cannot keep lending to risky and costly borrowers, as this leads to mission drift. The intense competition could drive MFIs to shift loans away from segments of their poorer clients due to a reduction in their market power. Designing preferential regulatory frameworks for MFIs is one of the possible policy strategies to mitigate excessive competition between commercial banks and MFIs.

Further, the market competition between MFIs and commercial banks is even intense in the labor market for loan officers. This rising

competition in the labor market could impact on the operational costs of MFIs and put pressure on interest rates. Because MFI lending is labor intensive, the quality and experiences of loan officers are important to the extension of loans to households in rural areas. As Aiba et al. (2020) show, operational costs are a significant cost factor and a reason for high interest rates in MFI lending, and labor expense is typically a main component of financial institution costs. Thus, the recent rise in competition between MFIs and commercial banks makes MFIs face increases in operational costs to keep quality loan officers employed. Fintech could alter part of the function of loan officers. However, hard information (quantitative data, such as financial statements) is not enough to ensure the effective screening of borrowers for micro loans, and soft information (information which is not easy to quantify) is difficult to evaluate qualitatively without skilled loan officers.3

Market structures should be considered when implementing regulations on financial institutions. Even though an interest rate cap policy could reduce the market power of financial institutions, this policy could lead to an oligopolistic market structure, and this could in turn lead to more market power with a small number of MFIs. The regulators should consider the relationship between market structure and outreach. Although it should be determined which market structure is optimal for the sustainability and outreach of MFIs, the lack of research on competition and MFI behavior is also a problem.

# (3-4) Regulatory arrangement is needed to reduce regulatory arbitrage of interest rate cap policy.

The analysis of household behavior (Samreth et al. 2020) revealed that access to informal finance

increased after the interest rate cap policy. Aiba et al. (2020) also found that disbursement of short-term loans decreased in comparison to that of long-term loans, and emergency loans (social loans) also decreased after the interest rate cap policy was introduced. Heng et al. (2021) report that loans provided by pawnshops increased from 38 million USD in 2016 to 158 million USD in 2020.

This suggests that households have lost opportunities to access short-term formal credit for emergency purposes, and there could be an increasing need for households to have access to informal finance, such as pawnshops or loan sharks in the case that negative shocks happen to household incomes. However, the pawnshops are supervised by the Ministry of Economic and Finance while they work to provide credit to MFIs' clients by exploiting regulatory arbitrage. This can cause loopholes in the supervision of credit markets, leading to unfair environments, and weaken consumer protection. Thus, more strict monitoring of informal finance is needed, and the interest rate cap policy increased the administrative costs of the regulator in this regard.

In addition, there is the problem of increasing the market power of informal lenders. Households are required to borrow at higher interest rates when they need credit from informal lenders. In addition, exploiting behavior by informal lenders will become more intense during economic crises. But informal finance *per se* is not an enemy and could promote better asset reallocation in the economy. However, if people need short-term liquidity for emergency purposes they tend to reduce their assets at fire sale prices. In the period of economic crisis, this negative aspect of informal finance will outperform the positive aspects. The current economic downturn caused by COVID-19 could also have the same effect. Thus, governments should pay attention to informal

finance, and the policy measures to help people out before they need to access informal finance.

# (3-5) Financial literacy needs to be fostered to mitigate the negative side effects of interest rate cap policy.

Interest rate cap policy causes some unintentional side effects on borrowers, aside from reductions in credit access. First, there is a significant increase in loan size per borrower. Even though the interest rate on borrowers is lowered, the amount of outstanding loans becomes large and offsets the reduction in interest rate in terms of the debt burden for borrowers. Second, the debt burden on borrowers could be worse than before. The survey of households revealed that many borrowers could not answer questions about monthly interest rates, possibly because of low financial literacy. Increases in commission fees might also lessen borrower's awareness of their interest burdens, since they make the calculation of effective interest rates more complicated.

These side effects could be worsened by the low financial literacy of borrowers. In fact, as Samreth et al. (2020) show, borrower awareness of actual interest rates is relatively low both for noncurrent borrowers and even for current borrowers. Increases in loan size (debt burden) and commission fee (interest burden) could therefore result in high delinquency on loan repayments, particularly for low-financially-literate households. Thus, even though interest rate cap policy could be beneficial for decreasing borrowers loan repayments, households might not notice this as an advantage. Theoretically, some borrowers that were originally discouraged from access to credit would start accessing MFIs due to the decrease in interest rates. However, according to the survey results, the news about interest rate cap policy is not widely spread among households. Even though borrowers have opportunities to access better credit, many of them were not aware of this fact. Improving borrower awareness and literacy about finance could be a possible solution.

Loan officers could be the sources of financial knowledges for borrowers. Thus, educating loan officers (in terms both of financial knowledge and ethics) to spread financial knowledge to borrowers is also recommended to improve household financial literacy and awareness.

(3-6) Improvement of the transparency in MFI lending practices is needed. The CMA should enhance monitoring and self-regulation of MFI lending by collecting more data.

Regular close monitoring of MFI lending by the CMA is required. Some MFIs are shifting toward lending to microenterprises and SMEs towards larger amounts at lower interest rates. However, this could also reduce the variety of financial products and the customer segments of MFIs. Some policy arrangement or self-regulation is required to keep the loan provision to the poor.

As the analysis on MFI loans suggests that fixed cost per borrower is significant, MFIs will possibly change lending technology toward less costly, i.e. less labor-intensive ones, such as credit scoring. However, there is concern that such technologies are dependent on hard information, such as legal documents and financial statements, and this could drive MFIs away from their poor customers. The CMA should monitor changes in MFI lending to prevent mission drift behavior. International lenders are also important stakeholders in the Cambodian MFI sector. They are the main funding sources for MFIs in the sense that

their funds are set at low interest rates and are large. However, the disclosure of information on MFIs' activities is not comprehensive in Cambodia. Thus, transparency is still low in Cambodian MFIs. In fact, while some MFIs have increased loan size per borrower in recent years, MFI lending practice is unclear. For example, how are such loans secured or left unsecured, and how are they extended to SMEs and females? The CMA (or regulators) should collect and disclose more information to international lenders to make sure where loans are needed and whether there is need of funding from these lenders.

(3-7) It is needed to re-define and make standards for microfinance business, and to disclose information on the provision of micro loans as a commitment to outreach and poverty reduction.

There is a huge variation in the patterns of loan composition in terms of products, areas, and loan sizes across MFIs. Some MFIs extend loans mainly to rural areas, but others only extend to urban areas. This suggests that the objectives and business models of MFIs are widely different from institution to institution. Aiba and Okuda (2020) evaluate MFIs in terms of the extent of outreach-orientation and efficiency in operation, and the capital/labor intensiveness of Cambodian and Philippines MFIs. Their results show that the objectives and business models of MFIs vary across countries, and within countries. Furthermore, Vanroose and D'Espallier (2013) show that the development of the microfinance sector can be explained by the level of development of the traditional banking sector (commercial banks). In this regard, Aiba and Okuda (2019) provide similar findings that show that the development of the Cambodian microfinance sector can be explained partly by the low development of the commercial banking sector.

It is pointed out that competition in MFIs has become high recently due to a large number of entries of new MFIs, and there is a rising competition between MFIs and commercial banks. In this environment, there is a concern about the mission drift of MFIs. However, the uniform regulation of all MFIs is not desirable since they have different objectives and business strategies in their operation. In the meantime, the information disclosures of MFIs are not enough to clarify the objectives of each MFI. Thus, enhancing transparency through disclosing information, such as the types of borrowers MFIs lend to, is helpful for policy-makers and microfinance investment vehicles when they try to figure out

which institutions still need support for poverty reduction.

To facilitate proper disclosure and enhancing transparency in the microfinance sector, one possible strategy is to make an official standard or to set an official goal for microfinance lending. The CMA could then take the role of establishing standards or goals and evaluating whether each MFI meets those standards and goals. Such a process would facilitate data submission by MFIs if they are willing to be evaluated as lending to the poor. This strategy will make the MFI business transparent for policy makers and international investors,<sup>4</sup> and enable them to make decisions based on evidence.

#### Note:

<sup>&</sup>lt;sup>1</sup> In Cambodia, microfinance institutions are categorized into two legal entities: deposit-taking microfinance institutions, and non-deposit taking microfinance institutions. The former are known as MDIs legally, and the latter are called MFIs in official documents of the NBC. However, throughout this paper, we categorize non-deposit taking microfinance as "Non-MDIs" to avoid confusion, and we label MDIs and Non-MDIs collectively as MFIs

<sup>&</sup>lt;sup>2</sup> There is a caveat in interpreting their results as causality. Aiba et al. (2020) found that the reduction in the number of borrowers is correlated to local currency, non-collateral loans, group-lending loans and small-sized loans. However, the correlation does not necessarily represent the causality, and there is still the possibility that other changes in regulation or macroeconomic conditions will affect the reduction relating to these loan characteristics.

<sup>&</sup>lt;sup>3</sup> According to Liberti and Petersen (2019), hard information is almost always recorded as numbers, such as financial statements, stock returns, and payment histories. Soft information is often communicated as text, such as opinions, rumors, ideas, statement of management future plans, and market commentaries.

<sup>&</sup>lt;sup>4</sup> In recent years, private investors have expanded to have substantial shares in capital inflows for MFIs around the world. Apart from public lenders, attracting such private investors is also needed for sustainable microfinance lending.

### References

- Aiba, D., and H. Okuda. 2020. *Are the Operations of Microfinance Institutions Different Across Countries? A Comparative Analysis of Cambodia and the Philippines Using DEA and PCA*. JICA-RI Working Paper Series No. 212. Tokyo: JICA-RI.
- Aiba, D., S. Samreth, S. Oeur, and V. Vat. 2020. Interest Rate Cap Policy on Lending Behavior of Microfinance Institutions: Evidence from Millions of Observations of Credit Registry Data. Discussion Paper series SU-RCSDEA 2020-007. Japan: The Research Center for Sustainable Development in East Asian, Saitama University.
- Alper, E., B. Clements, N. Hobdari, and R. Moya Porcel. 2020. "Do interest rate controls work? Evidence from Kenya." Review of Development Economics 24(3): 910-26.
- Ferrari, A., O. Masetti, and J. Ren. 2018. *Interest rate caps: the theory and the practice*. Policy Research Working Paper No.8938. Washington DC: World Bank.
- Heng, Dyna., Serey Chea, and Bomakara Heng. 2021. *Impact of Interest Rate Cap on Financial Inclusion in Cambodia.* IMF Working Paper WP/21/107. Washington DC: IMF.
- International Monetary Fund (IMF). 2017. *Cambodia*: 2017 Article IV Consultation-Press Release; Staff Report; and Statement by the Executive Director for Cambodia. Country Report No.17/325. Washington DC: IMF.
- Madeira, C. 2019. "The impact of interest rate ceilings on households' credit access: evidence from a 2013 Chilean legislation." *Journal of Banking and Finance* 106: 166-79.
- McIntosh, C., and B. Wydick. 2005. "Competition and microfinance." Journal of Development Economics 78(2): 271-98.
- National Bank of Cambodia (NBC). 2017. Supervisory Annual Report 2017. Phnom Penh: National Bank of Cambodia.
- National Bank of Cambodia (NBC). 2018. Supervisory Annual Report 2018. Phnom Penh: National Bank of Cambodia.
- Samreth, S., D. Aiba, S. Oeur, and V. Vat. 2020. Impacts of Interest Rate Ceiling on Microfinance Sector in Cambodia: Evidence from a Household Survey. Discussion Paper series SU-RCSDEA 2020-007. Japan: The Research Center for Sustainable Development in East Asian, Saitama University.
- Vanroose, A., and B. D'Espallier. 2013. "Do microfinance institutions accomplish their mission? Evidence from the relationship between traditional financial sector development and microfinance institutions' outreach and performance." *Applied Economics* 45(15): 1965-82.

### JICA Ogata Research Institute publications for reference

- Okuda, H. and D. Aiba. 2019. The Cost Efficiency of Cambodian Commercial Banks: A Stochastic Frontier Analysis. JICA-RI Working Paper Series No. 208. Tokyo: JICA-RI.
- Aiba D. and H. Okuda. 2019. Are the Operations of Microfinance Institutions Different Across Countries? A Comparative Analysis of Cambodia and the Philippines Using DEA and PCA. JICA-RI Working Paper Series No. 212. Tokyo: JICA-RI.
- Samreth, S., D. Aiba, D. S. Oeur, and V. Vat. 2021. *Impacts of the Interest Rate Ceiling on Microfinance Sector in Cambodia:* Evidence from a Household Survey. JICA Ogata Research Institute Working Paper Series No. 219. Tokyo: JICA-RI.

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