2021 年 2 月 24 日

博士論文審査結果報告
Report on Ph.D. / Doctoral Dissertation Defense

<div align="right">

The University of Tokyo

Professor Stacey Chen

(Former Associate Professor of

National Graduate Institute for Policy Studies (GRIPS))

</div>

審査委員会を代表し、以下のとおり審査結果を報告します。

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

<table>
<tr>
<td>学位申請者氏名
Ph.D. Candidate</td>
<td colspan="3">Ayibor Raphael Edem</td>
</tr>
<tr>
<td>学籍番号
ID Number</td>
<td colspan="3">PHD14101</td>
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<tr>
<td>プログラム名
Program</td>
<td colspan="3">Policy Analysis Program</td>
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<tr>
<td rowspan="5">審査委員会
Doctoral Thesis Review Committee</td>
<td>主査
Main referee</td>
<td>CHEN, Stacey H.</td>
<td>主指導教員
Main Advisor</td>
</tr>
<tr>
<td>審査委員
Referee</td>
<td>山内　慎子
YAMAUCHI Chikako</td>
<td>副指導教員
Sub Advisor</td>
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<td>審査委員
Referee</td>
<td>LITSCHIG Stephan</td>
<td>副指導教員
Sub Advisor</td>
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<td>審査委員
Referee</td>
<td>鈴木　潤
SUZUKI Jun</td>
<td>博士課程委員会委員長代理
Acting Chairperson of the Doctoral Programs Committee</td>
</tr>
<tr>
<td>審査委員
Referee</td>
<td>高崎　善人
TAKASAKI Yoshito
東京大学</td>
<td>外部審査委員
External Referee</td>
</tr>
<tr>
<td>論文タイトル
Dissertation Title
（タイトル和訳)※
Title in Japanese</td>
<td colspan="3">Estimating the Effect of Maternal Education on Child Health and Female Genital Cutting Using Microdata from Africa

アフリカのマイクロデータを使用した、母親の教育が子供の健康と女性性器切除に及ぼす影響の推定</td>
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<tr>
<td>学位名
Degree Title</td>
<td colspan="3">博士（開発経済学）Ph.D. in Development Economics</td>
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<td>論文提出日
Submission Date of the Draft Dissertation</td>
<td>2020 年 7 月 2 日</td>
<td>論文審査会開催日
Date of the Doctoral Thesis Review Committee</td>
<td>2020 年 7 月 30 日</td>
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<td>論文発表会開催日
Date of the Defense</td>
<td>2020 年 7 月 30 日</td>
<td>論文最終版提出日
Submission Date of the Final Dissertation</td>
<td>2021 年 2 月 24 日</td>
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<td>審査結果
Result</td>
<td colspan="3">（合格）Pass　　　　　不合格 Failure</td>
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※ 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. 論文要旨 Thesis overview and summary of the presentation.

This thesis empirically examines how much an increase in education for African female has advanced child health and reduced female genital cutting on daughters. Identifying the causal effect of maternal education on child outcomes is challenging because unobserved family attitudes/attributes can affect maternal education, the decision to invest in child health, and the decision to have their daughters cut. Suppose more affluent families tend to invest more in education and child health and less likely to cut daughters. In that case, the observed correlations might be purely an income effect, not necessarily a causal impact of maternal education. Thus, identification requires empirical techniques to single out maternal education's variation uncorrelated with family attitudes/attributes. To this end, labor economists have developed instrumental-variable (IV) methods. One prominent example is regression discontinuity (RD) techniques.

Previous research has used data from one country and exploited its Free Primary Education (FPE) reform as a source of exogenous variation in maternal education across birth cohorts. However, several issues might have confounded or invalidated the single-country analysis. Even with the RD technique, exceedingly popular recently, confounding factors still arise because contemporaneous policies in a country (e.g., health-promoting or poverty reduction policies under the Millennium Development Goal) often target school-age children, so as the FPE reform. Also, that country's previous trends in education and health might have driven at least part of the observed differences across birth cohorts. Perhaps the last straw for this thesis abandoning the RD approach is that a delayed entry is not unusual. Numerous African children have delayed their school entry by one or more years, leading to the discontinuity not necessarily to locate at the legal entry age (six or seven). Not surprisingly, mixed results appear among various studies using the same education reform and data source. Perhaps strikingly, several single-country analyses have recently suggested maternal education has almost *no*

impact on the decision to cut daughters, contrary to what this thesis concludes. The no-impact results in the previous work are due to the small sample size and lacking required precision.

The thesis overcomes the above challenges using data from twenty African countries implementing FPE and using IV methods with a triple difference design. The rollout of the FPE reforms across the continent over the decades provides extra leverage to fix the country-specific trends (either related to the reform or unrelated but contemporaneous policies). Furthermore, this study incorporates the within-country variation in reform intensity across regions, measured by pre-reform primary school enrollment rates. This identification strategy exploits the triple differences in the reform exposure across countries, birth cohorts, and local reform intensities to tease out the exogenous variation in female school enrollment. This result allows this study to pin down how much maternal education can impact child outcomes, including daughters' genital cutting, using IV methods.

This thesis discovers exposure to FPE increases female education by one school year. This extra schooling reduces child mortality under age five and decreases stunting, underweight, or fever prevalence. Although similar to previous studies in patterns, most of these results are more precise than the current estimates. The possible mechanisms through which maternal education affects child health include increased literacy, better health knowledge, and prolonged breastfeeding practices. The extra schooling also significantly reduces daughters' FGC prevalence rates because of changes in women's attitudes toward the practice and increases in women's bargaining power relative to their partners.

2. 審査報告 Notes from the Doctoral Thesis Review Committee (including changes required to the thesis by the referees)

The reviewers have made a wide range of comments on writing styles and identification strategies and recommend restructuring the entire thesis. The student has taken each commend and recommendation seriously. All the reviewers have concluded their acceptance of the revised version with satisfaction.

3. 最終提出論文確認結果 Confirmation by the Main Referee that changes have been done to the satisfaction of the referees

Most of the reviewers' comments are for journal publications. Nevertheless, the student addresses some of those comments. All the reviewers have concluded that the revised version has reached the satisfaction level for granting a Ph.D. As the main referee, I checked the student's computer codes and found one particular variable (Ethnicity) coded incorrectly. The student spent additional weeks correcting the programs, revising the tables, and finalizing the thesis. On 19 February 2021, the final version finally reached the academic standard for submitting to a refereed journal.

4. 最終審査結果 Final recommendation

The doctoral thesis review committee recommends that GRIPS award the degree of Ph.D. in Development Economics to Mr. Raphael Edem Ayibor.