



PD-AAU 138
42921

Division of Research
College of Business Administration
LOUISIANA STATE UNIVERSITY AND AGRICULTURAL AND MECHANICAL COLLEGE
BATON ROUGE · LOUISIANA · 70803

5041388-6645

May 5, 1980

Dr. Abraham David
Project Director
Office of International Program
Research Triangle Institute
P. O. Box 12194
Research Triangle Park, N.C. 27709

Dear Abraham:

SUBJECT: Second quarterly report covering the period January 1, 1980 through April 30, 1980 to AID under contract number AID/otr-C-1769: Population, Migration and Fertility in Urban Development.

1. WORK PROGRESS

During the period January 1, 1980 through April 30, 1980, the following tasks were performed:

- a) Completion of 1) data analyses of the 1974 Korean World Fertility Survey Tapes, 2) preliminary regression analyses of the marital fertility and the duration of marriage equations and 3) the interim report.

We have completed the data analyses of the 1974 Korean World Fertility Survey (KWFS) tapes and have found that the overall quality of the raw data is accurate and reliable. The corrected raw data tapes have been received from the Korean Institute for Family Planning on February 21, 1980. The preliminary analyses of the marital fertility rate equation and the duration of marriage equation have been initiated. The regression results are interesting and, even though it is premature to make any conclusive inference from them, they encourage further investigation along these lines. For example, the regression results obtained using the 1974 KWFS are not much different from those obtained using the 1971 Korean Fertility Abortion Survey in the previous research project for AID. This indicates that the econometric fertility model proposed to be used in the current project is a very stable and dependable one. Our regression results on the influence of the duration-of-migration variable (years in urban life) on migrant's fertility behavior is markedly different depending on whether the rural-urban migrant has migrated before or after marriage. This seems to imply that the approach suggested in our proposal of decomposing total fertility into the marital fertility rate and the duration of marriage should be superior to others estimating the total fertility equation.

The First Interim Report for this project has been completed and eight (8) copies are enclosed for your review and comments. This report will be distributed to the following project consultants for their criticism and comments: Professor T. Paul Schultz, Dr. Gerry Hendershot, Ms. Sally Findley, Mr. Hyun Sang Moon (KIFP) and and Dr. Sung-Yeal Koo (KDI).

The interim report contains the following items:

- 1) Discussions of general trend of the Korean rural-urban migration since 1960. Discussions based mainly on various population census data reveal that there has been a significant shift in the Korean migration trend after 1970. While the immigration from rural areas to metropolitan areas has slowed down substantially since 1970, the share of migrants from rural areas moving to intermediate size-class cities has increased recently.
- 2) Detailed discussions of the major characteristics related to migration status of the sample data from both the 1974 KWFS recode and raw data tapes. Tables of descriptive statistics presented in this report should be valuable in obtaining the general picture on the influence of the migration status and other variables on migrants fertility behavior. In order to ascertain the accurate relationship between these variables and fertility behavior the multivariate regression analyses controlling for other variables are preferred to descriptive statistics. However, we believe that it is always beneficial to combine these two approaches to avoid any misleading inference which could result from either of the two alone.
- 3) Tests of Ribe and Schultz's (1980) hypotheses on the relative importance of selectivity/adaptation using the 1974 KWFS raw data tapes. Ribe and Schultz tested their hypotheses using Colombian data and tentatively concluded that for Colombian rural-urban migrants the selectivity hypothesis dominates the adaptation hypothesis. However, their results suffer because they were not able to control for the duration of marriage which interacts significantly with the duration of migration in influencing the migrant's fertility behavior as discussed above. We attempted to replicate their results using Korean data. Our results are quite contrary to theirs. A couple of important issues seem to emerge from our attempt to replicate the results of Ribe and Schultz. First, there is no study known to us which provides any conclusive evidence on the question of a great policy relevance: whether selectivity or adaptation is dominant in explaining the lower fertility of the rural-urban migrants compared with that of rural stayers. There is a great need for the current study to contribute to the resolution of this important question. Second, there is no other choice but to rely on the multivariate regression analyses with rich data to test accurately the importance of the selectivity/adaptation. In order to assess the influence of the exposure to urban lifestyle (adaptation) on the rural-urban migrant's fertility we need to compare the migrant's fertility with the fertility of a control or comparison group. In this case the

2
? adaptation
? selectivity
tests to
selectivity
adaptation
comparing

comparison group is the rural stayers who are equal to migrants according to all the characteristics including age, education, occupational skills, age at marriage, and mobility aspirations and potential except for the single fact that they did not migrate. The above comparison can be done only when you control for all these selectivity characteristics using the multivariate regression analyses.

b) Possession of New Information on the Names of Counties Where Women Were Born and Resided Previously.

We requested the Korean Institute for Family Planning to code from the 1974 KWFS questionnaires the names of the counties where the women were born and where the women lived previously. KIFP completed the codings and sent us the data recently. We finished key punching these data and will be merged to 1974 KWFS raw data tapes. These new data are unique because they allow us to identify the community environmental characteristics for counties where the rural-urban migrants were born and lived previously and where their husbands were born.

c) Invitation of KIFP's Researcher Mr. Hyun Sang Moon to Visit LSU.

KIFP and LSU executed the agreement on the collaborative arrangement for the current research project. Dr. Taek Il Kim, director of KIFP assigned Mr. Hyun Sang Moon, a senior researcher in charge of Population Dynamic Unit of KIFP to visit LSU for a one-month period to participate in the actual research of this project. We have sent him all the necessary papers required to invite him and are waiting to hear from him on the final travel schedule. We are anticipating him to arrive here after the mid of May.

d) Obtaining AID's Permission to Use Consultants.

AID granted LSU the permission to use the following consultants for this project: Dr. T. Paul Schultz, Dr. Gerry Hendershot, Ms. Sally Findley, and Mr. Hyun Sang Moon.

We are in the process of requesting AID for the permission to use the consulting services by Dr. Sung Yeal Koo, senior fellow at Korea Development Institute, Seoul and Professor Aman Ullah, Associate Professor of Economics at University of Western Ontario, London, Ontario, Canada. Dr. Koo will assist us in analyzing the policy implication of research findings from the current project particularly with respect to KDI's Long Term Korean Economic Forecasting Model. Professor Ullah, an econometrician, will assist us in dealing with statistical aspects of the current study. Professor Ullah is substituting for Professor T. D. Wallace in the original proposal.

e) Comprehensive Analyses of Economic Data Contained in the 1970 Korean Population Census.

We analyzed the economic data contained in the 1% sample data

tapes of the 1970 Korean Population Census. Data on the following variables for each of 194 Korean counties are generated: the education levels by sex and age groups, the infant and child mortality rates by age groups of mothers, the teenage school enrollments and labor force activities by sex for each of ages 14-19, the occupational and industrial composition of male and female labor forces by age groups, and the mean number of months worked last year by sex and age groups. These data will be merged to the 1974 KWFS raw data tapes and used to assess the community environmental characteristics of the counties of current residence, previous residence and place of birth for each rural-urban migrant.

f) Merging Data on Family Planning Programs to the 1974 KWFS Data.

We collected data on family planning programs for each of 194 Korean counties from KIFP and are in the process of merging these data to the 1974 KWFS data tapes.

g) Refining the Hypotheses Testing Model Suggested in Our Proposal.

Recently we have found that the techniques used in assessing the influence of the participation in the manpower training programs on the participant's labor force performance after the completion of the training program in the U.S. are directly applicable to our problem of assessing the influence of the rural-urban migration on the migrant's fertility. The main issues are similar for these two problems. The former tries to compare the post-training earnings of the training program participants with those of the non-participants who are similar to participants according to all the characteristics but did not participate in the program. The latter tries to compare the migrant's fertility with that of nonmigrants namely, rural stayers who are similar to migrants. Analytical techniques used in dealing with the former problem are far advanced than those used in the latter. We are currently refining our model benefitting from the literature on the former problem.

2. PROBLEMS

No significant problems have been incurred.

3. ANTICIPATED ACTIVITIES

During the period of May 1, 1980 through July 31, 1980 the following tasks will be performed:

a) Completion of Statistical Tests of the Eight Major Hypotheses Suggested in Our Proposal.

The eight major hypotheses on the selectivity and adaptation for the rural-urban migrant's fertility will be tested using the 1974 KWFS data

tapes supplemented by the 1970 Korean Population Census tapes and KIPP's data on family planning programs.

b) Completion of Migration/Fertility Data Contained in 1970 Korean Population Census Tapes.

Data on the relationship between migration and fertility contained in the 1 percent sample data tape of the 1970 Korean Population Census will be analyzed and their results will be compared with those obtained using the 1974 KWFS data tapes.

c) Completion of the Draft Final Report for this Project.

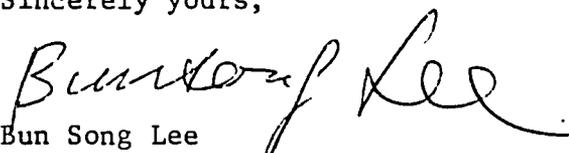
We will complete the draft final report for this project by July 31, 1980.

4. PERSONNEL

During the period of May 1, 1980 through July 31, 1980 the primary staff members working on this study will be Dr. Bun Song Lee (Associate Professor of Economics), Dr. Stephen Farber (Associate Professor of Economics) and Dr. A. M. M. Jamal (Research Economist). Two graduate assistants will be working on this project. Drs. Lee and Farber will devote almost 100 percent of their time on this project during this summer session period. Dr. Jamal will devote more than 50 percent of his time to this project during this period.

Dr. T. Paul Schultz, Dr. Gerry Hendershot, Dr. Aman Ullah, Ms. Sally Findley, and Mr. Hyun Sang Moon will also provide their consulting services for this project during this period.

Sincerely yours,


Bun Song Lee
Key Investigator
Associate Professor of Economics

BSL/rpL

ASD

INVESTIGATION OF THE INFLUENCE
OF RURAL TO URBAN MIGRATION
ON MIGRANT'S FERTILITY IN
LESS-DEVELOPED COUNTRIES

Prepared for



**Division of Research
College of Business Administration
Louisiana State University**

Contract No. AID/otr-C-1769
Subcontract No. 1-21U-1904

April, 1980

FIRST DRAFT INTERIM REPORT

INVESTIGATION OF THE INFLUENCE
OF RURAL TO URBAN MIGRATION
ON MIGRANT'S FERTILITY IN
LESS-DEVELOPED COUNTRIES

The Office of Urban Development
Bureau for Development Support
Agency for International Development

by

Bun Song Lee

and

Stephen Farber

Associate Professors of Economics

Louisiana State University
Baton Rouge, Louisiana

Attention:

Dr. Eric Chetwynd, Jr.
Deputy Director

TABLE OF CONTENTS

	PAGE
INTRODUCTION AND SUMMARY	0-1
0.1 INTRODUCTION	0-1
0.2 URBANIZATION AND RURAL-URBAN MIGRATION	0-4
0.3 DEGREE OF URBANIZATION OF MIGRANTS AND DEMOGRAPHIC/ ECONOMIC CHARACTERISTICS	0-5
0.4 DEGREE OF URBANIZATION OF MIGRANTS AND FERTILITY/ MARITAL CHARACTERISTICS	0-6
0.5 LIFETIME MIGRATION PATTERNS	0-7
0.6 FERTILITY AND MARITAL DIFFERENCES BETWEEN PRE-MARITAL AND POST-MARITAL MIGRANTS	0-8
0.7 RIBE AND SCHULTZ FERTILITY MODEL	0-9
0.8 REFINEMENT OF THE HYPOTHESES TESTING MODEL SUGGESTED IN OUR PROPOSAL	0-11
Chapter 1: GENERAL TREND OF THE KOREAN RURAL-URBAN MIGRATION SINCE 1960	1-1
1.1 ECONOMIC DEVELOPMENT AND URBANIZATION.	1-i
1.2 GENERAL TREND OF KOREAN POPULATION DISTRIBUTION DURING 1960-1975	1-4
1.3 NET MIGRATION RATES FOR 32 CITIES	1-8
1.4 THE FIVE-YEAR MIGRATION SURVEY DATA	1-15
1.5 SOCIOECONOMIC CHARACTERISTICS OF THE RURAL-URBAN MIGRANTS	1-27
Chapter 2: DATA ANALYSIS OF THE RECODED TAPE FOR THE 1974 KOREAN WORLD FERTILITY SURVEY (KWFS).	2-1
2.1 INTRODUCTION	2-1
2.2 MIGRATION STATUS AND DEMOGRAPHIC/ECONOMIC VARIABLES	2-2
2.3 MIGRATION STATUS AND FERTILITY/MARITAL STATE VARIABLES	2-15
2.4 FERTILITY EQUATIONS	2-32
Chapter 3: DATA ANALYSIS OF THE RAW DATA TAPE FOR THE 1974 KWFS	3-1
3.1 MIGRATION PATTERNS	3-1
3.2 FERTILITY REGRESSIONS	3-1

Chapter 4:	TESTS OF RIBE AND SCHULTZ'S (1980) HYPOTHESES ON THE RELATIVE IMPORTANCE OF SELECTIVITY/ADAPTATION USING KOREAN DATA.	4-1
4.1	INTRODUCTION	4-1
4.2	TESTS OF RIBE AND SCHULTZ'S HYPOTHESES USING KOREAN DATA	4-7
4.3	COMPARISONS OF RURAL-TO-URBAN MIGRANTS FERTILITY WITH THAT OF RURAL NON-MIGRANTS	4-19
BIBLIOGRAPHY	i

INTRODUCTION AND SUMMARY

0.1 Introduction

We have completed the preliminary data analyses of the 1974 Korean World Fertility Survey (KWFS) tapes and have found that the overall quality of the raw data tapes is accurate and reliable. The regression results of the marital fertility rate equation and the duration of marriage equation so far obtained are interesting, and even though it is premature to make any conclusive inference from them, they encourage further investigation along these lines. For example, the regression results obtained using the 1974 KWFS are not much different from those obtained using the 1971 Korean Fertility Abortion Survey in the previous research project for AID. This indicates that the econometric fertility model proposed to be used in the current project is a very stable and dependable one. Our regression results on the influence of the duration-of-migration variable (years in urban life) on migrant's fertility behavior is markedly different depending on whether the rural-urban migrant has migrated before or after marriage. This seems to imply that the approach, suggested in our proposal, of decomposing total fertility into the marital fertility rate and the duration of marriage should be superior to others estimating the total fertility equation.

This interim report is organized in the following way: Chapter 1 presents discussions of general trend of the Korean rural-urban migration since 1960. This section will provide the sketch of Korean migration setting and aid in interpreting the subsequent econometric results. Chapter 2 discusses in detail the major characteristics related to migration status of the sample data from the 1974 KWFS recode data tapes. The recode data

tapes have been derived from the raw data tapes by selecting major variables of interest to the Korean Institute for Family Planning. Since the corrected raw data tapes of the 1974 KWFS did not arrive from Korea until February 21, 1980 we used the recoded tape on individuals for as much data analysis as we thought would be useful once we received the proper tapes. Chapter 3 presents similar information as Chapter 2 but based on the 1974 KWFS raw data tapes. Tables of descriptive statistics presented in Chapters 2 and 3 should be valuable in obtaining a general picture on the influence of the migration status and other variables on migrants fertility behavior. In order to ascertain the accurate relationship between these variables and fertility behavior the multivariate regression analyses controlling for other variables are preferred to descriptive statistics. However, we believe that it is always beneficial to combine these two approaches to avoid misleading inference which could result from either of the two alone. Finally, Chapter 4 reports the test results of Ribe and Schultz's (1980) hypotheses on the relative importance of selectivity/adaptation using the 1974 KWFS raw data tapes. Ribe and Schultz tested their hypotheses using Colombian data and tentatively concluded that for Colombian rural-urban migrants selectivity dominates adaptation. However, their results suffer because they were not able to control for the duration of marriage which interacts significantly with the duration of migration in influencing the migrant's fertility behavior as discussed below. We attempted to replicate their results using Korean data. Our results are quite contrary to theirs. A couple of important issues seem to emerge from our attempt to replicate the results of Ribe and Schultz. First, there is no study known to us which provides any

conclusive evidence on the question of whether the selectivity or the adaptation is dominant in explaining the lower fertility of the rural-urban migrants compared with that of rural stayers. This question is crucial for policy purposes. There is a great need for the current study to resolve this important question. Second, there is no other choice but to rely the multivariate regression analyses with rich data to test accurately the importance of the selectivity/adaptation. In order to assess the influence of the exposure to urban lifestyle (adaptation) on the rural-urban migrant's fertility we need to compare the migrant's fertility with the fertility of a control or comparison group. In this case the comparison group is the rural stayers who are equal to migrants according to all the characteristics including age, education, occupational skills, age at marriage, and mobility aspirations and potential except that they did not migrate. The above comparison can be done only when you control for all these selectivity characteristics using the multivariate regression analyses.

We now turn to major highlights of each chapter.