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

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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 result of the Ph. D. /

Doctoral Dissertation Defense as follows.

学位申請者氏名 Ph.D. Candidate	中島　麻貴		
学籍番号 ID Number	DOC13165		
プログラム名 Program	国家建設と経済発展プログラム State Building and Economic Development Program		
審査委員会 Doctoral Thesis Review Committee	主査 Main referee	大塚　啓二郎 OTSUKA, Keijiro	主指導教員 Main advisor
	審査委員 Referee	ESTUDILLO, Jonna	副指導教員 Sub advisor
	審査委員 Referee	木島　陽子 KIJIMA, Yoko	副指導教員 Sub advisor
	審査委員 Referee	園部　哲史 SONOBE, Tetsushi	博士課程委員会委員長 Chairperson of the Doctoral Programs Committee
	審査委員 Referee	CHAUDHURY, Nazmul (Country Sector Coordinator, World Bank)	外部審査員 Referee from outside institutions
論文タイトル Dissertation Title	Jobs and Education in India インドにおける仕事と教育		
学位名 Degree Title	博士　（国際開発研究）　/ Ph.D. in International Development Studies		
論文提出日 Submission Date of the Draft Dissertation	平成 28(2016)年 7 月 19 日	論文審査会開催日 Date of the Degree Committee Meeting	平成 28(2016)年 8 月 16 日
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審査結果 Result	合格 pass		

1. 論文要旨 Thesis overview and summary of the presentation.

An Overview

Good jobs and education are key factors affecting the wellbeing of people. While achieving decent education for all is a development goal in itself, education is key factor affecting the job choice. On the other hand, increased household income earned from good jobs can increase investment in children's education. This thesis analyzes the determinants of education and the effect of education on finding jobs in the context of India. There are two main analytical chapters, which are publishable in international journals. In fact, the essence of Chapter 2 (Jobs off the Farm) has been accepted for publication by the *Journal of Development Studies*. Another journal paper based on Chapter 3 is currently being prepared.

India is one of the world's fastest growing major economies, with an average annual growth rate of about 7% since major economic reforms began in 1991. Most of this remarkable growth has been driven by development of the IT-related service sectors. However, such sectors are highly skill-intensive, employing highly educated labor force, and unskilled labor-saving, so that they cannot absorb the majority of the workers, who are not well educated. As a result, unskilled workers often have no choice but to work as low-paid casual workers. This is a major cause for persistent poverty in India, which is prevalent in rural areas in particular.

The first major chapter is Chapter 2, which is intended to provide an understanding of the mechanism underlying the diversification of jobs of rural households in four eastern states of India. These four states are poor and agrarian societies, and members of rural households commonly work off-farm to mitigate income risk and to improve their livelihood. This study investigates what individual, household, and community level characteristics contribute to finding lucrative nonfarm jobs and thereby earning higher income, through analysis of survey data of over 25,000 individuals. It is found that workers with higher human capital and more wealth have better access to high-return jobs, while low social status workers are largely in casual and low-paying jobs. It is also found that factory jobs are a potential occupation for disadvantaged workers.

Having identified that education is one of the most important determinants of job choice in Chapter 2, Chapter 3 attempts to identify the determinants of school progression in a dynamic framework by means of analysis of unique panel data of approximately 1,000 children in Andhra Pradesh state who were surveyed in 2002, 2005, 2009, and 2013. This is truly unique study because of the rare availability of such panel data. It is found that child ability at young age has long-lasting positive effects on school progression. It is also found that higher wage of casual jobs leads to increased dropping out from schools as the opportunity cost of schooling increase, while the presence of a factory in a locality has a positive effect on school progression as it will increase the return to higher education.

From these findings, I propose an integrated approach to the development of the manufacturing sector and the provision of means to expand access to information on nonfarm job opportunities. This approach could promote household investment in education as well as access to high-return jobs, which are the foundation for fostering human capital investment and improving livelihood of particularly the poor people.

Presentation

In the presentation, Ms. Nakajima first introduced the topic of the dissertation and then went through the main findings of the two major research chapters. There followed questions and comments from the examiners and then from the wider audience.

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

The referees were generally satisfied with the originality and contribution of the thesis, so that they agreed that once main adviser confirms that Ms. Nakajima sufficiently incorporates comments made by the referees in the revised version of her thesis, it should be accepted as the final version of the thesis. Referees' major comments are as follows:

Dr. Nazmul Chaudhury of the World Bank pointed out the following: (1) It would be good to include at least few sentences upfront as to why these data sets are being used to explore the two central themes of the Thesis. (2) Discuss whether the IRRI dataset is

statistically representative at the State-level for the rural population or oversampled for rice-productivity areas within rural areas. (3) Discuss whether the IRRI dataset is large enough to accommodate State-wise analysis. (4) Show some more explanations why wage differential across social category exists. (5) It would be good to highlight the limitations of job classifications upfront and propose direction/interplay of bias and subsequent interpretation of coefficients. (6) If you are modeling earning/income conditional upon occupational choice (primarily to address issue of measurement error in income), then conditional factors which influence the decision to migrate must be taken into account. (7) Make it clear how asset value is being imputed. (8) Clarify why not include drought damage and submerge damage in 2nd stage (earning/income) instead of first stage (occupation choice). (9) Explain why show male workers analysis only in the Appendix instead of male and female estimates side by side (at least for significant variables as is done later on in the school progression section). (10) Reconcile the implication in Chapter 2 that factory jobs do not require much education, as opposed to say service sector jobs with the finding in Chapter 3 that there is a strong relationship between proximity to a factory and schooling decision (which gender-differentiated implications). (11) There is need to include more context to set up the section using the Young Lives dataset from AP which consists of Hyderabad (major urban center – more on that in a bit), other urban areas, and rural areas. (12) Even if the AP Young Lives dataset does not allow for labor market/industry analysis, discuss whether there is any labor market information of what fraction of 8 year olds who are now youth adults in the latest round are in the labor market (by Hyderabad, other urban, rural). (13) At the minimum the pragmatic approach would be to separate out the analysis for Hyderabad, or if sample size is too small, exclude Hyderabad. (14) Beyond mentioning that it is compulsory to attend primary school in India, it is important to recognize that the 2011 Census found about 32 million children between ages 6 and 13 had never attended any type of school ever. (15) Explain how the estimation results would differ if a sequential logit model was not used. (16) It is great that there is both a Ravens test (given to 8 years old) and a reading-writing assessment (given to 12 years old). (17) House asset wealth index – need better explanation in annex or reference to another report which provides more details on the index is estimated. (18) Need to better explain why household wealth effect is significant only for schooling progression of boys only. (19) Since the schooling progression specification(s) is not a reduced-form estimation, and many explanatory variables are endogenous, it is in principle a good idea to try to control for some of them, such as endogeneity of marriage. (20) If we take the findings of a negative relationship between proximity to a factory and female secondary schooling at 'face value', then what

do we make of any policy conclusion? (21) Given that early age learning (as proxied by literacy assessment) comes out as such a strong long-term predictor of schooling progressing, place greater emphasis on policy conclusions related to early childhood development.

Prof. Estudillo made the following comments. (1) There should be a holistic theoretical framework that explains the relationship between labor markets, formal institutions, informal institutions and households that will explain parental decisions on schooling and children's job choice. (2) It is increasingly becoming fashionable at GRIPS to have a stand-alone section "Contribution of this study". (3) Much of my earlier comments (e.g., focusing on male members only and identifying where the housewives are classified) have been incorporated. Very much appreciated. (4) I wish to see means and standard deviations of wages across the 7 occupational groups as you are exploring earnings and income. Conduct a test of differences in means (t-test) using farming as comparison group. (5) You may wish to describe the various types of factory works in 1-2 para. (6) Hypothesis 1 and 2 are good ones but there was no mention on whether the hypotheses were rejected in the estimation results (p.85 onwards). (7) The variable "hours that child spent on house chores at age 12" sounds endogenous to me. (8) I think that there should be a mention (in 1 para for example) of relationship between dowry and girls' schooling. (9) There should be a supply side implication in conclusion.

Prof. Kijima's comments are as follows: (1) It is more appropriate to use people over 25 years of age for the analysis of job choice; otherwise job choice and schooling choice are confounded. (2) Categorization of nonfarm jobs needs to be carefully made. At least, what kinds of jobs are included in each category should be shown. (3) Job choice may be made at the household level rather than individual level. Thus, it may be interesting to make household level job choice analysis. (4) For the analysis of marriage, literature review is insufficient and there is need to analyze who are "not married, not in school" at the early age.

Prof. Sonobe pointed out that it is better to highlight more clearly major contribution of this study and that it is appropriate to derive hypotheses carefully from the theory.

Otsuka pointed out that hypotheses in Chapter 3 should specify schooling stages, and proposed to estimate boys and girls function by urban and rural areas, which will be highly fruitful for deeper understanding of India's schooling problems.

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

Maki Nakajima has revised her thesis by incorporating the comments of the referees and provided clear explanations of the revisions. Major adviser judges that the revisions are satisfactory.

4. 最終審査結果 Final recommendation.

We unanimously recommend that the degree of Ph.D. in International Development Studies be awarded to Ms. Maki Nakajima.