

Report on Ph.D. / Doctoral Dissertation Defense

National Graduate Institute for Policy Studies (GRIPS)

政策研究大学院大学

Professor Roberto Leon Gonzalez

審査委員会を代表し、以下のとおり博士論文審査に合格したことを報告します。

On behalf of the Doctoral Dissertation Review Committee, I would like to report the pass result of the Doctoral Dissertation Defense as follows.

プログラム名 Program	GRIPS Global Governance Program (G-cube)	
学位申請者氏名 (ID) Ph.D. Candidate (ID)	Chhoeung Johann (PHD20604)	
Dissertation Title 論文タイトル (タイトル和訳)	“Evaluating the impact of macroeconomic policies in a partially dollarized economy: the case of Cambodia” 部分ドル化経済におけるマクロ経済政策の影響評価： カンボジアの事例	
学位名 Degree Title	博士 (政策研究) Ph.D. in Advanced Policy Studies	
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論文最終版提出日/ Submission Date of the Final Dissertation	2023年12月21日/ December 21, 2023	
審査委員会/ Doctoral Dissertation Review Committee	主査 Main referee	LEON-GONZALEZ, Roberto
	審査委員 Referee	LIM, Guanie
	審査委員 Referee	PORAPAKKARM, Ponpoje
	審査委員 Referee	藤原 一平 慶応義塾大学
	審査委員 Referee	FUJIWARA, Ippei / Keio Univ.
	審査委員 (博士課程委員会) Referee (Doctoral Programs Committee)	Stephan Litschig

※ タイトルが英文の場合、文部科学省に報告するため、和訳を付してください

Please add a Japanese title that will be reported to MEXT.

1. 論文と審査結果の概要

1. Summary of Defense and Evaluation

This thesis is concerned with dollarization in Cambodia and has two main research chapters. In the first research chapter the thesis analyzes empirically the impact of a policy that was implemented with the objective of reducing the degree of dollarization. Specifically, banks were required to give at least 10% of the loans in the local currency (Khmer riel). This required commercial banks to increase the amount of loans in local currency. However, microfinance institutions were already giving much more than 10% of their loans in local currency, so it seems reasonable to assume that the policy would not affect them. By comparing the before and after behaviour of the commercial banks and microfinance institutions, this thesis calculates the impact of the policy on the amount of loans given by the banks and on other variables. It is concluded that banks increased the amount of loans as a consequence of the policy.

The second chapter uses a small open economy Dynamic Stochastic General Equilibrium (DSGE) model to represent the Cambodian economy. Using real data on Cambodian GDP, prices and interest rates the model is estimated and used to investigate the impact of an interest rate shock to the economy. Although the interest shock is determined outside Cambodia, it is estimated that it has a significant impact on the Cambodian economy. However, it is also shown that the most important factors affecting the Cambodian economy are domestic factors.

During the final defense the candidate presented his thesis during 45 minutes. The examination committee made several comments and questions that were given to the candidate later in written form. The candidate worked in the revision of the thesis for two months, after which he provided a revised version that the examination committee approved.

2. 論文要旨

The present thesis covers two main research topics on dollarization in Cambodia. Chapter 3 discusses the effects of the currency requirement in loan policy on banking and financial institutions in Cambodia. Cambodia is a partially dollarized country, with dollarization having been high since the country opened itself to the world in the 1990s. Dollarization has hindered the National Bank of Cambodia (NBC) from conducting its monetary policy. While NBC has implemented various measures against dollarization, it is essential to note that these are soft measures that are meant to primarily affect the public's behavior and do not necessarily force them to stop using foreign currencies. In an effort to more effectively address the persistently high level of dollarization, on December 1, 2016, the National Bank of Cambodia issued a hard measure— an administrative measure—to influence the level of dollarization within the banking system. Specifically, the policy is a national currency promotion (de-dollarization) regulation that mandates banking and financial institutions to increase their loan share in Khmer riel to at least 10 percent of the total loan portfolio, which includes both Khmer riels and mostly US dollars. This policy took effect on the issue date and required full compliance by all institutions by December 31, 2019, i.e. over the period of 3 years. We are interested in the unintended effect of this policy. Therefore, we used policy evaluation methodology by applying a state-space model with aggregate loan data to estimate the counterfactual and evaluate the impact of the policy on banking and financial institutions in Cambodia over the implementation period. We use the CausalImpact R package for our approach. Contrary to our initial hypothesis that these measures might result in losses for the banking system, it had a positive side effect.

Chapter 4 is concerned with assessing the impact of foreign interest rate shock on Cambodia's small open and dollarized economy using small open economy real business cycle (SOE-RBC) model. We also assessed the responses to preference shock and technology shock, which are quite usual in such a model. The model is originally used to estimate a standard or nondollarized small open economy with an incomplete asset market where residents purchase riskfree foreign bonds to insure their wealth. We framed Cambodia's economy to fit the model due to its high level of dollarization, where people make deposits and carry out transactions in US dollars to hedge their wealth against devaluation risk and by making assumptions on certain features of the economy. This allows us to apply the model by substituting the interest rate on foreign bonds in the original model with the domestic term deposit interest rate in US dollars. We use Bayesian estimation and data from Cambodia to generate impulse responses that confirm our intuitions, where the foreign interest rate shock is negatively related to domestic consumption and investment while positively related to the trade balance and current account. However, the Bayesian variance decomposition shows that foreign interest rate shock is not the major driver of the business cycle.

3. Evaluation Notes from the Doctoral Dissertation Review Committee (including changes required to the dissertation by the referees)

During the defense the examination committee made several questions that they later submitted in written form to the candidate. The candidate worked on the dissertation about two months, and provided a revised version of the thesis with a document explaining how he incorporated each of the comments from the examination committee. I attach this document, which includes comments such as follows:

- 1) In the first empirical chapter the assumptions that are made to identify the impact of the policy need to be made more explicit and clear.
- 2) Regarding also the first chapter, in the regression to estimate the impact of the policy, some parameters are constant. However, from the graph one could doubt that they are constant. Is it possible to make a test for the constancy of those parameters?
- 3) In the first chapter it is claimed that microfinance organizations were not affected by the policy. The limitations of this assumption must be discussed.
- 4) The second chapter is presented as if the candidate is developing a new DSGE model. However, there doesn't seem to be such a contribution. It is recommended that the candidate just says that he applies an existing DSGE model to the case of Cambodia.
- 5) There seems to be a domestic interest rate of US dollars in Cambodia. However, in the model this interest rate is treated as exogenous. However, because it is a domestic interest rate, it is determined in Cambodia, and it must be subject to fluctuations in the business cycle, for example fluctuations in exports and imports. It would be better to develop a model incorporating this endogeneity, or at least acknowledge the limitation of the exogeneity assumption.
- 6) The explanation should be more precise and concise at many places. For example, the description of the policy change of the first chapter should be better explained.

4. 修正確認および最終審査結果

4. Confirmation by the Main Referee that changes have been done to the satisfaction of the referees and final recommendations

About two months after the defense the candidate submitted a revised version of the thesis, and an explanation of how he had incorporated the comments. This was all sent to the examination committee. The median evaluation of the revised version became 5, which implies that overall the committee is satisfied with the quality of the thesis and that they leave the main advisor to do the final check. The software for plagiarism did not detect any problem, and so the main advisor recommended the candidate to submit the final version through the program coordinator.

Therefore, the doctoral dissertation review committee recommends that GRIPS award the degree of Ph.D. in Advanced Policy Studies to Mr. Chhoeung Johann.